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Climate phoenix

A sustainable Australian climate policy

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Overview

Toxic political debates and a policy bonfire over the past decade have prevented the emergence of a stable and compelling climate policy in Australia. But with both major parties now committed to reducing greenhouse gas emissions and contributing to the global effort to address climate change, we must seize the chance to adopt a policy framework both Coalition and Labor can accept.

This report shows how a bipartisan approach is possible. It sets out a realistic policy roadmap that builds on the Coalition's current climate policies while maintaining direction towards the long-term target. Its recommendations are designed to ensure both environmental credibility and the predictability essential to attract investment in clean technology.

An economy-wide carbon price remains the ideal climate policy. But pragmatism and urgency demand a practical, next-best approach.

Our assessment of Australia's climate change options against a range of criteria indicates that none is perfect. Trade-offs will be necessary to ensure that both major parties are heading towards the commonly agreed objective.

The government's focus has been to avoid anything that could be labelled as a tax and to minimise any direct impact on consumer prices. But it has also built policies that can be strengthened. Our roadmap allows a Coalition Government to modify its Safeguard Mechanism so that it no longer merely prevents emissions from going up, but drives them down in line with agreed targets. The roadmap enables the Coalition to do this via steps that are consistent with its political constraints.

Meanwhile, Labor remains committed to emissions trading as its centrepiece for a policy that will meet an ambitious, but yet undetermined target and also deliver 50 per cent renewable energy. The roadmap shows how a future Labor government could take the Coalition's policy framework and move to its preferred emissions trading model.

Government should take three steps. First, it should tighten the emissions limits ('baselines') of the Safeguard Mechanism in line with Australia's agreed targets. This forces the country's largest emitters to start reducing their emissions.

Next, it should provide incentives for low-cost emissions reductions by auctioning tradeable permits that allow businesses to emit above the baselines, but within the target trajectory to 2030. This step will lower the cost of reducing emissions.

The third step is to expand the Safeguard Mechanism to cover more emitters while reducing baselines to zero. Businesses covered by the scheme will then have to hold permits for all their emissions. This final step creates the structure to deliver tougher future targets at low cost.

With bipartisan agreement that Australia must move to a sustainable, low-emissions economy, all we need now is a clear and workable plan for how to get there. This report provides it.

Recommendations

This report recommends a set of policies, in the form of a roadmap, that Australia should implement to meet its current and future emissions reduction targets. If they follow this roadmap, present and future governments will be able to meet their commitments to limit global warming while easing the cost and disruption to Australian households and businesses.

The government's current policies create incentives to reduce emissions, but they need to be strengthened. The Emissions Reduction Fund rewards businesses for reducing emissions but is voluntary and will rely increasingly on scarce public funding. From 1 July, the Safeguard Mechanism will place limits (individual 'baselines') on Australia's largest emitters. Yet these baselines are not currently designed to drive emissions down.

Our roadmap sets out a pragmatic and flexible series of steps that allow for both major parties' current policy settings. It begins with the policies of the Coalition Government, and builds on them in a manner consistent with both Coalition policy and the preferences of the Labor Party. Broad bipartisanship on climate change policy would give Australian business the predictability it desperately needs to transition to a low-emissions economy.

Three consecutive steps form the core of the roadmap.

Step 1: Tighten Safeguard Mechanism baselines

Safeguard Mechanism baselines for Australia's 140 or so largest emitters should be lowered over time in line with national targets for reducing emissions, and they should be enforced more strictly than the current Safeguard Mechanism rules allow.

Step 2: Increase incentives for low-cost emissions reduction

Emitters capable of reducing emissions most cheaply should be given greater incentives to do so. If baselines are lowered in step, all emitters will be required to contribute equally to reducing emissions. Yet some emitters will find it cheaper and easier to reduce emissions: if they do more of the work, the cost and disruption of reducing emissions overall will be minimised.

To make this happen, baselines should be reduced more aggressively than is strictly necessary to meet Australia's target. The government would then auction permits – the right to emit a unit of carbon above the more aggressive baseline. Emitters then face a choice: either meet the baseline, or purchase permits. Emitters that find it cheaper to meet lower baselines than to buy permits will do so.

Step 3: Replace baselines with permits and increase coverage

Over time baselines should be decreased to zero and entirely replaced by permits, all of which should be auctioned. The number of permits auctioned should decrease over time in line with Australia's national targets for reducing emissions. Replacing baselines with permits will mean that emitters will need to hold permits for all of their emissions. The coverage of the scheme

should also be expanded at this point beyond Australia's largest emitters to other sources of emissions.

Special treatment for the electricity sector

Our roadmap treats electricity generators separately. It does so in order to encourage switching from high-emissions generation to low-emissions generation, which might not occur under the approach recommended for other sectors of the economy.

Rather than placing a limit on total emissions, we propose setting a target for the volume of emissions per megawatt hour of electricity produced. This is known as an intensity baseline. Generating electricity from lower-emitting fuels such as gas or renewables will earn credits which the generators can sell. Electricity generated from high-emitting fuels, such as brown coal, will exceed the intensity baseline. To continue operating, these generators will have to buy the credits from low-emitting generators or purchase permits that have been auctioned by the government.

Intensity baselines make high-emitting generation more expensive and low-emitting generation cheaper, and so create an incentive to reduce emissions in the electricity sector.

Over time, the intensity baseline should be lowered to zero. At this point electricity generators, like covered emitters in other sectors, will need to purchase permits for all of their emissions.

Other policy considerations

Governments following this roadmap will need to make decisions on a number of related policy issues. We recommend that:

- Australian emitters should be allowed to meet their obligations by 'purchasing' emissions reductions undertaken overseas, but that limits should apply.
- Compensation should be provided for low-income households and some trade-exposed businesses.
- Additional, targeted policies should be applied in sectors not initially covered by the central policy until they can be efficiently included.

A pragmatic way forward

This roadmap presents a way forward on climate change policy that can be adopted by both sides of politics, while allowing them to stick to their climate change policy principles.

It allows the Coalition Government to maintain its commitment to the existing policy framework and to strengthen it over time. Importantly, the roadmap adopts an approach that lessens the impact on electricity prices.

The roadmap also gives Labor a pathway to its preferred policy option. But it does so by making existing Coalition policies the starting point. Bipartisanship is a vital component of any credible climate change policy.

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1 Australia's emissions reduction challenge

Last year in Paris, the international community including Australia agreed to limit the increase in global temperature to 'well below' 2 degrees.[1] To give ourselves a good chance of meeting this target, humans will need to stop adding to the greenhouse gases in the atmosphere during the second half of this century.[2] The Climate Change Authority and others believe that Australia should achieve net zero emissions by 2050 if it is to contribute fairly to this global effort.[3]

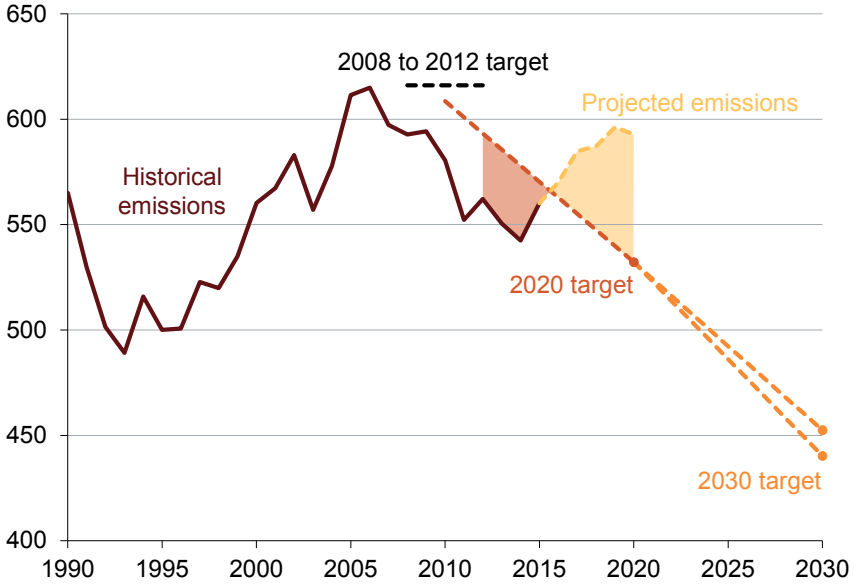
The Australian Government has set emissions reduction targets for 2020 and 2030. It is likely Australia will meet its 2020 target with its existing suite of policy measures. But meeting future targets and achieving net zero emissions this century will be more challenging, and will require a strengthened policy framework.

1.1 Current policies and accounting rules will allow Australia to meet its 2020 target

Australia has committed to emissions reduction targets under two international agreements, the Kyoto Protocol in 1997 and the Paris Agreement in 2015.[4]

Figure 1: Australia met its first reduction target, but emissions are projected to increase

Emissions, millions of tonnes of carbon dioxide equivalent (Mt CO_2-e)



Sources: Department of Environment (2015a); Department of Environment (2015c); Grattan analysis.

The first such target was to keep emissions below 108 per cent of 1990 levels on average over the period 2008 to 2012 (Figure 1). This target was comfortably achieved. Australia's second target

[1] United Nations Framework Convention on Climate Change (2015)
[2] Intergovernmental Panel on Climate Change (2014)
[3] Climate Change Authority (2015a); Climate Institute (2015); ClimateWorks (2015)
[4] Both agreements were adopted under the United Nations Framework Convention on Climate Change, an international treaty for addressing global warming.

under the Kyoto Protocol is to unconditionally reduce emissions by 5 per cent below 2000 levels by 2020.[5]

The wording of the 2020 target is easily misinterpreted. The precise level of Australia's emissions in 2020 is not the crucial measure. What counts are Australia's total emissions over time: there would be little point in Australia's emissions being 5 per cent below 2000 levels in the year 2020 if emissions had been significantly higher in previous years.

As shown in Figure 1, the 2020 target is actually a declining trajectory for emissions: each year the quantity of greenhouse gases Australia can emit gets less and less. It does not matter if emissions are higher than they should be in a particular year so long as the trend overall is to lower emissions. If emissions between now and 2020 average at or below the trajectory shown, Australia will have met its target.

Figure 1 shows that while emissions were below the trajectory between 2013 and 2015 (red area), they are projected to exceed the trajectory after 2015 (yellow area). On average over the entire 2013 to 2020 period, Australia is projected to emit 113 million tonnes of carbon dioxide equivalent (Mt CO_2-e) above the trajectory (equal to the yellow area minus the red area). These projected emissions include emissions reductions that are estimated to be achieved through existing government policies.

But this does not mean that Australia will miss its target. The accounting rules that determine whether a country has hit its target consider other factors too. Because Australia outperformed its first target under the Kyoto Protocol – to keep emissions below 108 per cent of 1990 levels on average over the period 2008 to 2012 – it can 'bank' those extra reductions, around 128 Mt CO_2-e, and use them to meet its current target.

Developed countries such as Australia can also make use of emissions reductions in developing countries. For example, Certified Emission Reductions (CERs) are tradeable units issued under the Kyoto Protocol's Clean Development Mechanism to emissions reduction projects in developing countries. These types of units are also known as 'offsets', because they can be used to show that emissions created in one country have been offset by emissions reduced in another. Australia currently holds around 22 Mt of CERs.[6]

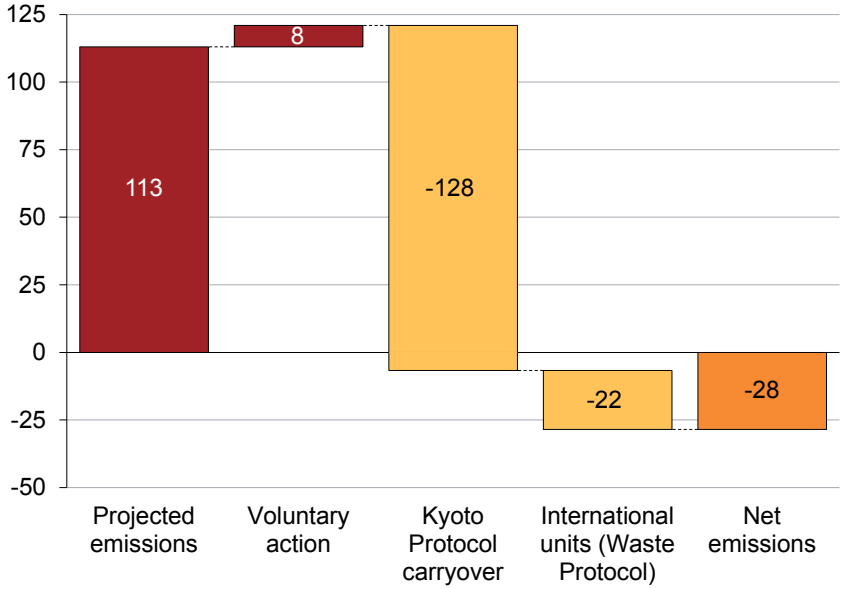
Finally, the government could make voluntary action of different kinds additional. Voluntary action refers to any voluntary steps taken by businesses to offset their carbon footprint, or by individuals who choose to buy 'Green Power'.[7] Because voluntary action will be reflected in lower actual emissions, estimates of voluntary action must be added back to the abatement task.

[5] Australia's formal second target under the Kyoto Protocol is 99.5 per cent of 1990 levels on average over the period 2013 to 2020. This is consistent with 5 per cent below 2000 levels by 2020. Australia has another Kyoto target – to reduce emissions by 15-25 per cent by 2020 – that is conditional on global actions. This has largely been ignored by the current government and has effectively been superseded by the Paris Agreement.

[6] CERs were purchased by Australian landfill operators and then given to the government as part of a voluntary industry protocol. Details of the Waste Industry Protocol are available at: http://www.environment.gov.au/climate-change/publications/voluntary-waste-industry-protocol.

[7] Green Power is a scheme that enables consumers to purchase renewable energy through their electricity retailer.

Figure 2: Australia's 2020 abatement task is not just based on projected and targeted emissions
Emissions relative to 2020 target, Mt CO_2-e



Notes: Components do not sum to 'Net emissions' because of rounding.
Sources: Department of Environment (2015b); Department of Environment (2015c); Grattan analysis.

As shown in Figure 2, the net total of these factors indicates that Australia will achieve and exceed its 2020 target by 28 Mt CO_2-e (that is, Australia has a negative emissions abatement task).[8]

The problem is that projections of future emissions rely on a range of complex assumptions. In the past such projections have proved to be very inaccurate, and periodically have had to be significantly revised. Therefore, projections should be viewed with caution.

1.2 Current and planned policies are unlikely to meet the challenge beyond 2020

As Australia's national contribution to the Paris Agreement, the government set a post-2020 emissions reduction target of 26-28 per cent below 2005 levels by 2030.[9] The government's analysis indicates the target can be met by existing policies and those under development (Box 1). But there are good reasons to believe that these policies will need to be strengthened considerably if they are to produce the projected results.

Purchasing emissions has been at the centre of the government's current policy to meet the 2020 target through the Emissions Reduction Fund (ERF). Under the ERF, the government accredits activities that can reduce emissions. Businesses or individuals that undertake these activities, such as reforestation, savannah burning or simply installing more efficient appliances or light globes across an organisation, can bid through reverse auctions (the lowest bid wins) to secure a contract under which the government will purchase their emissions reductions. Once the contract is agreed, the business or individual undertakes the emissions reduction activity and the government pays on delivery for the reductions.

Contracts signed in 2015 – and others the government is expected to enter into during 2016 and 2017 – will not only help

[8] Department of Environment (2015c)

[9] As part of the Paris Agreement, the government has agreed to revisit and update its 2030 target no later than 2020.

meet the 2020 target, but will continue to deliver emissions reductions during the 2020-30 period. The government has indicated, without formal commitment, that it will allocate an additional $200 million per year from 2018 to 2030 for future contracts.[10] This on-budget allocation will be necessary if emissions reductions from the ERF are to make a significant contribution to meeting the 2030 target.

The Safeguard Mechanism – a policy that will from 1 July place limits on emissions, or baselines, on around 140 of Australia's highest-emitting businesses – is currently designed to prevent emissions increasing above business-as-usual levels. But operating at business-as-usual levels will not be sufficient. To meaningfully contribute to meeting the 2030 target, the baselines will need to be steadily reduced across all covered sectors.

Some of the government's other measures listed in Box 1 are still in the formative stage or largely unspecified, and therefore are not yet sufficiently developed to be fully credible strategies for delivering the necessary reductions.

A more fundamental challenge to current and planned policies is how well they can work on a bigger scale. The targeted reductions of around 900 million tonnes over 2020-30 cover the gap between business-as-usual projections and the 26-28 per cent target. But it is not clear how the current policies will be scaled up if emissions increase faster than the current projections anticipate, or if the 2030 target is further tightened through the Paris Agreement review process. The latter is highly likely, given that the global total of national commitments is not projected to meet the agreed global objective to contain average temperature increases to well below 2 degrees.[11]

Current policies have further shortcomings when one looks beyond 2030. Australia's challenge will be to reach even tougher emissions reduction targets; eventually the goal will be to reach net zero emissions (i.e. 'decarbonisation'). Under that scenario, any greenhouse gases that Australia adds to the atmosphere will have to be offset. Achieving a target even approaching that will require significant changes to the scope and scale of policies. Few areas of the economy will be untouched by either a price on emissions or by regulation, and the current policy mix does not have the machinery as yet to deliver such changes.

Although the goal of net zero emissions may seem far away, work on a credible and predictable policy architecture should begin now. The longer it takes for Australia to get its emissions on a trajectory to decarbonisation, the harder the task will be in the future. This increases the risk of a quick and painful transition later, in which Australia's efforts may fall short of what is required to help limit global warming.[12]

Businesses also need a credible, long-term policy framework now. Without one, they will not make the long-term and efficient investments in low-emissions technologies that are needed if Australia is to achieve current and future targets at low cost.

[10] Uren (2016)

[11] Climate Action Tracker (2015)

[12] A forthcoming report by the Climate Institute will examine this issue in more detail.

Box 1: Current and planned policies for reducing emissions between 2020 and 2030

The government's projections indicate that achieving the 2030 target will require around 900 Mt CO_2-e of reductions between 2020 and 2030 (Figure 3). The government has also indicated that current and planned policies can provide the bulk of the reductions.

The centrepiece of the government's current policy suite is the ERF. Since it began operating in April 2015 the ERF has purchased 92 Mt CO_2-e of abatement at a total cost of $1.2 billion. This leaves just over half of its initial $2.55 billion of committed funding remaining.

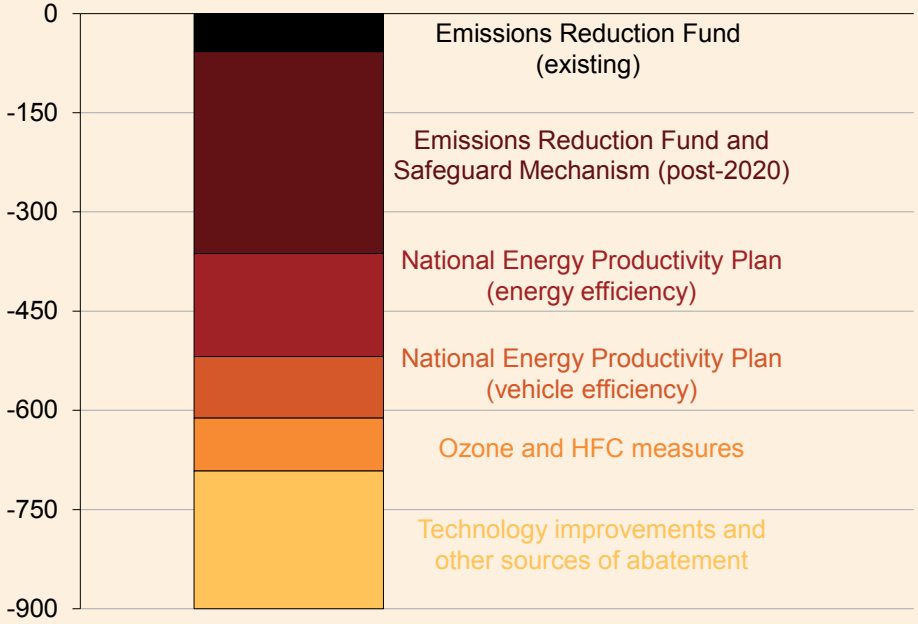
From 1 July the ERF will be complemented by the Safeguard Mechanism. The Safeguard Mechanism seeks to 'ensure that emissions reductions purchased by the government are not offset by significant increases in emissions above business-as-usual levels elsewhere in the economy'.

The government is developing a plan to improve Australia's energy productivity (that is, the economic value created per unit of energy consumed) by 40 per cent between 2015 and 2030. The plan involves measures for improving fuel efficiency in vehicles, promoting innovation and competition in energy markets, and giving energy consumers the information they need to choose more efficient products and services. The plan is expected to result in abatement by reducing emissions-intensive energy use.

As a party to the Montreal Protocol on Substances that Deplete the Ozone Layer, Australia also continues to pursue measures to reduce hydrofluorocarbons (HFCs), a potent greenhouse gas.

Finally, the government is expecting technological change and other developments to provide a significant share of abatement. Government policies have the potential to drive some of this abatement themselves, including through the operation of the Australian Renewable Energy Agency and plans to develop a low-emissions technology roadmap.

Figure 3: Government estimates of emissions reduction, 2020 to 2030
Emissions, Mt CO_2-e



Notes: A reproduction of Figure 2 from Commonwealth of Australia (2015). Estimates are indicative only. An estimate of emissions reduced by the Renewable Energy Target was not provided in the original figure.
Source: Commonwealth of Australia (2015).

2 What are Australia's policy options?

Australia needs a sustainable emissions reduction policy framework. But this cannot be achieved by one political party alone. Only bipartisan support can deliver the credibility and certainty needed to drive the transition to a low-emissions future.

There are numerous policy options for reducing emissions. Published in December 2015, Grattan's working paper *Post Paris: Australia's climate policy options* assessed a range of policies against a set of criteria. No single policy satisfied all of them.

Of the policies assessed, cap and trade with full auction of permits appeared to be the best option. This form of carbon pricing is credible and flexible, since the cap of the scheme – a limit on emissions – can be set and adjusted to meet any given target. It also provides low-cost emissions reductions.

For the foreseeable future, however, cap and trade is not politically viable. Any attempt to immediately move towards such a scheme is unlikely to win the necessary bipartisan support.

But the emissions reduction policy framework should include some of the characteristics of cap and trade. The aim for government should be to use other mechanisms to build on existing policies.

The second half of this chapter looks at some alternative policy mechanisms available to government as it moves towards a sustainable policy capable of reducing emissions at low cost. It provides a summary of how these policies work, and briefly describes their strengths and weaknesses.

Chapters 3 and 4 explain how government can use some of them to form the best policy framework.

2.1 The best option is currently not tenable

Grattan Institute has long supported an economy-wide carbon price through a market mechanism as the best way to achieve Australia's emissions reduction targets without excessive cost to the economy.[13]

But attempts to implement a carbon price in Australia have failed. Putting a price on carbon has not won the political and community support that is essential to any practical climate change policy. In evaluating a range of emissions reduction policies, we have included criteria relating to political and public acceptance. The full set of criteria are:

- credibility: ability to meet the volume of emissions reductions required by current and future targets
- political viability: capacity to evolve from current policy settings and achieve bipartisan support
- flexibility: ability to adjust to changes in targets, political developments and technological change

[13] Daley, *et al.* (2011)

- adaptability: potential to move towards an economy-wide, market-based scheme over time
- public acceptability: ability to be understood and accepted by the community
- low cost

The policies that impose an economy-wide carbon price perform best. They are more credible, flexible and adaptable, and can achieve Australia's emissions reduction goals at a lower cost than the other mechanisms.[14] In its recent paper on Australia's climate policy options, the Climate Change Authority noted that carbon pricing 'can create consistent incentives for achieving emissions reductions at least direct cost to the community'.[15] Carbon pricing schemes are also being increasingly used at the national, regional and state level throughout the world, including in the US, EU, China, Japan, Canada and New Zealand.

In *Post Paris: Australia's climate policy options*, we discussed three types of explicit carbon prices: two emissions trading schemes – cap and trade[16] and an intensity baseline scheme – and a carbon tax.

Taking the various strengths and weaknesses of each policy into account, cap and trade with full auction of permits appears the best option. Under a cap and trade scheme with full auctioning of permits, the government places a cap on the maximum level of CO_2-e emissions for a specific period of time and then creates permits, each one of which represents the right to emit one tonne of emissions within this cap. The government then auctions permits, which can be traded among the businesses covered by the scheme. At the end of the period covered by the cap, businesses must surrender permits equal to their actual emissions. Failure to do so incurs a penalty.

The price of permits is determined by supply and demand in the market. The lower the cap, the fewer the permits, and the higher the market price. Businesses must choose between buying permits or reducing their emissions. A business will choose to reduce its emissions if the cost of doing so is cheaper than the cost of buying a permit.

Cap and trade can cover a broad range of sectors and provides incentives for businesses to target the lowest cost emissions reductions available. The cap can be directly linked to the government's emissions reduction target and be adjusted to meet future targets. These features make cap and trade both credible and flexible.

Cap and trade will, however, increase costs for businesses which will likely lead to increases in consumer prices. The impact of price increases for essential goods and services is likely to be regressive, disproportionally impacting lower income households.

But the auctioning of permits raises revenue that could be used to compensate consumers and businesses for price increases. These price impacts can also have negative flow-on effects for the

[14] Wood, *et al.* (2015)
[15] Climate Change Authority (2015b)
[16] Our discussion of cap and trade included two different types of emissions trading scheme: cap and trade with full auction of permits, and an absolute baseline scheme (which produces similar results to a cap and trade scheme with free allocation of permits).

economy. Price increases can amplify distortions caused by existing taxes, while inefficient use of scheme revenue by the government is potentially another form of indirect cost.[17] Using part of the revenue raised through the auction to remove inefficient taxes would help to reduce the indirect costs.

A more significant challenge for cap and trade is gaining the support and acceptance of politicians, business and the public. After the forthcoming 2016 election, a Coalition Government is unlikely to abandon its existing policy mix. The Labor Party is yet to finalise the policy mix that it will take to the election. It will not want to replay the toxic debate that occurred before and during the 2012-2014 period when the fixed price on carbon applied in Australia.

2.2 There are other options

Australia needs to find a path that leads from current policies to a framework that satisfies all the criteria outlined at the beginning of this chapter. There are alternatives to cap and trade that can be used to take incremental steps along this path. As Australia moves further down this path, and its overall emissions reduction policy becomes stronger, satisfying more of the criteria, other complementary policies may become realistic possibilities.

2.2.1 Other forms of emissions trading

In addition to cap and trade, there are two other forms of emissions trading available to government – an absolute baseline scheme and an intensity baseline scheme.

Absolute baseline schemes

Absolute baseline schemes set targets for the amount of greenhouse gases individual businesses are allowed to emit. These individual targets are known as baselines. If a business emits less than its baseline it earns one permit – or credit – for each tonne of greenhouse gases that it emits below its baseline. A business that emits more than its baseline allows must buy a credit for each tonne it emits above the baseline. Therefore, businesses that emit below their baselines can sell credits to those that emit above theirs.

Absolute baseline schemes can work in the same way as a cap and trade scheme with free allocation of permits. Under a cap and trade scheme with free permits the government does not set a baseline – instead, it gives permits to businesses. Each permit represents one tonne of emissions. The number of permits a business is given acts as a limit on the amount of greenhouse gases it can emit in the same way that a baseline does. Businesses that emit more greenhouse gases than their free allocation of permits must purchase permits from other businesses. Those that emit less than their free allocation of permits can sell their spare permits.

There are variations on this design. The scheme described above is, technically, a ‘two-sided absolute baseline scheme’. Under a two-sided scheme, penalties apply to businesses that emit above their baselines, and credits are generated by those that emit below them. There are also one-sided baseline schemes where businesses are *either* penalised *or* receive credits, but not both. An example of a one-sided baseline scheme is the Clean

[17] Goulder (2013)

Development Mechanism, which was described in section 1.1.

A two-sided absolute baseline scheme will theoretically deliver the same emissions reductions outcomes as a cap and trade scheme at the same cost. The impact of the scheme on consumer prices should also be the same.

But there are different challenges. For one, setting baselines is difficult. Some judgement is required across many businesses and it is highly unlikely that the burden of reductions will be fairly shared.

Because there are no permits auctioned, the government raises no revenue with which to compensate households. The revenue that would have been received by the government is now received as a windfall gain by the emitters. Additionally, the increase in prices from an absolute baseline scheme creates similar negative flow-on effects for the economy as cap and trade. However, the absence of revenue means there is less scope to mitigate these negative effects through reductions in inefficient taxes.

Intensity baseline scheme

'Emissions intensity' refers to the level of emissions per unit of output. An emissions intensity baseline sets a benchmark for the average emissions intensity for a given industry.

For example, in the electricity generation sector, an intensity baseline could be set for the whole sector as tonnes of CO_2-e per megawatt hour. The initial intensity baseline could be close to, or below, the average for the sector for the most recent period. High-emitting generators, such as those using brown coal, would generally have an emissions intensity above the industry average, and so would have to purchase credits. Low-emitting generators, such as wind power, will create credits that they can sell.[18]

Once set, the baseline can be gradually reduced to drive a transition to less emissions-intensive production.

But an intensity baseline scheme does not guarantee lower emissions overall: the total emissions from a sector can increase or decrease simply because of the level of activity or production in a given sector, irrespective of the emissions intensity. This makes setting baselines complex.

At least initially, consumer price increases are kept low compared to other forms of carbon pricing.[19] This minimises the need for compensation. But over time, as the intensity baseline is lowered in line with tougher emissions reduction goals, the price impacts will become similar to those produced by cap and trade.

Though the muffled price impacts may make intensity baseline schemes more politically appealing, they are also what makes the scheme less efficient than other types of emissions trading. A lower price impact means that consumers are less likely to respond by changing their consumption behaviour – that is, they have little incentive to consume less of the goods and services that are currently produced in an emissions-intensive way.

[18] Technically, this is an example of a two-sided intensity baseline scheme where both penalties and credits apply. Like absolute baseline schemes, intensity baseline schemes can be either one-sided or two-sided.
[19] Frontier Economics (2010)

2.2.2 Emissions purchasing scheme

In an emissions purchasing scheme the government buys emissions reductions directly from individual organisations. Taxpayers therefore ultimately bear the full cost of the emissions reductions.

An emissions purchasing scheme is currently the central element of the government's climate policy. The biggest drawback on emissions purchasing is that, to achieve deeper emissions reductions, the government needs to allocate more funds from the budget.[20] While this is possible, a large and steadily increasing on-budget allocation of funds is hardly a credible long-term option, given that it would require either some form of tax increase or reallocation of funds from other areas.

2.2.3 Regulation

Under a regulatory approach, the government simply introduces laws and regulations to reduce emissions. For instance, the government could apply emissions intensity standards – that is, a maximum amount of greenhouse gases produced per unit of production – in a particular industry, such as steel manufacturing. Any business that cannot meet this intensity standard would have to close.

Alternatively, the government could place restrictions on the types of goods available. Regulations already in place to ensure all light globes sold in Australia meet a certain energy efficiency standard are one example of this approach.

The difficulty is that applying regulations across all sectors would be administratively complex. Linking the emissions reductions to specific targets would also be very difficult. Governments would need to have perfect foresight and perfect information if regulations were to be used in a way that could meet emissions reduction targets at lowest cost.

But regulations can still play a role. In certain sectors, such as agriculture, it is complex and impractical to impose other types of emissions reduction policies, such as a carbon price, and in these cases regulations can be a practical alternative.[21] Regulations can also be used to address market failures – such as lack of information – that prevent least-cost emissions reductions from being realised.[22]

2.2.4 Tradeable green certificates

In a number of countries, market mechanisms have been used to lower the emissions intensity of electricity generation by creating demand for cleaner forms of power such as wind and solar. They work by requiring energy retailers to purchase 'green' certificates representing units of low-emissions electricity generation or emissions reduction.

Australia has its own tradeable green certificate scheme, the Renewable Energy Target (RET). Under the RET, each megawatt hour of renewable energy – generally from wind or solar power – creates a renewable certificate. The government requires electricity retailers to purchase a certain quantity of these

[20] Hannam (2016)

[21] Wood, *et al.* (2015)

[22] Denniss, *et al.* (2012); Garnaut (2008); Naughten (2013).

certificates in order to contribute to their share of the emissions reductions target. The higher the target, the more certificates retailers need to purchase and the more renewable electricity generation is needed.

But green certificate schemes such as the RET apply to emissions only in the electricity sector. In the longer term the RET would at best be complementary to other carbon pricing policies, acting more as an industry policy as the carbon price gains credibility as the main driver of emissions reductions.

2.2.5 Carbon tax

A carbon tax is a fixed price paid to the government per tonne of CO_2-e emitted. Governments aim to set the tax at the level that delivers the targeted volume of emissions reductions required. Businesses that emit greenhouse gases either pay the tax or reduce their emissions, whichever is cheaper.

A carbon tax fixes the price of carbon but not the quantity of emissions. While this can lead to uncertainty as to whether a specific emissions reduction target has been achieved, setting an appropriate tax rate and a process for future resetting and review may be no more difficult than setting and reviewing the number of permits auctioned each year under a cap and trade scheme.

The biggest benefit of a carbon tax is its simplicity. But a carbon tax is unlikely to form a part of Australia's emissions reduction policy framework. The biggest obstacle to adopting a carbon tax is the fact that it is, explicitly, a tax. The recent public debate around increasing an existing tax, the GST, suggests introducing a brand new tax will be very difficult. Political and public acceptance will be hard to achieve, particularly after the Labor Government's bruising experience of introducing a fixed price on carbon in 2012.

2.3 Finding a way forward

None of these options on its own can fully satisfy the criteria listed at the beginning of this chapter. And Australia's emissions reduction policy must satisfy all the criteria.

In 2016, the best solution is to build on the existing policy mix and use elements of several different options to assemble a new framework capable of meeting current and future emissions reduction targets. This approach will involve a series of steps and trade-offs. In some cases, policies that are less than ideally efficient or equitable will be used in the short to medium term because they represent a pragmatic mid-point along the path that leads from current policies to the policies needed to achieve more ambitious emissions reductions in the future.

3 A roadmap to a sustainable policy

This chapter sets out a roadmap that leads from the Coalition's current emissions reduction policies towards the sustainable climate change policies that will satisfy the criteria set out in the previous chapter.

The roadmap has been designed to be useful to current and future governments. It has the flexibility to accommodate political priorities and adapt to changes in future targets, technologies and climate change science. With each successive step, governments can strengthen Australia's ability to deliver emissions reductions. They can give more certainty to business, and give the community more confidence about the long-term direction of Australian climate policy.

The starting point for this roadmap is the existing Safeguard Mechanism. The roadmap consists of the following steps:

Step 1: Tighten Safeguard Mechanism baselines

Step 2: Increase incentives for low-cost emissions reduction

Step 3: Replace baselines with permits and increase coverage

These steps outline changes in policy that apply to all emissions covered by the Safeguard Mechanism, with the exception of those produced in the electricity sector. The component of the roadmap dealing with the electricity sector is discussed in chapter 4.

3.1 Begin with the Safeguard Mechanism

The Safeguard Mechanism can be transformed over time into a broad market-based emissions reduction scheme. The Safeguard Mechanism sets baselines for large facilities, such as power stations or mines. From 1 July, baselines will be set for around 140 Australian facilities in industries such as electricity generation, mining, steel-making and fertiliser manufacturing. Together these facilities produce about half of all of Australia's emissions.

The Safeguard Mechanism will operate like a one-sided absolute baseline scheme (see section 2.2.1). It is one-sided because no credits are created by reducing emissions below the baseline, but penalties can apply if a facility exceeds its baseline. This means there is no incentive for a facility to reduce its emissions below its baseline.

If a facility emits more greenhouse gases than its baseline allows, then it can make up the difference by purchasing Australian Carbon Credit Units (ACCUs). Like CERs issued under the Clean Development Mechanism (see section 1.1), ACCUs are a form of offset. Specifically, they are a form of domestic offset, in that emissions in one sector of the Australian economy can be offset by purchasing ACCUs generated in another sector. ACCUs are generated through the ERF process: that is, ACCUs are issued for certain government-approved emissions reductions activities (see section 1.2). But in this instance, instead of being purchased by the government, the ACCUs are purchased by businesses

covered by the Safeguard Mechanism.

Baselines have been set for individual facilities covered by the Safeguard Mechanism at the highest level of reported emissions between 2009-10 and 2013-14. The exception is the electricity sector, for which a *sector-wide* baseline has been set, again at the highest level of reported emissions between 2009-10 and 2013-14.

At least two aspects of the Safeguard Mechanism will need to change if it is to become an effective, central mechanism for reducing emissions. First, baselines will need to be progressively reduced in line with Australia's emissions reduction target. Second, the mechanism will need to cover a larger number of facilities or sources of emissions. The current mechanism leaves half of Australia's emissions unrestricted.

A series of steps can be taken to transform the Safeguard Mechanism into an effective, emissions reduction policy. Each new step builds on the previous one. The remainder of this chapter outlines these steps for all facilities covered by the Safeguard Mechanism except electricity generators. Electricity is dealt with separately in chapter 4.

3.2 Tighten Safeguard Mechanism baselines

The first step is to tighten baselines under the Safeguard Mechanism by, first and foremost, linking them to Australia's emissions reduction targets. Baselines currently represent a high watermark for emissions for the covered facilities. Unless these baselines are reduced, the policy will provide no incentive for covered facilities to reduce their emissions.

Linking baselines to the emissions reduction target drives down net emissions from the facilities in line with overall emissions in the economy. This makes the policy more credible – it is more likely that, under the policy, Australia will achieve its current and future targets. If Australia's target changes then the baselines will also need to change.

One particular challenge with this step will be to maximise the availability of offsets that can be purchased if a facility emits above its baseline. Creating access to more emissions reduction opportunities will help reduce the cost of cutting emissions.

The government should take the following five actions in this first step:

1. Link baselines to Australia's emissions reduction targets – aggregate baselines (the sum of individual facility baselines) should be linked to Australia's emissions reduction trajectory.

2. Expand where possible the range of activities that can be issued with ACCUs (credits) under the ERF, the government's emissions purchasing scheme – this will increase the supply of available offsets. To avoid double counting, facilities covered by the Safeguard Mechanism should not be able to create ACCUs.

3. Abolish government purchasing of ACCUs – the government would no longer contract for emissions reductions. This maximises the supply of available ACCUs, while providing the

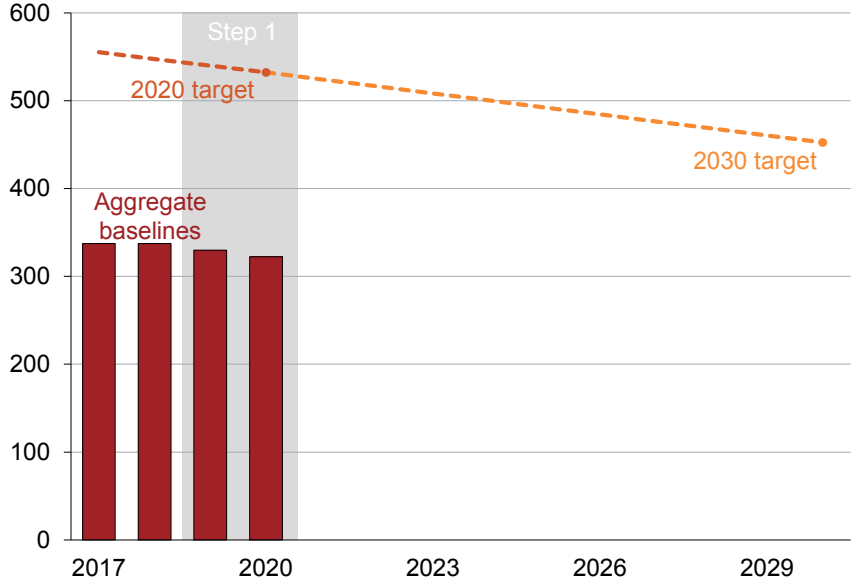
government with budget savings.

4. Allow facilities to purchase international offsets (for example CERs) – allowing international offsets would increase the supply of offsets available and could reduce the cost of meeting baselines. The use of international offsets is discussed in chapter 5.

5. Strengthen the enforcement options – liabilities for each facility should be reviewed annually. Penalties must be substantial enough to deter non-compliance: any penalty would need to be, at the minimum, equal to the cost of the ACCUs or international offsets required to offset the emissions produced above the facility's baseline. Once set, there would also be no grounds for facilities to amend their baselines.

Figure 4 shows the impact of taking this step. It shows Australia's 2020 and 2030 targets, and indicative estimates of the aggregate baselines that will apply under the Safeguard Mechanism (i.e. the sum of individual facilities' baselines). The figure begins in 2016-17, the Safeguard Mechanism's first year of operation. Initial baselines are assumed to apply for two years before the government takes step 1 in 2018-19. From here, aggregate baselines begin to decrease in line with Australia's target trajectory. Taking this first step would ensure that the Safeguard Mechanism would be driving reductions in emissions rather than just preventing them from rising.

Figure 4: In step 1, baselines begin to decrease in line with targets
Emissions, Mt CO_2-e



Notes: For simplicity, only the 2030 target of 26 per cent below 2005 levels is shown. Timeline and trajectory for aggregate baselines is indicative only. Reduction in the aggregate baselines also includes reductions from the electricity sector. An indicative estimate of aggregate baselines in 2016-17 and 2017-18 has been used. This estimate is calculated as the largest aggregate emissions in a single year between 2009-10 and 2013-14 of companies emitting at least 100,000t CO_2-e in that year.
Sources: Clean Energy Regulator (multiple years); Department of Environment (2015a); Department of Environment (2015c); Grattan analysis.

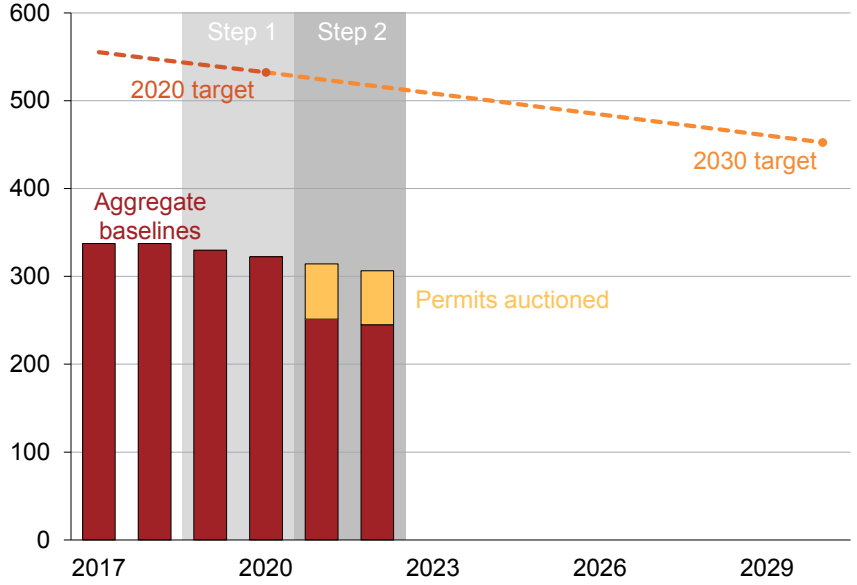
3.3 Increase incentives for low-cost emissions reduction

The second step is to increase incentives for low-cost emissions reduction by introducing tradeable emissions permits into the system. Under the current design of the Safeguard Mechanism, facility baselines are effectively a free allocation of non-tradeable emissions permits. Introducing permits means replacing a share of non-tradeable permits (baselines) with tradeable ones. It is only possible to introduce tradeable permits if baselines are reduced to levels below where they would need to be to meet Australia's emissions reduction targets: the tradeable permits are designed to fill the gap.

This step increases incentives for low-cost abatement by presenting businesses with a choice: whether to emit at their baseline or purchase permits which the government will sell under auction. If it is cheaper for businesses to meet the baseline, they will do so. Those who find reducing their own emissions expensive have the option of purchasing permits, ACCUs or international offsets.

The proportion of emissions that are reserved in the form of permits for auction – and by how much baselines need to be lowered – is a judgement call for government. There is a trade-off. The greater the number of permits auctioned, the greater the incentive for low-cost abatement. But a greater number of permits can also lead to a larger increase in consumer prices; lower baselines mean greater liabilities on businesses and increased costs, which are likely to be passed on to consumers.

Figure 5: In step 2, permits are introduced
Emissions, Mt CO_2-e



Notes: See notes for Figure 4. Timeline and trajectory for permits auctioned is indicative only.
Sources: Clean Energy Regulator (multiple years); Department of Environment (2015a); Department of Environment (2015c); Grattan analysis.

Figure 5 shows how step 2 would work. Baselines are reduced significantly, and permits are introduced. The sum of the baselines plus the permits auctioned will still follow the trajectory consistent with meeting Australia's emissions reduction target.

New entrants to the scheme will need to be given a baseline. In the absence of historical records, this baseline should be based on the best-practice emissions-intensity in the relevant industry. In

order to continue to meet Australia's emissions reduction target, the baselines of other covered facilities will need to be reduced to make room for the new entrant. However, it should be noted that coverage under the scheme is still limited to entities that emit over 100,000t CO_2-e. There are likely to be few, if any, new entrants to the scheme in the short term.

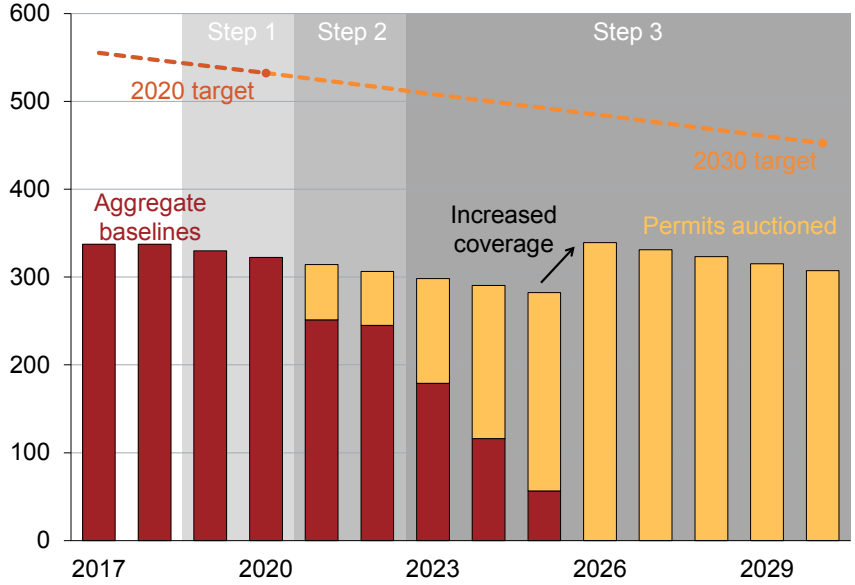
3.4 Replace baselines with permits and increase coverage

Step 3 is to fully replace baselines in the scheme with permits. Baselines would be reduced to zero more sharply than Australia's overall emissions reduction trajectory. The government would then auction permits to make up the gap. The volume of permits auctioned should be consistent with what is required to achieve Australia's emissions reduction target. In addition to permits, covered facilities can continue to use ACCUs and international offsets to meet their liabilities.

The transition from the current Safeguard Mechanism is shown in full in Figure 6. The indicative transition to zero baselines and full-auctioning of permits shown in the diagram concludes by the mid-2020s. Circumstances may dictate a slower or faster transition. A faster transition is likely to lower overall costs, but the advantage of the proposed roadmap is that it can drive emissions reductions to meet Australia's targets as long as the baselines are consistent with those targets.

Figure 6 also shows that once there is full auctioning of permits, coverage of the scheme should increase. This will require an increase in the number of permits being auctioned equivalent to the increase in the emissions sources being covered.

Figure 6: In step 3, baselines are replaced by permits and coverage is increased
Emissions, Mt CO_2-e



Notes: See notes for Figure 5.
Sources: Clean Energy Regulator (multiple years); Department of Environment (2015a); Department of Environment (2015c); Grattan analysis.

3.5 Coverage

Ideally, the scheme would cover all sources of emissions. An all-encompassing solution would minimise the need for additional policies, and maximise the chance of achieving lowest cost abatement.

Yet some sources of emissions may not currently be conducive to such a scheme. For example, it is administratively burdensome to impose obligations on a very large number of small emitters, like farms that create emissions from livestock and land use, and individuals who create emissions by driving their cars or using gas for cooking or heating. Accordingly, it makes sense to have minimum annual emissions thresholds.

There are, nevertheless, some options for covering emissions from sectors predominantly made up of small emitters (for example emissions from vehicles and agriculture). One is to impose an 'upstream' obligation: for example, for emissions created by the burning of fuels, the obligation under the scheme could be placed on the suppliers of petrol, diesel, LPG and natural gas. The obligation would be based on the deemed carbon content of the fuels these suppliers sold.

Another barrier to covering some sectors is that there can be issues with the measurement of emissions. This can complicate the reliable calculation and attribution of obligations, and is particularly relevant for the agriculture sector.

Bearing in mind these various factors, the following should apply in respect of scheme coverage:

- Maintain the Safeguard Mechanism's annual minimum threshold of 100,000t CO_2-e while individual baselines apply.
- Once full auctioning of permits is introduced, coverage should be expanded to include:
  - businesses emitting 25,000t CO_2-e per year; and
  - suppliers of liquid and gaseous fuels (for example petrol, diesel, LPG and natural gas).

The agriculture sector should initially be excluded due to both the size of individual emissions sources and potential measurement problems. Reducing emissions from the agriculture sector is a challenge for policymakers worldwide, and effective policy coverage will depend on the emergence of effective solutions.

But effective solutions must be found, and soon. The government, together with affected sectors, should work at overcoming the barriers that prevent uncovered sources of emissions – including those from agriculture – being included in the scheme.

The government should aim to have emissions that are currently not covered by the scheme included by 2030. This is not to say that government should wait until 2030 to include these sectors, nor that it will take this long to overcome the barrier. For instance, in 2008, the Rudd Government's Carbon Pollution Reduction Scheme envisaged agriculture being included in the scheme by 2015.[23]

Sectors should be brought into the scheme as and when methodologies for measurement and implementation become available. The more emissions that are covered by the scheme, the greater the opportunity to achieve least cost emissions reductions.

[23] Department of Climate Change (2008)

3.6 A sustainable climate change policy

By taking the steps outlined in this chapter, government can achieve a climate change policy that satisfies our criteria.

Linking the policy to Australia's emissions reduction targets make it both **credible** and **flexible**. Tighter baselines mean the Safeguard Mechanism can contribute to reducing emissions and can be adjusted to meet any changes to the target.

Importantly, the introduction of permits increases the opportunity to reduce emissions at **least cost**. And the roadmap remains **adaptable**: the move to full auctioning of permits and increasing the coverage transforms the scheme into an economy-wide, market-based scheme that is capable of responding to more stringent targets.

Importantly, the policy builds on existing Coalition Government policy, while moving towards a policy that also satisfies the ambitions of the Labor Party. This makes the policy **politically viable**. This bipartisanship is vital if the policy is to be **publicly acceptable** and give the stability needed by business to invest in our clean-technology future.

4 The electricity sector

The electricity sector is dealt with separately under the government's Safeguard Mechanism. Individual generators do not have individual baselines; instead, one baseline covers the entire sector. Currently this baseline is 198 million tonnes of CO_2-e, the level of electricity sector emissions in 2009-10.[24]

If this baseline were to be breached – which is unlikely, given that the most recent estimates put the sector's emissions at around 176 million tonnes of CO_2-e – then baselines would be applied to individual electricity generators.[25] These generators would then be treated like any other facility in the Safeguard Mechanism.

There is a sound reason for a sectoral approach to electricity. Emissions from electricity generation depend on both the *amount* of electricity produced and the *emissions intensity* of the source of generation. In the electricity sector switching production from coal to gas would reduce emissions. But if absolute baselines were applied to individual generation facilities, gas generators would exceed their baselines and face penalties because of increased production. An alternative and better approach is to set an *intensity baseline* for the electricity sector.

This chapter outlines the component of the roadmap for the electricity sector. It has the same starting point as other sectors – the Safeguard Mechanism. The following steps should be taken for the electricity sector:

Step 1: Strengthen the Safeguard Mechanism

Step 2: Move to an intensity baseline scheme

Step 3: Evolve into a scheme with full auctioning of permits

The steps are designed so that they can be undertaken at the same time as the steps outlined in chapter 3. Once step 3 is completed, all sectors in the economy become part of the same scheme.

The introduction of an intensity baseline scheme will have an impact on the existing RET. But the RET should continue as part of the government's policies, although not be extended beyond its existing lifetime. There is also likely to be calls for further government intervention in the electricity sector, in particular calls for the regulated closure of existing high-emitting generation. Yet such intervention may not be needed if a credible carbon price is created through a sustainable emissions reduction policy.

4.1 Intensity baseline scheme for electricity

The relative benefits of an intensity approach for the electricity sector have been put forward by Frontier Economics since 2008.[26] More recently, the rule maker for Australia's energy

[24] Department of Environment (2016a)
[25] Clean Energy Regulator (2016)
[26] Frontier Economics (2008)

markets, the Australian Energy Market Commission, endorsed an intensity approach.[27]

As described in section 2.2.1, an intensity baseline scheme in the electricity sector involves setting a sector-wide baseline for tonnes of CO_2-e per megawatt hour produced. Generators that produce at an intensity below the baseline earn credits. Generators that produce at an intensity above the baseline must buy these credits, or permits auctioned by the government, or international offsets. An intensity baseline scheme penalises high-emitting generators and rewards low-emitting generators, thereby creating incentives for low-emitting generation to displace high-emitting generation. Moreover, it creates the same incentives as a cap and trade scheme, but with a lower impact on electricity prices. This is because generators face a lower increase in their 'marginal cost', the cost of producing an additional unit of output.

The overall cost of reducing emissions, however, is likely to be higher with an intensity baseline. That is because a lower price increase means less incentive for consumers to reduce their consumption of emissions intensive goods and services. As a result, a higher carbon price is required under an intensity baseline scheme to achieve the same level of emissions reductions as other types of emissions trading, such as cap and trade.

This is one of the trade-offs of a pragmatic roadmap. While emissions reductions may be achieved at higher costs, the price impacts on consumers will initially be less. Emissions reductions caused by people reducing their electricity consumption can also be delivered using complementary policies, such as energy efficiency standards.

Another drawback of an intensity baseline scheme is that it does not cap emissions in the electricity sector. So there is a risk that even if the emissions intensity of the sector is decreasing over time, rising output could lead to rising emissions. This issue can be partially overcome through adjustment of the baseline.

4.1.1 The electricity sector also follows a three-step roadmap

In chapter 3 we outlined how to transition from the existing Safeguard Mechanism for facilities other than those in the electricity sector. A similar transition is envisaged for the electricity sector, one that can work in lockstep with the broader roadmap.

Step 1: Strengthen the Safeguard Mechanism

The existing sector-wide, absolute baseline should be reduced in the same manner as other baselines to be consistent with Australia's emissions reduction targets. If this baseline is breached, the sector should not revert to individual baselines for generation facilities, as is envisaged under current arrangements – rather, an intensity baseline scheme should be introduced as soon as practicable. Effectively this supplies a trigger to move to the next step.

Step 2: Move to an intensity baseline scheme

If the sector-wide baseline has not been breached, an intensity baseline scheme should be introduced in step 2. In addition to

[27] Australian Energy Market Commission (2015)

credits created under the scheme, generators that exceed the intensity baseline would be allowed to meet their liability through ACCUs, international offsets or permits auctioned by the government.

Step 3: Evolve into a scheme with full auctioning of permits

In the same way that the absolute baselines in other sectors will be reduced to allow the auctioning of permits, the intensity baseline will also be reduced. When the intensity baseline is equal to zero, all fossil fuel generators will have to purchase permits in order to emit.

The reduction of the intensity baseline does not have to happen at the same time as the reduction of the absolute baselines in other sectors. The government could choose to lessen the impact on electricity prices by continuing with the intensity baseline scheme for longer. However, as the intensity baseline is reduced over time, the impact on consumer prices will increase.

4.1.2 Setting intensity baselines

Intensity baselines can be set by reference to published projections for electricity demand such as those produced by the Australian Electricity Market Operator.[28]

But caution is needed. Forecasts of electricity demand have not been reliable in the past.[29] Sticking to intensity baselines based on forecasts is likely to result in Australia either falling short of – or overshooting – its targets. What's needed is a mechanism capable of altering the baselines in response to changes in both forecasts and future emissions reduction targets.

If a government wants to drive emissions reductions in the sector quickly, and so plans to put an emissions intensity baseline in place for only a short period of time – say five years – it would be best to set a schedule of baselines for the five years and stick to it. If the scheme were to continue for longer, it would be better to set a schedule and then, from time to time, amend targets in line with changes in Australia's emissions reduction trajectory.

4.1.3 Interaction between the schemes

Trading should be allowed between the absolute baseline scheme and the intensity baseline scheme. The emissions value of a permit should be the same regardless of the scheme that generates it, whether it is a permit auctioned by the government, a credit generated through the electricity sector intensity baseline scheme, or an offset created through ERF methodologies. Businesses should be able to use any type of permit or credit to meet their liabilities.

Access to all types of permit will create a single, domestic price and drive least-cost emissions reductions across the economy. Use of international offsets will also be allowed. This is discussed further in chapter 5.

4.2 Renewable Energy Target

Intensity baseline schemes provide incentives for renewable electricity. As near zero-emissions technologies, renewables will

[28] Australian Energy Market Operator (2015)
[29] Wood, *et al.* (2015)

always generate credits so long as the intensity baseline is greater than zero. Intensity baselines are also likely to push up the wholesale price of electricity, which will make renewables more attractive over the long term.

With intensity baselines in place, the role of the RET in reducing emissions in the electricity sector will effectively be superseded. The RET will then simply become an instrument of industry policy.

This does not mean that the RET should be abandoned. Investments in existing renewable generation have been made in good faith. The RET should continue as planned in order to protect these investments.

Theoretically a RET should be able to co-exist with an intensity baseline scheme. When the price of credits received is high enough, the value of certificates under the RET should fall to zero, effectively ending the scheme.

But the RET should not be extended. Under the roadmap proposed in this report, the carbon price will provide the incentive for future investment in renewable generation. The practical interaction of the RET with the intensity baseline scheme may, however, need to be considered more closely to avoid any unintended consequences.

4.3 Closure through government intervention

Recently there have been calls for the government to intervene to close high-emitting generators as part of Australia's emissions reduction effort.[30] There are a range of arguments in favour of this approach.

- *The absence of a price on carbon is leading to sub-optimal outcomes*[31]

  There is currently an oversupply of generation in the market, which results in the closure of some generators. But in the absence of a carbon price, black coal generation is leaving the market rather than the higher emitting brown coal generation. Under an effective carbon price, brown coal would exit first.

- *A very high carbon price would be needed to force closure*

  Nelson (2015) estimated that it would take a carbon price of $110 per tonne of CO_2-e to drive a switch from black coal generation to less emissions-intensive gas generation.[32] Since a carbon price that high is unlikely to be realised in the short to medium term – partly because it would be considered politically unviable – the necessary transition in the electricity sector is not taking place.

- *Closing generation is easy to understand*

  Regulatory action – such as the intervention of government to close power stations – has the advantage that emissions

[30] For example, see: Nelson (2015); Jotzo and Mazouz (2015); Origin (2016)
[31] Jotzo and Mazouz (2015). Unlike others, Jotzo and Mazouz's proposal is for a one-off intervention in the market. They do not recommend a continuous program of closure for Australia's fossil fuel fleet of generation.
[32] Nelson (2015)

reductions are seen to flow directly from government action.[33] As Origin stated in its recent submission to the Climate Change Authority when talking about government-imposed standards on emissions from generation:

> *In comparison to a carbon tax or emission trading scheme, standards are simple to communicate to the public and their results are more tangible.*[34]

- *Barriers to exit prevent the closure of fossil fuel generation*[35]

  Although there is overcapacity in the market, several factors may dissuade generators from leaving the market. These include first-mover disadvantage, climate change policy uncertainty and the high costs involved in land rehabilitation once a power station and associated mine is closed. Government intervention is needed to overcome these barriers.

The first two arguments assume that Australia will not have a (credible) carbon price to drive emissions reductions in the electricity sector. But the policy framework outlined in this report, including an emissions intensity baseline scheme for the electricity sector, will provide Australia with a carbon price. Assuming baselines are specifically and consistently linked to Australia's target, the carbon price will be sufficient to meet Australia's target.

This does not necessarily mean that the highest emitting generators will close. Nor should it. The decision to close depends on a number of economic factors, not least the cost of producing electricity. Even if there were a carbon price, the fact that it costs more to produce electricity from black coal than it does from brown coal, may result in a black coal generator closing first.

The aim of adopting policies that impose a carbon price is to enable the market to find the cheapest way to reduce emissions. Cheap emissions reductions may include the closure of brown coal generation – or it may not. Unless government has perfect information and perfect foresight, reducing emissions through regulation is likely to cost more than it needs to.[36]

But Australia does not currently have a carbon price. Even if policies were put in place tomorrow, they would lack the credibility investors need to make decisions about generation, given the policy uncertainty of the past. This lack of credibility impacts both the entry of new low-emissions investment and the exit of existing high-emissions facilities.[37]

To overcome this challenge, the government may consider putting in place a timetable for regulated closure. If the government chose this option, the timetable should be based on when fossil-fuel generators would be expected to close under a credible carbon price. If power stations do not close when they are expected to, the regulations act as a backstop. This approach would also lend a degree of certainty to the market while the carbon price is bedding down.

[33] Wood, *et al.* (2015)
[34] Origin (2016)
[35] Nelson, *et al.* (2015)
[36] Wood, *et al.* (2015)
[37] Wood and Mullerworth (2012)

But this approach remains a clear third-best option. The chances of government being able to successfully predict the right order of closure are slim. Government does not have access to the sensitive financial information held by the generators. Nor does it have perfect foresight of future changes in the electricity market. Whatever timetable is adopted is likely to be wrong, which will increase the cost of reducing emissions.

And the very fact that government chooses to intervene in the market may in itself change market dynamics. Generators that would have closed may choose to stay open. It is for this reason that the government should not pay generators to close, whether through government funds or through some type of market mechanism. The possibility of being paid to close down may encourage some generators to stay open longer than they should.

The only reason government should consider regulating closure is to address the uncertainty around future carbon prices. But if emissions reduction policy achieves bipartisan support and politicians can demonstrate, through their actions, that they are committed to a long-term carbon price, then this uncertainty should reduce over time.

4.4 A sustainable policy for the electricity sector

While the steps outlined for the electricity sector differ from those for the other sectors, the outcome remains the same: a policy that satisfies our criteria.

An intensity baseline scheme that is linked to Australia's emissions reduction target is more **credible** than the existing policy. The ability to adjust both the intensity baseline and number of permits auctioned makes the scheme **flexible**.

As is the case for the absolute baseline scheme, the introduction of permits – eventually moving to a scheme with full auctioning of permits – allows access to **low-cost** emission reductions. It also shows the scheme to be **adaptable**.

But the intensity baseline adds an important component to the overall roadmap. It limits the impact that climate change policy has on electricity prices, which is a matter of concern to both politicians and the public. So using an alternative scheme for electricity strengthens the roadmap in two key areas: **political viability** and **public acceptance**.

5 Some critical design details

The roadmap we have set out in the previous two chapters consists of an absolute baseline scheme for covered facilities other than those in the electricity sector, which are instead subject to an intensity baseline scheme. Over time, both schemes evolve into a single scheme with full auctioning of permits.

The roadmap raises four important policy questions concerning:

- the use of international units and whether there should be limits placed on their use;
- assistance for emissions-intensive, trade-exposed industries;
- assistance for households impacted by price increases under the scheme(s); and
- other uses of government revenue raised from the auctioning of permits.

This chapter considers each of these policy questions. Getting these right will determine the extent to which the roadmap achieves the desired economic, environmental and social outcomes.

5.1 International Units

Under the schemes proposed in this report, covered businesses would be allowed to meet their liabilities through the purchase of international units. International units may be either:

- the right to emit one tonne of carbon (i.e. a permit) issued by a scheme in another country; or
- an offset that represents one of tonne of carbon avoided or sequestered in another country, which has been certified under international protocols (e.g. a CER).[38]

Allowing international units in an Australian scheme can achieve the same environmental outcomes at lower cost. This is because reducing one tonne of emissions in Australia has the same environmental value as reducing one tonne of emissions anywhere else. Moreover, cheaper abatement opportunities are likely to exist overseas: at present, some types of international units can be purchased for less than $1.[39]

This is not to say that international units will always be a cheaper option. Estimates of future global carbon prices suggest that units might cost as much as US$100 by 2030.[40]

An Australian scheme should initially place limits on the types of international units allowed. Some CERs, for instance, might not be acceptable because the underlying projects raise social, environmental or strategic issues. The Climate Change Authority

[38] Following the Paris agreement, it is unclear how international offsets will be dealt with and certified beyond 2020.
[39] ICE (2016)
[40] International Energy Agency (2015)

has previously suggested restrictions based on these considerations.[41]

There should also be a limit on the quantity of international units permitted by the scheme. Allowing international units will mean that emissions can go above the nominal limit on emissions associated with a given supply of emissions permits. For example, assume the government auctions 100 Mt CO_2-e worth of permits. If covered businesses are allowed to meet a share of their liabilities using international units, say 50 per cent, then these businesses can actually emit up to 200 Mt CO_2-e in total. It may not be politically palatable for emissions to significantly exceed the nominal limits associated with permits, particularly when these limits are linked to national targets. Delaying domestic emissions reduction may also have longer-term negative economic impacts.

Setting the 'right' quantitative limit on international units is a trade-off between flexibility for covered businesses in meeting their liabilities and the costs of higher emissions. A limit that is close to zero provides no material flexibility to businesses. A limit of 50 per cent or above allows emissions to be twice the limit allowed by permits, and this could be considered politically unacceptable. Therefore, a quantitative limit around 20 per cent may be appropriate initially. This limit could be lowered or raised in the future depending on developments domestically and in the markets for international units.

[41] Climate Change Authority (2014b) suggests a number of potential restrictions. For example, Australia's acceptance of Kyoto units created through large-scale hydro-electric generation projects could be limited to projects that meet additional, international criteria relating to social and environmental impacts.

5.2 Assistance for emissions-intensive, trade-exposed industries should be targeted

An emissions-intensive, trade-exposed (EITE) industry is one that:

- incurs a relatively large increase in costs as a result of an emissions reduction policy; and
- cannot recover the added costs from customers because they have international competitors who are not subject to a comparable policy.

Imposing an emissions reduction policy on EITE industries raises two related issues. First, the EITE industry may close and/or production may relocate. In some cases, this may be the best outcome. In some highly emissions-intensive industries, a uniform global carbon price could cause production to move to a country where production can occur with lower emissions.

The other issue, however, is that relocation of production may lead to an increase in global emissions ('carbon leakage'). This would occur if Australia was imposing a price on emissions ahead of, or bigger than, that imposed by another country. The result would be an adverse economic impact for Australia with no environmental benefit.

There are often calls for EITE industries to be shielded from the cost impacts of climate change policies. But there are strong arguments, such as those outlined in previous Grattan Institute reports, that assistance should be provided only to prevent carbon

leakage.[42] This is the only emissions-reduction rationale for protecting the competitiveness of EITE industries.

Governments may wish to protect the competitiveness of EITE industries for *other* policy reasons, such as meeting industry, trade or employment objectives. But governments must understand how pursuing these objectives might interact with emissions-reduction objectives. For example, reducing emissions-reduction obligations on EITE industries will increase the obligations (and cost) on other sectors.

Emissions trading schemes often include an assistance program for EITE industries. For instance, the Garnaut Review recommended that impacted businesses be compensated to the extent that their profits remain the same as they would have been had a global carbon price existed.[43] The Jobs and Competitiveness Program that operated under Australia's former fixed price on carbon provided free permits to businesses that met certain EITE criteria.[44] The criteria for trade exposure were:

- a ratio of value of imports and exports to value of domestic production greater than 10 per cent in any one year of a specified four-year period; and
- a demonstrated lack of capacity to pass costs on due to the potential for international competition.

The criterion for emissions intensity was at least 1,000t CO_2-e per $1 million of revenue or at least 3,000t CO_2-e per $1 million of value added. A higher rate of assistance applied for emissions intensities above 2,000t CO_2-e per $1 million of revenue or 6,000t CO_2-e per $1 million of value added. The initial rates of assistance were intended to be reduced by 1.3 per cent per year. This assistance would have imposed high costs on the rest of the economy and led to a slow transition to a low-carbon economy.

The recent Paris Agreement has added an extra dimension to this issue. With almost 200 nations committed to limiting the global temperature increase, there is scope for the EITE problem to diminish. Yet international policy action is uneven, and is likely to remain so in the short-to-medium term.

As previous Grattan reports have argued, any assistance should be restricted to those EITE industries where there is a genuine risk of carbon leakage. [45] Industry and market circumstances must be closely examined. Before assistance is provided, and periodically thereafter, an independent body[46] should have the task to consider whether:

- the increase in costs (both direct and indirect) associated with the scheme are likely to decrease the competitiveness of an industry; and whether
- this is likely to lead to relocation outside Australia of production in that industry's market, causing an increase or decrease in global emissions. (This would include considering

[42] Daley and Edis (2010); Wood and Edis (2011)
[43] Garnaut (2008)
[44] Commonwealth of Australia (2011)
[45] Daley and Edis (2010); Wood and Edis (2011)
[46] Potentially the Productivity Commission.

climate policies and production methods in the destination countries).

This body would then determine the minimum level of assistance to be provided to the industry to maintain competitiveness and prevent carbon leakage. Assistance could take the form of free permits or rebates.

Forceful arguments will be made for shielding Australian businesses from the impact of climate change policy more generally. They should be treated with caution.

- Arguments that the shock of a carbon price could cause a business to close that would have been viable under a long-term climate policy would need to be substantiated through the proposed review process.

- Arguments that governments should 'level the playing field' sound fair on the surface. But the effect is to embed protectionist approaches that have largely been overturned in recent decades – for the good reason that protectionism inhibits economic productivity and imposes significant costs on all Australians.

- Transitional support for industries sounds reasonable, but may only delay or inhibit the structural changes that will allow Australia to reach its emissions reductions targets in the most efficient way. Assistance might be better directed to the employees or communities that will be affected by a business's impending closure. Any such assistance should be structured to support the reorganisation of the affairs of individuals and businesses to help them adapt to a low-carbon economy.[47]

- Although many industries now recognise the need to introduce a credible, long-term climate policy, any new framework will face opposition. A gradual transition to the auctioning of emissions permits as proposed in this roadmap will lessen the short-term impacts of the scheme.

Governments may ultimately decide that implementation of effective climate policy demands some form of additional assistance for industry. Such assistance will mean a less efficient transition; by its nature, it is also likely to become mired in endless debate. Therefore, any assistance should be tightly targeted in coverage, cost and time. As envisaged in the Clean Energy Future approach,[48] the government should define clear rules and processes, and make an independent body responsible for implementation.

5.3 A share of revenue should be committed to assisting low-income households

Making businesses pay for their emissions will increase the prices of essential goods and services, particularly once fuel suppliers and electricity generators are obliged to purchase permits or offsets for all of their emissions. The actual level of these price increases will depend on the scarcity of permits and offsets, which in turn will depend largely on the stringency of Australia's emissions reduction target.

[47] Productivity Commission (1998)
[48] Commonwealth of Australia (2011)

Whatever their exact level, price increases will have a relatively larger impact on low-income households. This is because the cost of essential services, including fuel and power, make up a larger proportion of these households' spending.[49]

The government should commit a share of scheme revenue to reducing marginal tax rates for low-income taxpayers and increasing benefits for non-taxpayers. This will assist those most vulnerable to the impacts of the scheme and in a manner that preserves an incentive to consume less emissions-intensive goods and services. By contrast, simple rebating of higher petrol or electricity costs will not preserve the incentive.

Importantly, tying a commitment to reduce taxes and increase benefits to the introduction of the scheme will also help achieve public support.

5.4 The government should not commit to any other spending

As a way of garnering support for emissions reduction policies, governments will sometimes specify in advance how they plan to use all of the revenue raised. For example, British Columbia's carbon tax is designed to be 'revenue neutral', meaning the British Columbia Ministry of Finance is obligated to return each dollar of carbon tax raised in the form of a reduction in other taxes.

Yet, beyond allocating a share of revenue to assisting low-income households and the assistance to be provided to EITE industries, the government should not commit to any other spending measures. Australia faces a number of fiscal challenges in the short-to-medium term.[50] To meet those challenges, the government will need to be able to spend revenue raised from the scheme at its own discretion.

Pre-specifying revenue use can also have unintended consequences. For example, in the next chapter we highlight a number of policies that the government should implement to complement our central policy, such as investment in research and development. Some of these will require funding – and each one should be implemented regardless of whether or not government raises revenue through auctioning permits. If government ties scheme revenue to spending on these policies, it becomes more likely that it will spend too much or too little as revenue raised by the scheme goes up or down over time.

[49] Beech, *et al.* (2014)

[50] Daley and Wood (2015)

6 Complementary policies

The roadmap's central emissions reduction policies -- outlined in chapters 3 and 4 – cover most of the economy, but they do not cover everything. Until new methodologies for including all sectors are developed, alternative policies will be needed to deal with uncovered sectors in the short term. A number of other policies will also complement the central policy by addressing market failures or barriers.

6.1 Uncovered sectors

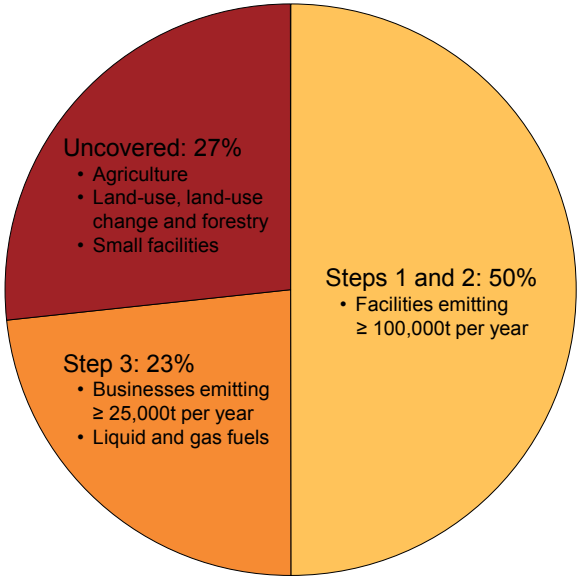
The main sectors not covered by the central policy are agriculture and the land use, land-use change and forestry (LULUCF) sectors (Figure 7).

The reasons for excluding these sectors from the central policy are:

- measuring emissions from businesses in these sectors can be difficult; and
- it is administratively complex to include very many small emitters in a broad-based scheme.[51]

Delivering emissions reductions in these sectors will, therefore, require alternative measures, at least in the short term. These will include voluntary offset programs and/or regulation.

Figure 7: Around one quarter of all emissions remain uncovered
Indicative share of total emissions



Notes: Government has stated that Safeguard Mechanism will cover around one half of Australia's emissions therefore coverage in Steps 1 and 2 is assumed to be 50 per cent. Additional coverage in Step 3 estimated using 2012-13 data from National Greenhouse Gas Inventory and National Greenhouse and Energy Reporting scheme. Coverage of liquid and gas fuels assumed to cover emissions from transport (excluding domestic aviation) and residential fuel combustion.
Sources: Clean Energy Regulator (multiple years); Department of Environment (2013); Department of Environment (2016b); Grattan analysis.

[51] Climate Change Authority (2015b).

Under the Gillard Government's Clean Energy Future package, these sectors were dealt with through the Carbon Farming Initiative (CFI). Under the CFI, credits could be generated through a range of activities, including reforestation, savannah burning and reducing emissions from livestock. Many of these activities have subsequently been included in the ERF methodologies.

In the short term, the most feasible way of reducing emissions in uncovered sectors appears to be through the generation of credits. Carbon offsets not only help reduce emissions in uncovered sectors, but can potentially provide low-cost offsets that can be purchased by businesses covered by the central policy.

But offset schemes have shortcomings as drivers of emissions reductions. They are voluntary, and so rely on participation. They do not prevent emissions from rising across the sector as a whole. From an economy-wide perspective they are also inequitable: covered businesses face a liability for each tonne of carbon they emit, while uncovered businesses face no liability and are in fact paid to reduce their emissions.

In the long term an alternative will have to be found, preferably one that brings these sectors into the central policy. More advanced mechanisms for measuring emissions are needed in the agriculture and LULUCF sectors. Policymakers will also have to consider where in the supply chain the liability should be placed. In the case of agriculture, this could be at the individual farm level or further downstream.

6.2 Support for research and development

Putting a price on carbon through the central policy will encourage the take-up of existing low-cost, low-emissions technologies. But the government will need to pursue action now to ensure the take-up of low-emissions technologies that will be lowest cost in the longer term. Without government action it is unlikely that sufficient capital will be invested in the short term to make this investment happen.[52]

Why? Because of two market failures. First, there may be what is called *carbon market risk*. Investors require a reliable, long-term carbon price to underpin their investments. But such a credible carbon price relies on consistent decision-making by government. That has not been the case in Australia. That's why investment in low-emissions technologies is likely to remain inadequate for some time.

The second market failure is the *spillover effect*. Early movers face higher costs than those that follow.[53] Finance costs are higher for new or unfamiliar technologies and there are a range of costs associated with being the first to do something in Australia. Costly new infrastructure or a new regulatory framework may be needed.

The problem for investors is that the rewards of paying for new infrastructure, or managing uncertainty around regulation, do not flow to the first movers. They spillover to those who follow. The result is that investors are unwilling to take the risk of going first.

[52] Wood and Mullerworth (2012)
[53] Ibid.

To reap the long-term benefits of investment and innovation, the government will need to intervene.

The government currently provides support to research, development and deployment in the electricity sector through the Australian Renewable Energy Agency and the Clean Energy Finance Corporation.[54] Government should continue to support research and development, both in the electricity sector and in other sectors that face difficulties in making the transition to a low-carbon economy. These include agriculture, industrial processes such as steel and cement-making, and transport.

One option for government would be to adopt the mechanism outlined in Grattan's 2012 report *Building the bridge.* Under this proposal the government selects projects by reverse auctions and guarantees the future price of electricity for emerging technologies, thereby providing certainty to investors.[55] Whatever approach the government chooses will require funding, either from the government's budget or via other sources, such as consumers' energy bills.

6.3 Energy efficiency standards

Energy efficiency standards impose requirements that certain goods or buildings meet minimum levels of energy efficiency. Standards can apply to the construction of new buildings or to existing properties, and to a range of domestic appliances – from light globes to refrigerators.

Energy efficiency standards have been shown to reduce emissions while saving consumers and businesses money.[56] Standards can complement a central emissions reduction policy by addressing certain market failures or barriers. They minimise the costs of reducing emissions overall.

Energy efficiency standards could continue to contribute to reducing emissions even after the introduction of a carbon price in the electricity sector. This is because they can help overcome barriers that prevent people making decisions that are best for the environment, such as information barriers (which, for example, make it difficult for consumers to assess the full carbon price-inclusive running costs of an appliance against its cheaper purchase price) and split incentives (where a landlord makes a purchase decision, while the tenant pays the running costs). However, in the medium to long term, as electricity generation decarbonises, energy efficiency measures as an instrument to reduce emissions will become less relevant.

6.4 Vehicle emissions standards

Vehicle emissions standards reduce the average level of CO_2-e emitted by vehicles per kilometre driven. Like energy efficiency standards, they can overcome barriers – such as a lack of good information – to the uptake of more efficient vehicles.

Emissions from light vehicles account for 10 per cent of Australia's total emissions.[57] The Climate Change Authority estimates that emissions standards on light vehicles supplied in

[54] Official government policy is that these two bodies should be defunded, although the legislation to do so has been rejected by the Australian Senate.
[55] For more information, see Wood and Mullerworth (2012).
[56] Daley and Edis (2010)
[57] Wood, *et al.* (2015)

Australia can avoid 59 million tonnes of emissions by 2030.[58] Its analysis indicates that this represents one of the lowest cost emissions reduction opportunities in the Australian economy.

As transport fuels will not be covered until step 3 of our roadmap, standards should be applied to reduce emissions from vehicles. Yet, like energy efficiency standards, vehicle emissions standards can co-exist with the central policy for reducing emissions. As such, they can continue to play a role in Australia's emissions reduction policy even after transport fuels are covered.

[58] Climate Change Authority (2014a)

7 Conclusion: The way forward

In this report, we provide recommendations for a roadmap that builds on today's policy framework while maintaining direction towards the longer term objective of deep reductions in Australia's emissions. This is important because we need to build on what is already in place, rather than begin again from scratch. It's also important to maintain focus on the long-term objective because it has both global agreement and bipartisan domestic support.

7.1 A roadmap to a sustainable policy

The government's existing policies have achieved more than many commentators expected. Emissions reductions have been purchased relatively cheaply, and the government looks on course to achieve the 2020 target.

But the policy has limitations. In its current form, the policy is neither credible nor flexible. It is hard to see how the current policy can be scaled up to achieve the deeper emissions reductions that will be needed.

Yet the policy does provide the building blocks to develop the sustainable climate change policy that Australia needs. The steps needed to get there from here are outlined in Box 2.

Following the roadmap will lead to a central policy that addresses the criteria. It will be:

Credible: The policy is linked to Australia's emissions reduction targets and places limits on emissions. The policy creates incentives for emissions reductions across the Australian economy.

Politically viable: The roadmap builds upon the Coalition Government's existing policy. But it also provides a pathway for Labor to head towards its preferred policy.

Flexible: The roadmap sets a limit on emissions – either through baselines or permits – that are linked to Australia's target. If the target changes then the limits change too.

Adaptable: The roadmap sets out a path to an economy-wide, market-based scheme.

Publicly acceptable: During the transition, the roadmap uses a mechanism that reduces the impacts on electricity prices – an intensity baseline scheme. Reducing the price impacts will help generate public acceptance of the roadmap. A gradual transition will also allow politicians time to garner support.

Low cost: As successive steps are taken towards the ultimate goal, the cost of reducing emissions becomes less: first through the inclusion of international offsets; then the release of permits into the scheme; and finally through expansion of the coverage.

Box 2: Core elements of the roadmap

The roadmap starts with the current policy mix. The major elements of the current policy are the ERF and the Safeguard Mechanism. The roadmap consists of the following steps:

Step 1: Tighten Safeguard Mechanism baselines

- Link baselines to Australia's emissions reduction target.
- Expand the range of activities that are recognised for creating ACCUs under the ERF.
- Abolish government purchasing of ACCUs to maximise the supply of available credits to liable entities.
- Allow facilities to purchase international offsets.
- Strengthen the enforcement options.

Step 2: Increase incentives for low-cost emissions reduction

- Introduce a one-sided, absolute baseline scheme (excluding electricity sector) with more sharply reducing baselines.
- Introduce an intensity baseline scheme for the electricity sector.
- Introduce auctioning of permits by government.

Step 3: Replace baselines with permits and increase coverage

- Reduce baselines to zero while government auctions an increasing number of permits.
- Expand coverage to include businesses with annual emissions of at least 25,000 Mt CO_2-e and fuel suppliers.
- Over time, develop methodologies to include uncovered sectors.

Other policies will be needed to complement the central policy and reduce emissions in uncovered sectors. These include:

- carbon offsets in agriculture
- vehicle emissions and energy efficiency standards
- initiatives to encourage research and development.

The Renewable Energy Target should also continue as planned, although it should not be extended.

Assistance to EITE industries should be limited to instances where there is a genuine risk of carbon leakage. The government may choose to support other industries that face negative impacts, but any assistance must be tightly targeted.

The political tension that has dogged climate change policy in Australia for more than a decade cuts across the major political parties and across federal, state and territory boundaries. It will take a period of steady progress in a broadly agreed direction to build any sort of consensus and predictability for investment. For this reason, the speed with which a future government should take the steps indicated on the roadmap cannot be prescribed. The roadmap aims to give successive governments options for maintaining momentum and direction without losing the mandate from their constituents, both within and outside their parties.

But the political parties cannot wait too long. It is likely that Australia will need to reach net zero emissions by the middle of this century. The longer we wait, the more difficult the transition will be and the greater the risk that our climate change goals will not be achieved.

As on any important journey, it will be important for governments to maintain momentum towards the destination and not get stuck halfway, or diverge down some interesting, but dead-end byway. As a broad guide, the first step – tightening baselines – could continue to 2020. Step 2, which introduces permits and an intensity baseline scheme for the electricity sector, could be in place for 3 to 4 years after that. Step 3 then moves to a cap on emissions consistent with Australia's target trajectory, zero baselines and full auctioning of emissions permits.

7.2 A Coalition Government

The government's focus has been to avoid anything that could be labelled as a tax and to minimise any direct impact on consumer prices. This has been successful to date. It has built policy mechanisms that with good engineering can be moulded to meet our 2020 and 2030 emissions reductions targets. The longer term is less clear. Today's version has the promise without the detail. Industry is looking for that detail.

This roadmap allows a Coalition Government to build on its ERF and Safeguard Mechanism in steps consistent with its political constraints.

The government has committed to a review of its climate policies in 2017. A re-elected Coalition Government should begin by tightening the baselines of the Safeguard Mechanism. It can then balance further funding of the ERF with the creation of demand for ACCUs through more stringent baselines. It should also commit to the introduction of an intensity baseline scheme for the electricity sector. This approach builds on the existing approach, increases the credibility of the government's commitment and yet minimises the likelihood of major resistance within the Coalition parties. A key element is avoiding big increases in electricity prices.

The next steps will be informed by the outcomes of the international process for review of national emissions reduction targets, the actual path being tracked by Australia's domestic emissions, and the level of community and Coalition parties support for maintaining momentum to emissions reductions. It is likely that support will grow as the international community, and Australia's trading competitors in particular, maintain their commitments and a range of industries respond positively to more predictable policy.

7.3 A Labor government

The Labor Party is committed to emissions trading as the centrepiece of a policy that will meet an ambitious, but yet undetermined reductions target and also deliver 50 per cent renewable electricity by 2030. Its challenge is to remain true to the core principle without being dragged into a rerun of the carbon tax debate of 2013.

This roadmap shows how an elected Labor government, in 2016 or later, could take the Coalition's legacy and move forward to an emissions trading model. At whatever time it came to power, a Labor government could determine its own timetable. It could move directly to an economy-wide cap and trade model, or proceed via the intermediate steps set out in this report.

The roadmap ensures all sides of the political debate can be heading towards the commonly agreed objective without getting mired in a repeat of the divisive debate over specific policy choices.

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