

CLIMATE CHANGE AUTHORITY

TOWARDS A CLIMATE POLICY TOOLKIT: SPECIAL REVIEW ON AUSTRALIA'S CLIMATE GOALS AND POLICIES

SUMMARY

About this Review

The Climate Change Authority has conducted a wide-ranging Special Review into Australia's climate change policies. As required by the Review's terms of reference (Appendix A), this third report recommends what action Australia should take to deliver on the commitments that flow from the United Nation's Framework Convention on Climate Change (UNFCCC) Paris conference held in late 2015.

In the Authority's view, the main action required is to build on our current emissions reduction measures to establish a set, or 'toolkit' of policies that will allow Australia to meet its Paris commitments to reduce emissions while maintaining strong growth in living standards and employment opportunities.

An emissions reduction toolkit is required because there is no single emissions reduction policy that can achieve everything. Australia's emissions reduction goals are best achieved by a coordinated set of policies crafted to suit the characteristics of different sectors and emissions reduction opportunities (of which there are many). This report sets out the Authority's recommended toolkit and the transition pathway that should be taken to put these measures in place.

The Review has benefited from extensive consultations with a diverse range of stakeholders and the Authority thanks all those who contributed.

What the Paris Agreement means for Australia

Burning fossil fuels, clearing land and other human activities produce gases—mainly carbon dioxide and methane—that trap heat and cause climate change. Australia's long standing position in the international climate negotiations is that we should play our part in international efforts to reduce greenhouse gas emissions so

as to avoid the worst impacts and risks of climate change. As a comparatively hot and dry country that is subject to climate extremes, Australia stands to benefit more from effective global action to reduce emissions than many other developed countries. There will be costs from reducing emissions but they can be expected to be far outweighed over the long term by the benefits to Australians of a more stable and liveable climate that supports thriving agricultural industries and healthy ecosystems.

The UNFCCC is the main focus of international efforts to agree on actions to mitigate climate change. At the most recent UNFCCC conference, all 195 countries that are Parties to the Convention adopted the Paris Agreement, which establishes a framework for climate action beyond 2020. Under the Agreement, countries strengthened previous goals by agreeing to limit warming to 'well below' 2 degrees, and to pursue efforts to limit the temperature increase to 1.5 degrees. The Agreement also indicates what this requires for global emissions: countries agreed that global emissions need to peak as soon as possible, to rapidly reduce thereafter, and to reach 'net zero' emissions between 2050 and 2100 (net zero emissions means that any remaining emissions are matched by removals of greenhouse gases from the atmosphere).

The Paris Agreement requires both developed and developing countries to undertake emissions reduction efforts. Almost all countries have made specific commitments to do this. These are known as Intended Nationally Determined Contributions (INDCs) and mostly take the form of quantified targets.

Australia's Intended Nationally Determined Contribution to the Paris Agreement is to reduce emissions by 26 to 28 per cent on 2005 levels by 2030.

Collectively, the Paris commitments would mean that global emissions remain well above a level that would give a realistic prospect of limiting temperature increases to below 2 degrees.

In a significant development, however, the Paris Agreement architecture establishes a cycle of reviews that will require all Parties to review and progressively increase their emission reduction commitments every five years, with reference to the global emissions goals. This set of obligations offers a real prospect of reaching the global goal of zero net emissions in the second half of this century.

Accordingly, as well as needing policies to meet its 2030 target, Australia will need policies that are capable of being scaled up to meet more ambitious goals in the decades ahead and to play its part in action to decarbonise the global economy.

In an encouraging sign that countries take their commitments seriously, most countries that set emissions reductions targets for the first commitment period of the Kyoto Protocol met or surpassed their targets. Many countries have put emissions reductions policies in place and are now taking steps to strengthen them. Generally as part of a suite of policies, market mechanisms to reduce emissions (like cap and trade schemes or carbon taxes) have been introduced in about 40 countries and over 20 cities, states, and regions, with plans for more.

So, what does the Paris Agreement mean for Australia? Firstly, it confirms that the world is acting on climate change and is moving towards the level of action that is in Australia's public interest. Secondly, it makes it clear that Australia faces a large and ongoing emissions reduction task beyond its current Paris INDC. Australia has already made some progress, but emissions will need to decline more steeply than they have in the past. This will have costs, but will also open up new opportunities.

Australia's toolkit to meet the Paris Agreement

Australia currently has a range of policies in place to reduce emissions and to promote the more efficient use of energy. The Authority is of the view that a toolkit that contains both new and strengthened policies will be needed to meet the emission reduction challenges in the Paris Agreement.

The Authority recognises that climate policy in Australia has been marked by frequent changes of direction and uncertainty in recent years. One of the key advantages of building on current policies is that it would send a signal to business, investors and the broader community that action to reduce emissions is entering a new phase of stability as Australia makes the transition to the policy toolkit that can deliver on the Paris commitments.

The Authority has addressed stability concerns in its recommended toolkit in several ways. First, it has recommended a toolkit that can be scaled up over time. Australia would then be able to increase its emissions reduction efforts without major changes to the policy architecture. Second, when recommending the toolkit, the Authority has selected a number of policies that can respond flexibly to unexpected changes. This improves the likelihood that the policies will continue to

be cost and environmentally effective as technologies and economic conditions change over the decades to come, which increases the likelihood that policies will remain stable. Third, the Authority recommends continuing and building on existing measures, such as the Emissions Reduction Fund (ERF) and its safeguard mechanism, as well as energy efficiency and innovation support measures.

The ERF's purchasing and crediting mechanism is a voluntary scheme where the Government buys emissions reductions from eligible projects via competitive auctions. In the three auctions held to date, 143 million tonnes of future emissions reductions have been contracted at an average cost of \$12.10 per tonne. The ERF's project-based crediting and purchasing arrangements provide demand for domestic offsets from a range of projects including reducing emissions from savanna fires, landfill waste, reducing land clearing, forest and vegetation establishment or regeneration, energy efficiency, transport and soil carbon. The ERF safeguard mechanism is a regulatory measure that is intended to prevent emissions reductions from ERF purchasing being cancelled out by increased emissions elsewhere in the economy. It is not projected to deliver significant emissions reductions in the short term but it has the potential to play an expanded role to reduce emissions in the future.

The Renewable Energy Target (RET) is a legislated policy that supports both large- and small-scale renewable energy generation. The RET has had an uncertain history in recent years. That said, it remains a significant element of Australia's emissions reduction policy and is projected to deliver around 200 million tonnes of emissions reductions over the period from 2015 to 2030.

Many energy efficiency and low-carbon innovation programs are also projected to make a significant contribution to the emissions reduction task. For example the Greenhouse and Energy Minimum Standards program encompassing standards and labelling for appliances and lighting is projected to reduce emissions in the order of 60 to 70 million tonnes between 2014 and 2020. While attributing reductions to low-carbon innovation programs is complex as other policies are often the main driver, the Clean Energy Finance Corporation notes that projects in its portfolio are projected to achieve around 77 million tonnes of reductions over their lifetime.

The Authority's recommended toolkit

Given Australia's recent history of significant climate policy uncertainty, it is particularly important that the transition to an effective toolkit is predictable and provides confidence that the policy architecture will endure. It will also be important that good progress to reduce emissions and decarbonise the economy is made in the next five years, after which time the Authority recommends that the policy settings in the toolkit as a whole (and some of the measures themselves) are subject to a substantive review.

The review in 2022 should be the first of a series of five-yearly reviews to assess Australia's progress in reducing its emissions, and the emissions reduction actions that other countries, particularly our major trading partners, are taking to meet their Paris commitments. The Authority recommends however that most of the broad policy architecture should remain stable to help provide investor certainty.

The Authority recommends that the transition from current policies to the enhanced or new measures in the toolkit should be guided by the principles laid out in its legislation, in particular with respect to the public interest, supporting the global effort on climate change, cost effectiveness, environmental effectiveness and equity. Predictability is also important for a stable transition to the toolkit. These criteria broadly align with the Authority's principles for assessing policies in this review (see Chapters 4 and 15).

The Authority's recommended toolkit is described here; Figure 1 shows the relationship between current policy settings and the Authority's recommendations for each of the main sectors that produce emissions.

FIGURE 1 TRANSITION TO THE POLICY TOOLKIT

	Current policies	Toolkit
Electricity supply		Emissions intensity scheme from 2018 <i>Intensity baseline declines linearly over time, reaching zero well before 2050</i> <i>Eligible energy efficiency credits can be used to meet obligations</i> Chapter 5
		Renewable Energy Target Chapter 9 <i>Ends 2030</i>
Direct combustion	Emissions Reduction Fund (ERF) - crediting and purchasing	Enhanced safeguard mechanism <i>Baselines decline consistent with Australia's commitments</i> <i>ERF credits from agriculture, land use and safeguard sectors can be used to meet obligations</i> Chapter 5
		Enhanced safeguard or market mechanism Chapter 5
Industrial processes		ERF auctions in safeguard sectors and transport
Fugitive emissions		
Transport		Carbon dioxide standards for light vehicles Chapter 10 Standards continue; 2022 review to consider transport coverage under enhanced safeguard or market mechanism Chapter 5
		Cost-benefit analysis of carbon dioxide standards for heavy vehicles
Agriculture		ERF crediting Chapter 11 <i>ERF auctions for agriculture and land use</i>
Land use		ERF auctions; Regulation to further reduce emissions Chapter 12
Waste		
Synthetic greenhouse gases	Regulation and standards	
Cross-cutting policies	Safeguard mechanism	
	State-based white certificate schemes Energy efficiency measures for buildings, industry, households Innovation support	Efforts to harmonise white certificate schemes for use as offsets under emissions intensity scheme Chapter 7 ERF crediting and auctions for energy efficiency Chapter 7 New or enhanced energy efficiency measures for buildings, industry, households Chapter 7 Innovation support focussed on R&D for low-emissions technologies Chapter 8
Reviews		First toolkit review in 2022 Five-yearly reviews thereafter <i>Reviews to assess Australia's progress and that of key countries</i>

Note to Figure 1: Dotted boxes indicate areas where there appears to be a case for including a policy in the toolkit but further investigation is required. This diagram focuses on Commonwealth and nation-wide policies; some state-based policies that reduce emissions are not included here for simplicity. ERF auctions continue: in sectors covered by the enhanced safeguard mechanism to provide transitional assistance; in the land sector until the enhanced safeguard mechanism provides a source of demand; for ERF energy efficiency projects until the emissions intensity scheme provides a source of demand; for transport projects until light vehicle standards are in place; and for waste and synthetic greenhouse gas projects until enhanced regulation is in place. **Source:** Climate Change Authority.

The electricity generation sector

The electricity generation sector is important for meeting Australia's emission reduction goals because it is both the largest source of emissions and a significant source of emissions reduction opportunities.

In the Authority's view, to reduce electricity sector emissions, a market mechanism in the form of an emissions intensity scheme should be part of Australia's toolkit. Mechanisms of this type are capable of making significant emissions reductions in a way that is both flexible and scalable. A market mechanism for electricity would enable Australia to meet its emissions reduction goals at a lower cost to the community than would be possible without such a policy in the toolkit.

Electricity generation emissions are readily measurable and come from a relatively small number of sources, and significant emissions reductions are feasible using known technologies. This means the sector is well suited to a market mechanism to reduce emissions.

The Authority recommends that an emissions intensity scheme should be introduced for electricity generators in 2018 to drive cost-effective emissions reductions in Australia's electricity supply (Chapters 5 and 9). The emissions intensity baseline should decline linearly to reach zero well before 2050 consistent with Australia's Paris Agreement obligations.

The nature of an intensity scheme means that the price impacts on Australian households and businesses will be lower than with other types of market mechanisms (such as a cap and trade scheme).

Most stakeholders that made submissions to the Special Review on policies for electricity generation support a market mechanism of some sort to reduce emissions from this sector.

The Authority's electricity sector modelling suggests that price impacts from an emissions intensity scheme will be manageable. Residential spending on electricity is projected to be around eight per cent higher on average over the period to 2050 (relative to the reference case) when such a scheme is used to reduce emissions, consistent with keeping temperature increases below 2 degrees. This should be viewed in context however: household disposable income is projected to grow almost 40 per cent over the same period.

Generators should be able to use credits from eligible energy efficiency projects (including from the ERF and state white certificate schemes) to meet their obligations under the emissions intensity scheme. This could help lower costs of compliance for generators while driving cost-effective emissions reductions from energy demand.

The emissions intensity scheme should be closed to international credits and permits and domestic offsets (other than eligible energy efficiency credits) to increase certainty and support investment in low-emissions electricity.

The existing RET should stay in place. This would encourage investment in new large-scale renewable energy generation until 2020 (after which large-scale generation targets are fixed until 2030). Support for small scale technologies should continue and phase out as planned.

Given the importance of investor confidence for making the transition to a low-emissions electricity sector and the policy uncertainty that has characterised emission reduction policy in the last decade or so, the Authority considered whether other electricity sector policies (beyond the RET) might be warranted to support the emissions intensity scheme. The Authority reached the view that investor confidence is best met by introducing a scalable, cost-effective policy which remains stable and adding further policies in the electricity generation sector risks policy interactions that could undermine this key objective of policy stability.

Direct combustion, fugitive gases and industrial processes

The Authority has identified three sectors that are well suited to a common emissions reduction measure. These are: direct combustion (for example, burning gas to generate heat), industrial processes (for example, emissions from cement production) and fugitive emissions (for example, gases released during coal mining). While some of the emissions from these individual sectors are relatively

small, when taken as a whole, emissions from these sectors make up almost one-third of Australia's overall emissions profile.

These key sectors should be covered by an enhanced version of the existing safeguard mechanism. If strengthened, the safeguard mechanism could provide a stable and pragmatic way of making progress towards Australia's 2030 target in a way that the Authority considers to be in line with the public interest (Chapter 5).

The following changes should be made to strengthen the safeguard mechanism while addressing competitiveness concerns:

- Lower thresholds. The safeguard currently sets a limit on direct emissions from facilities that emit 100,000 tonnes of carbon dioxide equivalent (t CO₂-e) or more (this limit is expressed as a 'baseline'). Under the Authority's recommended toolkit in 2018, the coverage of the safeguard should extend to facilities that emit 25,000 t CO₂-e or more, because broader coverage increases the cost effectiveness and environmental effectiveness of the scheme. The 25,000 t CO₂-e threshold also aligns with reporting required from facilities under the National Greenhouse and Energy Reporting system (NGERs). Building on the NGERs thresholds and reporting obligations will reduce the impact of transaction costs associated with complying with the measure.
- Declining baselines. Baselines for all facilities should decline linearly at a uniform rate consistent with meeting Australia's INDC to reduce emissions by 26 to 28 per cent below 2005 levels by 2030 and to position these sectors for the further emissions reductions that are likely to be needed beyond 2030 in line with Australia's obligations under the Paris Agreement.
- No further baseline revisions. Under the safeguard, baselines can currently be adjusted to allow facilities to emit more in a number of circumstances. To make the emissions outcome of the safeguard policy more predictable and to bring it in line with Australia's targets, the ability to allow facilities to emit more by changing their baselines should cease from 2017 onwards.
- Access to international units. Safeguard facilities should be able to use international permits and credits to meet their baselines with a quantitative limit to ensure that the transition to a low carbon domestic economy is not delayed. There should be strict qualitative limits to help ensure that permits and credits

are genuine (see 'International permits and credits', below). Access to international permits and credits will likely mean relatively lower compliance costs for safeguard facilities.

- Land sector offsets. Safeguard facilities should also be able to use domestic land use and agriculture offsets issued through the ERF to reduce emissions if they exceed their baselines (Chapter 11). Offsets help reduce compliance costs and create a market based assessment of emissions reduction opportunities. They also create a source of demand for abatement opportunities that are not covered by other measures in the toolkit.

ERF auctions would continue to assist safeguard facilities to make investments and support their transition to a lower emissions economy. The Government has said it will consider future funding for the ERF in future budgets.

Safeguard facilities could use credits from their ERF projects to help meet their safeguard obligations and current rules to prevent double counting of emissions reductions resulting from these ERF contracts should continue to apply.

Because of additionality concerns and to avoid penalising early movers, other than as a result of ERF projects (which have stringent additionality tests), credits should not be issued to safeguard facilities for any differences between their baselines and their actual emissions (see Chapter 15).

The Authority notes that the transition to the Authority's recommended toolkit means that ERF purchasing would need to perform proportionately less of the emissions reduction task over time.

Safeguards and the way forward

The Authority recommends that the emissions intensity scheme for electricity and the enhanced safeguards should be reviewed as part of the broad 2022 review of the toolkit.

Analysis suggests that market mechanisms to reduce emissions—such as emissions intensity or cap and trade schemes—would allow Australia to meet its emissions reduction targets at a lower cost to the community than would be possible otherwise. This proposition met with broad agreement from the diverse range of stakeholders that engaged with the Authority for the Special Review.

While applying market mechanisms beyond the electricity sector would help meet Australia's targets at lower cost, the Authority notes that, in the safeguard mechanism, Australia has a broad-based regulatory architecture in place which can be progressively strengthened and enhanced to achieve emissions reductions that can be scaled up over time. That said, applying the safeguard mechanism in this fashion may not deliver emissions reductions with the degree of cost effectiveness that could be secured if a market mechanism was used.

Allowing liable facilities to meet their safeguard obligations with domestic offsets and international permits (with some restrictions) would however allow the safeguard mechanism to occupy a middle ground between more traditional forms of command and control regulation and market based measures. In particular this approach could secure cheaper abatement opportunities in domestic sectors not covered by the safeguard itself or the emissions intensity scheme for electricity generation.

A review in 2022 ahead of the scheduled 2023 review under the Paris Agreement should assess Australia's progress towards its goals and whether the enhanced safeguard mechanism should continue or whether another policy instrument such as a market mechanism should be applied in the direct combustion, industrial processes and fugitive emissions sectors. In the Authority's view, the two most prospective options for a market mechanism are an emissions intensity or a cap and trade scheme. Both have advantages and disadvantages. Given their similarity, good design of any scheme is more important than the particular type.

Transport

The Authority is of the view that Australia's climate policy toolkit should include measures to harness cost-effective opportunities in the transport sector, including supporting and encouraging more efficient vehicles, less emissions-intensive fuels and modes of transport, and reducing the need for transport while maintaining or enhancing living standards (Chapter 10).

In the short term Australia should introduce a mandatory carbon dioxide emissions standard for light vehicles. This could deliver substantial, low-cost emissions reductions, with net economic benefits. The sector as a whole should continue to be covered by ERF crediting and purchasing until light vehicle standards are in place. There also appears to be a case to pursue heavy vehicle standards in line

with developments in the US, Canada, China and Japan, and these should be considered following a cost benefit analysis.

In the longer term, covering transport under an enhanced safeguard mechanism or another policy instrument like a market mechanism would help to reduce Australia's transport emissions cost effectively. The 2022 review of the toolkit should consider transport coverage.

Further work would be useful to consider what else governments can do to encourage the use of less emissions-intensive transport fuels. One example is to examine the appropriate roles of public and private providers in delivering electric vehicle recharging infrastructure.

Infrastructure investment and effective city planning can help reduce travel distances and the need for transport, and encourage greater use of low-emissions options. Continuing collaboration between all levels of government, the private sector and communities should occur over the coming years to plan and build sustainable cities.

Energy efficiency

Energy efficiency offers significant emissions reduction potential at low cost or net savings across all sectors of the economy.

A range of barriers exist to prevent uptake of energy efficiency improvements. Where these barriers warrant government intervention, effective regulations and information programs can unlock cost-effective emissions reductions.

Australia should continue and expand its energy efficiency programs as part of the policy toolkit. Energy efficiency regulation and information programs should be regularly reviewed and strengthened to ensure continued, cost-effective emissions reductions from buildings, appliances, households and industry (Chapter 7).

Australian governments should again seek to harmonise white certificate schemes across jurisdictions to promote a more uniform approach to energy efficiency incentives across the country. Australian Government rules or standards that build on the current ERF crediting methods for energy efficiency should be used to establish eligibility for state white certificate scheme credits that can be used to meet obligations under the emissions intensity scheme for electricity generation.

This would help the effort to harmonise existing state and territory schemes while increasing demand for certificates and driving more energy efficiency.

Energy efficiency projects should remain eligible for ERF crediting and for purchasing until the emissions intensity scheme provides a source of demand.

Synthetic greenhouse gases and landfill waste

Synthetic greenhouse gases (SGGs) and emissions from landfill waste share characteristics that, in the Authority's view, make them well suited to an emissions reduction approach that builds on current regulations.

Reducing emissions from SGGs is best achieved through existing international agreements given effect through domestic regulation. This approach is straightforward and enjoys strong support from affected industries. Australia should therefore continue to phase down synthetic greenhouse gases and adopt an accelerated phase down of hydrofluorocarbons.

The waste sector presents opportunities for emissions reductions, despite its small contribution to Australia's total emissions. Emissions from the sector are already regulated for odour and safety by state governments. Strengthening and harmonising regulations to align with Australia's emissions reduction targets could promote further efficient emissions reductions in the sector.

Australian governments should commence work to harmonise regulation of emissions from landfill waste facilities (Chapter 12). Designed well, such regulation could be an environmentally effective and straightforward way to reduce emissions in this sector. Consideration should be given as to how best to deal with smaller regional landfills given they tend to emit lower volumes of greenhouse gases and some abatement options may not be feasible. It will also be important to avoid creating perverse outcomes like waste being transported from one region to another to avoid the impact of regulation.

Landfill waste and synthetic greenhouse gas reduction projects (SGGs) should be eligible for ERF purchasing and crediting until enhanced regulation is put in place in these sectors.

Land sector

Australia has substantial opportunities for emissions reductions in agriculture and land use.

An offsets scheme is a good way to reduce emissions from the land sector because emissions arise from a high number of relatively small emitters, which can mean high transaction costs.

Offset schemes can complement other policy instruments and reduce the cost of meeting Australia's targets. Risks to environmental integrity can be managed through robust methods and governance.

The offsets crediting and purchasing arrangements under the ERF have created emissions reductions in the land sector. ERF offset crediting should continue to cover the land sector, and the Australian Government should support new method development and associated research to reduce emissions.

Safeguard facilities should be able to use domestic land use and agriculture offsets issued through ERF crediting to reduce emissions if they exceed their baselines. Over time this would create an additional source of demand for land-based offsets; ERF purchasing arrangements should continue until the enhanced safeguard provides a source of demand.

The interaction between land sector emissions reduction policies and natural resource management arrangements offers opportunities for synergies and efficiencies. The Australian Government should lead a review with state and territory governments of how natural resource management policies could better encourage farm productivity, carbon storage and reduce emissions in the land sector.

Innovation

The Authority is of the view that targeted Government support for low-emissions innovation can help alleviate innovation barriers and address market failures not resolved by an enhanced safeguard mechanism or market mechanisms to reduce emissions (Chapter 8).

The early stages of low-emissions innovation—particularly research, development and demonstration—are a priority, and support through targeted public funding

should continue. Debt and equity funding for the deployment of low-emissions projects and technologies should also continue. Other policies in the toolkit could also assist in overcoming difficulties associated with policy and project risks at the deployment and commercialisation stages.

International cooperation can foster efficiency in countries' innovation efforts. Australia should continue collaborating on low-emissions innovation with other countries.

International permits and credits

Credible international emissions reductions in the form of tradable units could complement Australia's domestic climate action, particularly in the short term. Units are available in two forms: credits from offsets projects or permits from emissions trading schemes.

Using credible international permits and credits could lower the cost of meeting Australia's emissions reduction goals. Trade in international permits and credits may also reduce international competitiveness concerns for Australian businesses by providing access to a wider range of low-cost emissions reductions opportunities.

It will be important to ensure that the use of these permits and credits does not delay Australia's transition to a lower emissions economy. Australia could manage this risk through limiting the volume of international permits and credits that can be used to meet obligations under the safeguard mechanism and other policy instruments.

Using international permits and credits could erode the environmental integrity of Australia's climate policies if they are not genuine reductions. To address this risk, Australia should only allow robust sources of international permits and credits to be used to meet toolkit obligations, and set strict eligibility criteria for permits and credits based on their environmental integrity.

The Authority recommends the Government undertake further work to determine appropriate qualitative and quantitative limits on international credits and permits. In particular, to ensure the environmental effectiveness of Australia's toolkit, restrictions should be used to encourage purchase of credits from new projects and prohibit use of international credits from some emissions reduction projects that may carry a higher risk of lacking environmental integrity. For example the

destruction of some synthetic greenhouse gases and fertiliser manufacture and some large-scale hydroelectricity projects have been excluded from some international schemes because of such concerns.¹

As a risk assurance measure to guard against policy uncertainty and higher than expected emissions growth, the Authority also recommends the Government establish a fund to purchase international offset credits and permits and help meet its 2030 emissions reduction target.

Promoting international competitiveness

The policy toolkit recommended by the Authority will, over time, increase the competitiveness of low emissions firms and decrease the competitiveness of high emissions firms. Of concern, however, are the undesirable competitiveness effects that can result from policy differences between countries. The two related problems are:

- carbon leakage, where Australia's emissions reductions efforts are eroded by them leading to emissions increases in other countries
- competitive distortions, where production and investment shift between countries because of policy differences, rather than differences in costs of reducing emissions.

While the risk of carbon leakage is still present, it is decreasing as more countries take on emissions reduction targets. By contrast, the risk of competitive distortions appears likely to persist for the foreseeable future as Australia's major trading partners are likely to continue to use a diverse range of policies to meet their targets.

Assistance should be provided to industries that are both emissions intensive and trade exposed (EITE) to reduce the residual risk of carbon leakage and the extent of competitive distortions. Such industries are likely to include the aluminium, alumina, steel, petroleum refining and cement industries, among others. The aim should not be to eliminate all competitive distortions by precisely aligning the policy costs for Australian firms with those of their international competitors. For one thing, this would be extraordinarily difficult to achieve, given the number of

¹ More specifically, non-eligible projects could include the destruction of trifluoromethane, the destruction of nitrous oxide from adipic acid plants or from large-scale hydroelectricity projects not consistent with criteria adopted by the European Union based on the World Commission on Dams guidelines.

countries involved and the diverse range of measures they use to cut emissions. More importantly, such an approach would likely reduce overall cost effectiveness by increasing costs on the broader community. The aim should be to strike a balance between assisting EITE industries and the effect of this assistance on the Australian community overall.

To address competitiveness concerns, the Authority recommends that EITE firms be allowed to surrender international permits and credits that are subject to strict eligibility rules for any emissions above their safeguard mechanism baselines without quantitative restrictions. The 2022 toolkit review should assess the use of international permits and credits, and consider whether a quantitative limit that declines over time should apply.

Allowing EITEs to access internationally traded permits and credits to manage their emissions reduction obligations can help alleviate competitiveness concerns as it helps align carbon prices faced by Australian EITE businesses with those of their competitors. The Authority is of the view that any assistance to address competitiveness should be carefully targeted, maintain incentives to reduce emissions, subject to regular review and time limited.

If the 2022 or a subsequent review resulted in a market mechanism being implemented in sectors that have EITE businesses, further assistance (such as free allocation of permits based on firms' output levels) could be considered depending on the type of market mechanism implemented.

Assisting regions and households

Under the Authority's recommended toolkit it is highly likely that economic activity and employment would continue to grow in the large majority of regions. Some regions are likely to be adversely affected, however. Impacts on regions should be assessed and where it can be demonstrated that adverse economic impacts are due to emissions reduction policies, transitional assistance to support affected regions should be considered. This could be in addition to the income support payments, job search assistance and training subsidies that are generally available.

The Authority's recommended choice of an emissions intensity scheme for electricity generation will help keep cost of living increases low, but there is potential for costs to fall disproportionately on lower-income households. To some

extent assistance will occur through the normal cost of living increases to government social security payments, and households participating in white certificates schemes can benefit from energy efficiency improvements that help contain costs. The Government could consider additional support, noting that most households assisted under the carbon pricing mechanism in 2012 still receive this assistance. If the 2022 or a subsequent review resulted in a market mechanism that raises government revenue being implemented outside the electricity sector (such as a cap and trade scheme) a proportion of this revenue could be used to assist low-income households. If a broad-based emissions intensity scheme is implemented, cost increases will be lower than under a cap and trade scheme and further assistance may not be needed.

The Authority's view is that governments should consider energy efficiency programs targeted at low-income households as they offer a way to improve equity and access to cost-effective energy efficiency opportunities. Low-income households spend a higher proportion of their income on energy bills; improving their energy efficiency would help them save money. The range of non-price barriers to energy efficiency faced by low-income households highlights the importance of an integrated policy strategy which ensures that measures to target specific barriers work together effectively.

The outlook is positive

There is strong evidence that Australia will be able to achieve substantial cuts in emissions over time while continuing to achieve strong growth in living standards and employment. Over the long term, coordinated international action on climate change can be expected to be good for our economy as well as for the environment.

There is also some cause for optimism for Australia's emissions reduction efforts. Consultations for the Special Review have revealed an encouraging level of agreement among stakeholders on the need for Australia to respond to the Paris Agreement by putting a durable and effective climate policy toolkit in place.

The Paris Agreement and the global imperative it reflects means that it is now urgent for Australia to make strong progress in the task of reducing emissions, decarbonising its economy and playing its part in the global effort to keep

temperature increases at well below 2 degrees—and the Authority has kept this firmly in mind when making its recommendations for this review.

The recent history of policy to reduce emissions in Australia has been marked by frequent changes of direction, which in turn has led to significant investor uncertainty and, in some cases, created barriers to action.

In its work the Authority has been guided by the terms of reference for the Special Review. Appendix A provides detail on how the Authority has met the terms of reference for the review.

As required by the terms of reference, this third and final report of the Special Review has focused on the action or policies that Australia should take to implement the outcomes flowing from the Paris Agreement. In the Authority's view, the public interest is best served by putting in place a predictable pathway to a stable and scalable toolkit to reduce Australia's emissions. The Authority is proposing starting the transition now to a pragmatic yet durable set of policies that is in Australia's best interests.

The Government has announced that it will commence a review of climate change policy in the coming months. The Authority hopes that the recommendations and analysis contained in this report will help inform and influence that review.

RECOMMENDATIONS AND CONCLUSIONS

	CHAPTER
C.4 The world is taking action to address climate change; substantial further effort is needed over the coming years to limit global warming to the Paris Agreement goal of ‘well below 2 degrees Celsius’.	2
C.2 Around the world, a wide range of policies are used to reduce emissions, including: market mechanisms, offsets, regulation and innovation support.	2
C.3 Countries tend to use a range of emissions reduction policies rather than a single policy.	2
C.1 The Paris Agreement’s five-yearly reviews aim to encourage stronger global ambition over time.	2
C.5 To meet Australia’s emissions reduction goals, Australia’s emissions will need to decline more steeply in the coming years than they have in the past.	3

A POLICY TOOLKIT FOR AUSTRALIA	CHAPTER
C.6 The policy toolkit should be scalable and designed to fit Australia’s legal, economic and political circumstances. The toolkit should be in the public interest, cost-effective, environmentally effective and equitable. It should seek to promote Australia’s economic prosperity and minimise international competitive distortions.	4
C.7 No single policy can meet all the criteria in all sectors and circumstances.	4
R.1 The Authority recommends that a toolkit of policies to meet Australia’s emissions reduction commitments in the Paris Agreement should be put in place that features: <ul style="list-style-type: none">• a durable policy architecture that builds carefully on existing policies and incorporates new policies in a phased transition, and that can be scaled up to meet the requirements of the Paris Agreement’s ongoing reviews that are aimed at increasing the ambition of countries’ target commitments.• five-yearly reviews of the policy settings within the toolkit to assess Australia’s progress in reducing emissions and emissions reduction actions that other countries, particularly major trading partners, are taking to meet their Paris commitments. Most of the policy architecture itself should remain stable to help provide investment certainty.	4

THE ELECTRICITY SECTOR		CHAPTER
R.2	An emissions intensity scheme should be implemented in the electricity generation sector because, as a market mechanism, it will allow Australia to meet its emissions reduction goals and decarbonise the electricity sector at lower cost than would be possible otherwise.	5
C.8	An emissions intensity scheme would increase electricity prices less than a cap and trade scheme. It could achieve significant emissions reductions and be scaled up to deliver further emissions reductions over time.	5
R.3	An emissions intensity scheme covering the electricity generation sector should be introduced in 2018. The emissions intensity baseline for electricity should decline linearly over time and reach zero well before 2050, consistent with Australia's Paris Agreement obligations.	5
R.4	Facilities with liabilities under the emissions intensity scheme should be able to use credits from eligible energy efficiency projects including from the Emissions Reduction Fund (ERF) and state and territory white certificate schemes to meet their obligations. The Australian Government should set eligibility criteria for the energy efficiency projects. Other than the eligible energy efficiency credits, the emissions intensity scheme should be 'closed' to enhance investor certainty. Liable facilities should not be able to meet their liabilities using international permits or credits, or other domestic offsets.	5
R.22	To promote policy stability and investor certainty the existing Large-scale Renewable Energy Target (LRET) should be unchanged to 2020 and remain in place until 2030. Support for small scale technologies through the Small-scale Renewable Energy Scheme (SRES) should also continue and phase out as planned.	9

DIRECT COMBUSTION, INDUSTRIAL PROCESSES AND FUGITIVES		CHAPTER
C.9	The safeguard mechanism has the potential to play a significant role in reducing emissions and helping to meet Australia's Paris commitments.	5
R.5	Safeguard baseline coverage should continue in the direct combustion, industrial processes and fugitive emissions sectors and be extended to cover facilities that emit 25,000 tonnes of CO ₂ -e per year from 2018. Safeguard baselines should not be reset to allow for more emissions after 2017 and baselines should decline linearly to allow fewer emissions over time in line with Australia's obligations in the Paris Agreement.	5

R.7	Credits for facilities covered by the safeguard mechanism should not be issued unless they meet the ERF method requirements. This is to avoid penalising early movers and crediting non-additional emissions reductions.	5
R.8	ERF crediting for the land sector, and projects in sectors covered by the safeguard mechanism, should continue and the resulting credits could be used as offsets for facilities with obligations under the safeguard mechanism.	5
R.9	ERF purchasing for sectors covered by the safeguard mechanism should continue to provide transitional assistance to safeguard facilities to invest in lower emissions technologies and practices. ERF purchasing for land based offsets should continue until the enhanced safeguard mechanism is in place and provides a source of demand for these offsets.	5
R.10	The Government should review the policy toolkit as a whole in 2022 to assess its effectiveness including whether the enhanced safeguards should remain in place or whether another policy instrument such as a market mechanism of some sort be introduced to cover the direct combustion, industrial processes, fugitive emissions and transport sectors.	5

TRANSPORT		CHAPTER
R.25	Australia should introduce a light vehicle CO2 emissions standard as part of its policy toolkit.	10
R.26	The Government should carry out a cost-benefit analysis of heavy vehicle CO2 standards for Australia with a view to determining if these should be added to the toolkit.	10
R.27	There should be further research into the best roles of public and private providers in delivering electric vehicle recharging infrastructure.	10
R.23	ERF crediting and purchasing for the transport sector should continue until light vehicle standards are put in place.	10
R.24	The Government should consider covering transport under either the enhanced safeguard mechanism or with another policy instrument such as a market mechanism as part of the 2022 review.	10

ENERGY EFFICIENCY		CHAPTER
R.13	Standards should establish eligibility for energy efficiency projects including from the Emissions Reduction Fund (ERF) and state and territory white certificate schemes, and the resulting credits could be used to meet liable facilities' obligations under the emissions intensity scheme.	7
R.14	ERF crediting of energy efficiency projects should continue. Purchasing of energy efficiency projects should continue until the emissions intensity scheme is in place and provides a source of demand for credits from energy efficiency projects.	7
R.15	The Commonwealth and states should pursue harmonisation of white certificate schemes through the COAG Energy Council.	7
R.16	States and territories that have not done so should consider setting energy efficiency targets to provide a market for white certificates.	7
C.10	Evidence suggests that energy efficiency disclosure programs for buildings are environmentally and cost-effective. The Authority supports the current COAG process to examine these issues.	7
R.17	Regular, scheduled updates to the national construction code offer an important opportunity to improve the energy efficiency of Australia's built environment over time, and should continue.	7
R.18	Energy efficiency standards for appliances are an important way to improve energy productivity and reduce emissions. They should continue to be regularly updated and be expanded where it is cost-effective for further improvements to be made.	7
C.11	Where they can be provided cost-effectively, programs that help businesses improve their energy productivity may help reduce the cost of meeting Australia's emissions reduction targets.	7
INNOVATION		CHAPTER
R.20	Australia should continue to support low-emissions innovation through targeted public funding for research, development and demonstration as a priority and through debt and equity funding for the deployment of low-emissions projects and technologies.	8

- R.21** Australia should continue to cooperate with other countries to support low-emissions innovation, focusing in particular on areas where innovation is in Australia’s strategic interest. **8**

LAND USE AND AGRICULTURE **CHAPTER**

- R.28** The land sector (land use and agriculture) should be covered by the Emissions Reduction Fund crediting mechanism. Credits could be used as offsets for facilities with obligations under the safeguard mechanism and the sector should be covered by the ERF purchasing mechanism until the safeguard mechanism provides a source of demand. **11**

- R.29** The Australian Government should support new ERF method development and associated research to reduce emissions in the land sector. **11**

- R.30** The Australian Government should lead a review involving states and territories and other key stakeholders to provide guidance on how natural resource management policies at both the national and farm levels could encourage carbon storage and reduce emissions from the land sector, and deliver increased productivity as well as enhanced natural resource management outcomes like improved biodiversity, water quality and soil conservation. **11**

LANDFILL WASTE AND SYNTHETIC GREENHOUSE GASES **CHAPTER**

- R.31** Regulations that set limits on methane emissions from landfill waste should be harmonised across Australia. Consideration should be given as to how best to cover small and regional landfills and avoid creating distortions. **12**

- R.32** Australia should continue to phase down synthetic greenhouse gases and adopt an accelerated phase down of hydrofluorocarbons. **12**

- R.33** Emissions reduction projects from landfill waste and synthetic greenhouse gases should be eligible for ERF purchasing and crediting until enhanced regulation is put in place for these sectors. **12**

INTERNATIONAL PERMITS AND CREDITS **CHAPTER**

- R.11** Australia should strictly exclude international credits and permits assessed as having poor environmental quality to ensure the environmental integrity of the toolkit. **6**

R.6 Safeguard facilities should be able to use international credits and permits to meet their safeguard obligations, subject to qualitative and quantitative eligibility restrictions. The Australian Government should conduct further work to determine the appropriate restrictions including on the level of the quantitative limit, the types of projects that would be eligible and the commencement date of eligible projects. **5**

R.12 The Government should establish a fund to purchase international offset credits and permits and help meet the 2030 emissions reduction goal. **6**

INTERNATIONAL COMPETITIVENESS

CHAPTER

R.34 Australia should use carefully targeted competitiveness measures to improve the cost effectiveness of Australia's emissions reduction policy and to reduce residual risks of carbon leakage. **13**

R.35 Competitiveness assistance to emissions-intensive, trade-exposed (EITE) industry businesses with obligations under the safeguard mechanism should be provided by allowing unlimited access to international permits and credits with strict qualitative restrictions. The toolkit review in 2022 should assess EITE access to international permits and credits and consider whether a quantitative limit that declines over time should apply. **13**

R.36 Further competitiveness measures could be considered if another policy instrument such as a market mechanism is implemented after the recommended 2022 review. Any further assistance should be output-based to ensure that businesses receiving assistance are rewarded for reducing emissions and those that take early action to reduce emissions will gain a competitive advantage over those that do not. **13**

R.37 The level of competitiveness assistance should be set in a simple and transparent way that strikes a balance between the benefits of assisting EITE industries and the alternative uses of this assistance. **13**

R.38 EITE-focused competitiveness measures should be subject to review, time limited, and withdrawn according to a predictable timeframe. **13**

TRANSITIONAL ASSISTANCE FOR COMMUNITIES AND HOUSEHOLDS

CHAPTER

C.12 The cost of the recommended policy toolkit to the Australian economy will be relatively modest, and far lower than the long-term cost of unmitigated global climate change. **14**

C.13	The costs of meeting Australia’s emissions reduction goals may fall more heavily on particular industries, regions, households and individuals. Impacts on households in particular will depend to some extent on policy choice and design.	14
R.19	The Australian Government should investigate best practice domestic and international approaches to improving the energy efficiency of low-income homes, including innovative models for financing the up-front costs of retrofits.	7
R.39	Impacts on regions should be assessed and, where it can be demonstrated that adverse economic impacts are due to emissions reduction policies, transitional assistance to support affected regions should be considered. This would be in addition to the income support payments, job search assistance and training subsidies that are generally available.	14
R.40	The Government could consider additional support for low-income households for the impacts of emissions reduction policies, noting that for recipients, assistance will occur through the normal cost of living increases to government social security payments and that most households assisted under the carbon price mechanism in 2012 still receive this assistance.	14
R.41	If the 2022 or a subsequent review resulted in a market mechanism that raises government revenue being implemented outside the electricity sector a proportion of this revenue could be used to assist low-income households. If a broad-based emissions intensity scheme is introduced, further assistance to households may not be necessary.	14