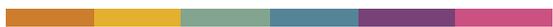


CLIMATE LAW

TECHNICAL PAPER 5

APEEL



The Australian Panel of Experts
on Environmental Law

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About APEEL

The Australian Panel of Experts on Environmental Law (APEEL) is comprised of experts with extensive knowledge of, and experience in, environmental law. Its membership includes environmental law practitioners, academics with international standing and a retired judge of the Federal Court. APEEL has developed a blueprint for the next generation of Australian environmental laws with the aim of ensuring a healthy, functioning and resilient environment for generations to come. APEEL's proposals are for environmental laws that are as transparent, efficient, effective and participatory as possible. A series of technical discussion papers focus on the following themes:

1. The foundations of environmental law
2. Environmental governance
3. Terrestrial biodiversity conservation and natural resources management
4. Marine and coastal issues
5. Climate law
6. Energy regulation
7. The private sector, business law and environmental performance
8. Democracy and the environment

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Produced and published by the Australian Panel of Experts on Environmental Law, Carlton, Melbourne.

Publication date: April 2017.

Citation: Australian Panel of Experts on Environmental Law, *Climate Law* (Technical Paper 5, 2017).

Acknowledgements: The Panel expresses its gratitude to the many individuals and organisations who helped this project come to fruition. Camilla Taylor and EDO (ACT) volunteers are thanked for their copyediting assistance and Mandy Johnson for the desktop publishing and layout.

Summary and Recommendations

Executive Summary

On the current trajectory, our world is moving inexorably towards ‘dangerous climate change’ and a world of extreme climate events in which sustainable development goals, and perhaps human survival itself, are threatened. According to the science, deep cuts in greenhouse gas emissions have to be made in the relatively near future, if this dire situation is to be turned around. This APEEL *Technical Paper* maps existing legal and regulatory arrangements that address the climate change challenge, focussing on the issue of *mitigation* – the reduction of greenhouse gas emissions. Climate change law also encompasses questions of *adaptation* – the management of climate impacts and of human and ecosystem vulnerabilities to climate change, an issue more closely linked to land use policies, planning and biodiversity laws. This *Technical Paper* considers the limitations of existing climate laws in Australia - taking account of recent international developments such as the 2015 *Paris Agreement* - and canvasses options for reform.

Specific recommendations include:

- 5.1. *Australia should encourage broad ratification of the Kyoto Protocol Doha Amendment and re-evaluate its currently weak pre-2020 (second commitment period) target in line with the guidance provided by the Paris Outcome. Another practical step would be to forgo available credits banked from the first commitment period as a way of increasing the domestic emissions reduction effort necessary to meet the second commitment period target.*
- 5.2. *Australia should re-evaluate its currently weak post-2020 target in line with the guidance provided by the Paris Agreement and the recommendations of the Climate Change Authority. The Authority’s most recent report suggests a 2025 target of a 30% cut from 2000 levels would represent a fair and ambitious contribution to the global response on climate change mitigation.*
- 5.3. *A national carbon price offers a preferable regulatory option for achieving absolute, economy-wide emissions reductions than the current Emissions Reduction Fund (ERF) policy. In designing domestic emissions reduction policies, Australia should consider the full carbon footprint of local activities including their offshore (scope 3) emissions.*

HOW TO CONTRIBUTE TO THE APEEL PROJECT

APEEL invites you to provide your responses to the ideas and recommendations presented in this paper. This will assist the development of our final proposals for the next generation of Australian environmental laws.

We look forward to your engagement on specific reform options as the APEEL journey progresses.

Please send your responses to: admin@apeel.org.au or go to www.apeel.org.au where you can do so online.

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1. Climate change as a key challenge for ESD

Climate change brought about by human-sourced emissions of greenhouse gases¹ poses a fundamental challenge for achieving ecologically sustainable development (ESD).² 'Business as usual' rates of emissions put the globe on track for levels of warming of 4°C or more.³ Normal ecosystem functioning and, indeed, life as we know it are not sustainable under such scenarios. Iconic environments, such as the Great Barrier Reef, would be irrevocably lost.⁴ The international community in the United Nations *Sustainable Development Goals* for the period 2015-2030 thus called for countries to 'take urgent action to combat climate change and its impacts'.⁵

This *Technical Paper* examines the role of climate law in achieving ESD and a safe climate future for Australia.⁶ It first sets out the current laws governing greenhouse gas emissions reduction (or *climate change mitigation*), considering both the implications of requirements at the international level and domestic legal responses in Australia. It then identifies challenges that limit the effectiveness of those legal measures, and opportunities and options for law reform that could strengthen Australia's climate laws and pave the way for a more sustainable climate future.

1 The principal greenhouse gas is carbon dioxide, with other greenhouse gases including methane, nitrous oxide and synthetic fluorinated gases. Given the dominant role of carbon dioxide in greenhouse pollution, greenhouse gases are often referred to as 'carbon' emissions.

2 The concept and principles of ESD and their place in Australian environmental law are discussed further in Australian Panel of Experts on Environmental Law, *Energy Regulation* (Technical Paper 6, 2017).

3 R K Pachauri and L A Meyer (eds), 'Climate Change 2014: Synthesis Report. Contribution of Working Groups I, II and III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change' (Synthesis Report, Intergovernmental Panel on Climate Change, Geneva, 2014).

4 O Hoegh-Guldberg et al, 'Coral Reefs under Rapid Climate Change and Ocean Acidification' (2007) 318 *Science* 1737; C Pelejero, E Calvo and O Hoegh-Guldberg, 'Paleo-perspectives on ocean acidification' (2010) 25(6) *Trends in Ecology and Evolution* 332; K Frieler et al, 'Limiting global warming to 2 degrees C is unlikely to save most coral reefs' (2013) 3 *Nature Climate Change* 165; C Veron et al, 'The coral reef crisis: The critical importance of <350 ppm CO2' (2009) 58 *Marine Pollution Bulletin* 1428.

5 *Transforming our world: the 2030 Agenda for Sustainable Development*, GA Res 70/1, UN GAOR, 70th sess, Goal 13 (25 September 2015).

6 The climate change challenge is a multi-faceted one that involves many issues beyond that of emissions reduction, for instance, questions of energy regulation, private sector energy transition, adaptation, loss and damage and the human rights implications of climate harms. Aspects of these topics are dealt with in other *Technical Papers*, but for reasons of lack of space, they are not discussed here.

2. The regulatory landscape of climate law

Climate change mitigation poses a complex, multi-level challenge for regulation and governance.⁷ The greenhouse gas emissions that cause climate change have their source in human activities undertaken around the globe by individuals, communities, governments and businesses. In an attempt to regulate greenhouse emitting activities and to reduce emissions to sustainable levels, a diverse array of regulatory and non-regulatory measures has been developed at many levels of government from the global to the local level, and involving a multitude of different actors.

Part of the challenge facing climate law has been to work out what aspects of mitigation are best addressed at which level. The *Paris Agreement*, concluded by parties to the *United Nations Framework Convention on Climate Change (UNFCCC)* in December 2015, makes clear that from 2020 most of the heavy lifting on mitigation will lie with national governments, with their actions supplemented considerably by those of state and local governments, businesses and civil society. The role of international law in this system is largely procedural; ensuring that state parties produce, review and progressively strengthen their emissions reduction commitments over time in a transparent and accountable fashion. Nonetheless, living up to the new requirements of the *Paris Agreement* will require Australia to ramp up its national emissions reduction targets significantly and to put in place implementation measures that can achieve these targets effectively.

The following sections outline the new international legal arrangements under the *Paris Agreement*, and their implications for climate law and policy in Australia.⁸ An overview is then provided of the main legal instruments currently in place at the national and state levels in Australia that deal with the issue of emissions reduction.

2.1 International law for climate change mitigation

The *Paris Agreement* is the latest treaty instrument to be concluded as part of the international climate change regime. The foundational treaty of the regime is the 1992 *UNFCCC*,⁹ which provides its institutional and normative architecture and specifies an ultimate objective of stabilising atmospheric greenhouse gas concentrations ‘at a level that would prevent dangerous anthropogenic interference with the climate system’.¹⁰ In line with the principle of common, but differentiated responsibilities and respective capabilities (CBDRRC),¹¹ the *UNFCCC* divides parties up into two groups: developed countries (known as Annex I parties) and developing countries (known as non-Annex I parties), placing emissions reduction obligations only on the former. This ‘firewall’ between developed and developing country mitigation commitments was maintained by the *UNFCCC*’s supplementary 1997 *Kyoto Protocol* that specifies emission reduction targets and timetables for developed country parties – like Australia – and establishes review and compliance mechanisms to ensure implementation.¹²

By contrast, the *Paris Agreement* that will take effect from 2020¹³ operates in a bottom-up fashion and requires *all* parties – developed and developing countries – to take actions to address climate change. In this respect, the *Paris Agreement* represents a significant departure from the top-down, target-setting approach of the *Kyoto Protocol* that preceded it. The bottom-up model of the *Paris Agreement* fundamentally relies on good faith, ambitious climate action by participating countries in order to achieve collective goals of emissions reduction to safe and sustainable levels.

7 J Peel, L Godden and R Keenan, ‘Climate Change Law in an Era of Multi-Level Governance’ (2012) 1(2) *Transnational Environmental Law* 245.

8 The *UNFCCC*, *Kyoto Protocol* and now the *Paris Agreement* are the principal international legal instruments governing climate change mitigation but are not the only relevant international legal rules. Various other international treaties impose obligations on states that may be triggered by a failure to take adequate mitigation action and resulting climate damage. Examples include parties’ obligations to safeguard World Heritage properties such as the Great Barrier Reef under the *World Heritage Convention*, the responsibility on all states under general international law not to cause harm through activities undertaken on their own territories to the territories of other states or to the global commons, and obligations under human rights treaties owed by state parties to their citizens to uphold their human rights including rights to life, privacy, health, and cultural rights. See further R Rayfuse and S V Scott (eds), *International Law in the Era of Climate Change* (Elgar, 1st ed, 2012).

9 *United Nations Framework Convention on Climate Change*, opened for signature 9 May 1992, 1771 UNTS 107 (entered into force 21 March 1994) (*UNFCCC*).

10 *UNFCCC* art 2.

11 *UNFCCC* art 3.1.

12 *Kyoto Protocol to the United Nations Framework Convention on Climate Change*, opened for signature 11 December 1997, 2303 UNTS A-30822 (entered into force 16 February 2005) (*Kyoto Protocol*).

13 To become binding as a matter of international law, the *Paris Agreement* required at least 55 ratifications or acceptances by *UNFCCC* parties representing 55% of total global greenhouse gas emissions: *Paris Agreement* art 21. The *Paris Agreement* entered into force on 4 November 2016. Australia is party to the *Agreement*.

2.1.1 Emissions reduction commitments under the *Paris Agreement*

Under the *Paris Agreement* countries do not commit to achieving any particular level of emissions reduction. Rather each party undertakes to ‘prepare, communicate and maintain successive nationally determined contributions that it intends to achieve’¹⁴ for the post-2020 period and to ‘pursue domestic mitigation measures, with the aim of achieving the objectives of such contributions’.¹⁵ Countries are required to update their nationally determined contributions (NDCs) every 5 years and their performance against these commitments will be evaluated in accordance with internationally administered accounting, reporting and transparency requirements. Developed country parties, such as Australia, are also urged to undertake ‘economy-wide absolute emission reduction targets’ (that is, emissions should not grow in these countries) as part of their NDCs.¹⁶ However, NDCs – as the name suggests – are determined by parties in their own domestic policy-making processes rather than imposed as a matter of international law. While this gives national governments significant discretion to determine their own emissions reduction targets post-2020, the *Paris Agreement* specifies various principles and procedures that will apply to NDCs put forward by countries.

At a high level, NDCs must conform to the ‘no backsliding’ principle; that is, they must represent ‘ambitious efforts’ with ‘a progression over time’ taken ‘with the view to achieving the purpose’ of the *Paris Agreement*.¹⁷ The purpose of the Agreement, set out in article 2, seeks to enhance implementation of the *UNFCCC* and its greenhouse gas stabilisation objective, and ‘to strengthen the global response to the threat of climate change, in the context of sustainable development and efforts to eradicate poverty’.¹⁸ In particular, the *Agreement* aims to hold the global average temperature increase to ‘well below 2° C above pre-industrial levels’ and parties also agree ‘to pursue efforts to limit the temperature increase to 1.5° C above pre-industrial levels, recognizing that this would significantly reduce the risks and impacts of climate change’.¹⁹ This ‘long-term temperature goal’ will provide an important substantive standard for assessing the adequacy of countries’ NDCs over time. Based on current climate science, many believe this temperature goal will be insufficient to protect the climate system and the environment adequately, and continue to advocate for policy to aim for a lower maximum temperature rise.²⁰ Even so, pursuing a maximum 1.5° C increase as opposed to 2° C – which had previously been accepted as the default interpretation of the *UNFCCC*’s objective of avoiding ‘dangerous’ climate change²¹ – will require significantly deeper emissions cuts than are presently on the table in terms of the intended NDCs submitted by countries in the lead-up to the Paris conference.²²

Although the *Paris Agreement* does not provide a concrete roadmap for bridging the ‘ambition gap’ between existing NDCs articulated by countries for the period to 2025 or 2030 and the 1.5° C (or even the 2° C) goal, there are some ‘guardrails’ that offer hope for keeping parties on track. These include:

- a collective aim of parties to reach global peaking of emissions ‘as soon as possible’, (although it is recognised that peaking will take longer for developing country parties) and to undertake rapid reductions thereafter ‘in accordance with best available science’;
- a collective aim of parties to achieve a ‘balance between anthropogenic emissions by sources and removals by

14 Conference of the Parties, *United Nations Framework Convention on Climate Change, Adoption of the Paris Agreement*, 21st sess, UN Doc FCCC/CP/2015/L.9 (12 December 2015) Annex (*Paris Agreement*) art 4.2.

15 *Paris Agreement* art 4.2.

16 *Paris Agreement* art 4.4. This provision includes the designation ‘should’ rather than ‘shall’ as a mandatory provision would have jeopardised U.S. participation due to its need to seek U.S. Senate approval (unlikely to be forthcoming) for new binding U.S. treaty commitments not able to be implemented in accordance with existing executive authority.

17 *Paris Agreement* art 3.

18 *Paris Agreement* art 2.1.

19 *Paris Agreement* art 2.1(a).

20 A growing body of scientific evidence shows that 2° C would threaten the viability of many ecosystems, including coral reefs like Australia’s Great Barrier Reef (see also O Hoegh-Guldberg et al, above n 4). Consequently, environmental groups have campaigned for the 1.5° C (or a lower) temperature goal. See for example, the ACF’s climate change policy which states: ‘ACF supports all actions and targets initially intended to limit the increase of the average global surface temperature as close to 1.5 degrees Celsius above pre-industrial levels as possible, and to then over the longer term stabilize global average temperatures at 1 degree Celsius above preindustrial levels and atmospheric concentrations of greenhouse gases at 350ppm CO₂e or less’.

21 H Rogner et al, ‘Introduction’ in *Climate Change 2007: Mitigation Contribution of Working Group III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change* (Cambridge University Press, 2007) 99. Small island states have long pushed for a lower temperature goal fearing that a 2° C rise would render their territories uninhabitable.

22 *Synthesis report on the aggregate effect of the intended nationally determined contributions*, FCCC/CP/2015/7, UNFCCC Secretariat, 21st sess, Item 4(a) Provisional Agenda (30 November 2015).

sinks²³ of greenhouse gases in the second-half of the century', which has been interpreted as a requirement to reach zero net carbon by 2050 or as soon as possible thereafter;²⁴

- establishment of a 'global stocktake' procedure, to commence in 2023 and continue every five years thereafter, which will assess collective progress towards achieving the purpose of the *Paris Agreement* and its long-term goals 'in the light of equity and the best available science', and 'inform Parties in updating and enhancing' their climate actions, including NDCs.²⁵

These provisions send a strong signal to governments and business about the imperative for rapid transition to a decarbonised economy in order to ensure the health of the planet and a safe climate for present and future generations.

2.1.2 Implications of the *Paris Outcome* for Australia

The *Paris Agreement* is designed to set the parameters for countries' national climate actions for the period 2020 onwards. For Australia, as a party to the *Agreement*, the most significant implication is the need to devise, implement and review NDCs on a five yearly basis. Australia's NDCs will be set at the domestic level, but will need to meet the requirements of the *Paris Agreement*. In particular, each NDC put forward by Australia will be evaluated internationally in light of the best available climate science, and whether it makes an equitable, progressive and ambitious contribution to global efforts to achieve the *Agreement's* long-term temperature goal.

For the initial period up to 2025 or 2030, it is likely that parties' first NDCs will be the same as those submitted in the lead-up to the Paris conference. In Australia's case that is an economy-wide emissions reduction target of 26-28% below 2005 levels by 2030. This NDC has been ranked as one of the least ambitious targets submitted by a developed country.²⁶ It is likely that the Australian government will come under pressure to strengthen this target prior to 2020. For example, the *UNFCCC* Conference of the Parties decision (*COP Decision*) adopting the *Paris Agreement* provides for 'a facilitative dialogue' in 2018 'to take stock of the collective efforts of Parties in relation to progress towards the long-term goal... and to inform the preparation of nationally determined contributions'.²⁷ The Intergovernmental Panel on Climate Change has also been requested to provide a special report in the same year 'on the impacts of global warming of 1.5° C above pre-industrial levels and related global greenhouse gas emissions pathways'.²⁸ This report should provide guidance on the latest scientific thinking about what emissions cuts are necessary to reach 1.5° C (or below); evidence that, together with considerations of equity, is to inform the preparation of NDCs.

While the *Paris Agreement* does not specifically deal with parties' obligations pre-2020, the *COP Decision* that adopted the *Agreement* contains important guidance in this regard. The issue of pre-2020 action is an important one as there is currently:

'a significant gap between the aggregate effect of Parties' mitigation pledges in terms of global annual emissions of greenhouse gases by 2020 and aggregate emission pathways consistent with holding the increase in the global average temperature to well below 2° C above pre-industrial levels and pursuing efforts to limit the temperature increase to 1.5° C above pre-industrial levels'.²⁹

23 The primary carbon sinks are the ocean and forested areas. Pursuant to article 5, the *Paris Agreement* also urges parties to take action to conserve and enhance carbon sinks, including forests. It endorses implementation measures such as REDD+ (activities for reducing emissions from deforestation and forest degradation and enhancing forest carbon stocks in developing countries) and alternative policy approaches, such as joint mitigation and adaptation approaches for the integral and sustainable management of forests.

24 M B Gerrard, 'What the Paris Agreement Means Legally for Fossil Fuels', *Columbia Centre on Global Energy Policy*, 18 December 2015.

25 *Paris Agreement* art 14.

26 'Fact check: Do Australia, US 'Compare Favourably' on Emissions Targets?', *ABC News*, 18 December 2014 <<http://www.abc.net.au/news/2014-12-18/greg-hunt-cherry-picking-emissions-reduction-targets/5896148>>; D Thorpe, 'Australia's Climate Pledge Leaves Other Countries to Pick up the Slack', *The Drum*, 18 August 2015 <<http://www.thefifthestate.com.au/habitat/climate-change-news/australias-climate-pledge-leaves-other-countries-to-pick-up-the-slack/76661>>; Climate Change Authority, *Comparing Countries' Emissions Targets: A Practical Guide* (March 2015).

27 Conference of the Parties, *United Nations Framework Convention on Climate Change, Adoption of the Paris Agreement*, 21st sess, UN Doc FCCC/CP/2015/L.9/Rev.1, (12 December 2015) (*COP Decision*) para 20.

28 *COP Decision* para 21.

29 *COP Decision* Preamble.

In other words, pre-2020, emissions are presently on an unsustainable pathway that will make achieving post-2020 goals significantly harder.

As an initial measure, for the pre-2020 period, the *COP Decision* adopting the *Paris Agreement* urges *Kyoto Protocol* parties who have not already done so to ratify and implement the *Doha Amendment*.³⁰ The *Doha Amendment* is the legal basis for the Protocol's 'second commitment period' running from 2013-2020.³¹ In the Protocol's 'first commitment period', from 2008-2012, developed country parties accepted individual emissions reduction targets (for example, Australia's target was 108% of 1990 emissions levels; a target which was readily achieved). Australia's emissions reduction commitment under the *Doha Amendment* is a 5% cut on 2000 levels by 2020.³² At the Paris climate conference in December 2015, Prime Minister Malcolm Turnbull declared Australia would ratify the *Doha Amendment* for the *Kyoto Protocol* second commitment period.³³ The Australian government formalised this decision with its ratification of the *Doha Amendment* on 10 November 2016. The *Amendment* has not yet achieved sufficient ratifications from other countries to enter into force.

The *COP Decision* adopting the *Paris Agreement* further encourages parties to promote the voluntary cancellation of international carbon trading units issued under the *Kyoto Protocol* so they cannot be offset against emissions reduction commitments for the second commitment period. In Australia's case, since it easily achieved its first commitment period target and has excess carbon units available from that period, cancelling units would mean deeper domestic emissions cuts would be necessary in order to meet the second commitment period target.³⁴ The *COP Decision* also provides for the appointment of two 'high-level champions' - similar to special rapporteurs in the human rights context - whose job it will be to facilitate 'the successful execution of existing efforts and the scaling-up and introduction of new or strengthened voluntary efforts, initiatives and coalitions'.³⁵ The hope is that this combination of measures will push countries to implement and strengthen existing pledges for the pre-2020 period.

2.2 Australian law for climate change mitigation

As Australian Panel of Experts on Environmental Law, *Environmental Governance* (Technical Paper 2, 2017) notes, in the absence of a constitutional head of power with respect to the environment, Australia's environmental governance system is one where regulatory powers are shared between the federal government and the states. The federal government has the capacity to pass and enforce climate laws largely through its constitutional powers to implement treaties to which Australia is a party. State governments may have their own regulatory measures that relate to aspects of the climate change mitigation challenge, including emissions reduction targets, renewable energy laws and energy efficiency requirements for buildings and appliances.³⁶ The potential overlap between federal and state laws (and between different types of climate mitigation measures) raises questions about how these laws should relate to each other or their *complementarity*. The following sections first discuss the existing, rather sparse landscape of federal climate law, before turning to state climate measures and issues of complementarity.

³⁰ *COP Decision* para 106(a).

³¹ Conference of the Parties Serving as the Meeting of the Parties to the *Kyoto Protocol*, *United Nations Framework Convention on Climate Change, Report of the Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol on its Eighth Session, Held in Doha from 26 November to 8 December 2012: Addendum Part Two: Action Taken by the Conference of the Parties Serving as the Meeting of the Parties to the Kyoto Protocol at its Eighth Session, 8th sess*, UN Doc FCCC/CP/2012/13/Add.1 (28 February 2013) Decision 1/CMP.8 (*Doha Amendment*).

³² Australia has also pledged the same target under a parallel *UNFCCC* COP process whereby countries, including non-parties to the *Kyoto Protocol* such as the US, China and India, put forward self-nominated national actions on emissions for the pre-2020 period.

³³ E Jackson, 'Day 1, Paris climate talks: helping dirty power get clean', *Crikey* (online), 1 December 2015 <<http://www.crikey.com.au/2015/12/01/day-1-paris-climate-talks-helping-dirty-power-get-clean/>>; P Hannam, 'Paris UN Climate Conference 2015: Cloud over Turnbull's 5% promise', *Sydney Morning Herald* (online), 4 December 2015 <<http://www.smh.com.au/environment/un-climate-conference/paris-un-climate-conference-2015-cloud-forms-over-turnbulls-promise-to-the-world-20151203-gl4cl.html>>.

³⁴ *COP Decision* para 107.

³⁵ *COP Decision* para 122.

³⁶ Aspects of state and federal energy regulation relevant to the climate change mitigation challenge are discussed further in Australian Panel of Experts on Environmental Law, *Energy Regulation* (Technical Paper 6, 2017).

2.2.1 Federal climate law

In pursuance of Australia's international obligations under the *UNFCCC* climate treaty regime, over time federal governments have introduced a range of legislative and policy measures dealing with greenhouse gas emissions reduction and the related issue of promoting 'clean' (low or zero carbon) energy sources.

Present federal climate policy is directed to the achievement of emissions reductions in the pre- and post-2020 timeframes. As mentioned above, Australia's emissions reduction target for the period up to 2020 is a 5% reduction below 2000 levels. In August 2015, the federal government announced that Australia's intended NDC going into the Paris negotiations was a cut of 26-28% from 2005 levels over the period 2020- 2030. While this target looks *prima facie* comparable to that of other developed countries (for example, the U.S. NDC pledges a cut of 26-28% from 2005 levels by 2025), the adoption of a 2005 baseline (a historically high year for emissions in Australia), coupled with a 10 year timeframe for achievement, means that Australia's NDC sits at the low end of pledges by developed countries.³⁷ The government's target also falls well short of the recommendations of the independent Climate Change Authority for adoption of more stringent targets to cut emissions 30% from 2000 levels by 2025 and 40-60% from 2000 levels by 2030.³⁸

On taking over the Prime Ministership from Tony Abbott, Malcolm Turnbull indicated that there would be no change to Australia's post-2020 target, though, with the *Paris Agreement* now in place and global stocktakes scheduled starting in 2023, it is likely that Australia will come under pressure to review and strengthen this target. There would be a strong argument, for instance, that Australia's current NDC is neither in line with equity (CBDRRC or any other reasonable interpretation of this standard) or the best available scientific evidence, including assessments of global emissions cuts necessary to stay 'well below' 2 °C and to pursue the more stringent goal of 1.5 °C.

Australia's most definitive regulatory response to climate change was the carbon pricing mechanism established under the *Clean Energy Act 2011* (Cth), enacted by the Gillard government and later repealed by the Abbott government. Like the *Kyoto Protocol*, which features various 'flexibility mechanisms' such as emissions trading,³⁹ the legislation endorsed a market-based approach as the most cost-effective way to achieve economy-wide emissions reductions. The carbon pricing mechanism commenced with a 'fixed price' phase (commonly, although incorrectly, dubbed the 'carbon tax')⁴⁰ and was set to transition to a fully-fledged emissions trading scheme (the 'floating price' phase) in 2015 (see Table 1 below). The carbon pricing mechanism represented the culmination of many decades of debate in Australia over the design of climate policy for emissions reduction.⁴¹ It was widely endorsed by commentators as a well-designed, albeit not perfect, regulatory measure for the purpose.⁴² There is also growing evidence that, prior to its repeal, the carbon pricing mechanism had a measureable impact in reducing national emissions, especially from the electricity sector.⁴³

37 F Jotzo, 'Australia's 2030 Climate Target Puts Us in the Race, But At the Back', *The Conversation* (online), 11 August 2015, <<https://theconversation.com/australias-2030-climate-target-puts-us-in-the-race-but-at-the-back-45931>>.

38 Climate Change Authority, *First Draft Report of the Special Review: Australia's Future Emissions Reduction Targets* (April 2015) <<http://www.climatechangeauthority.gov.au/special-review/first-draft-report>>.

39 See *Kyoto Protocol*, art 17. The *Kyoto Protocol* also allows for joint implementation and the Clean Development Mechanism, both of which permit parties to undertake emissions reductions in other countries rather than making domestic emissions cuts.

40 The carbon pricing mechanism was an ETS not a tax, albeit a hybrid version with the price of emissions allowances fixed in the first three years of the scheme.

41 See A Zahar, J Peel and L Godden, *Australian Climate Law in Global Context* (Cambridge University Press, 2013) 155-163; see also Australian Panel of Experts on Environmental Law, *Energy Regulation* (Technical Paper 6, 2017) for detail on the benefits of imposing a price on carbon and other regulatory reform and Australian Panel of Experts on Environmental Law, *The Private Sector, Business Law and Environmental Performance* (Technical Paper 7, 2017) for more on carbon and other pricing mechanisms.

42 F Jotzo, 'Australia's Carbon Price' (2012) 2 *Nature Climate Change* 475.

43 G Hutchens, 'New Data Shows Record Fall in Carbon Emissions', *Sydney Morning Herald* (online), 23 December 2014 <<http://www.smh.com.au/environment/climate-change/new-data-shows-record-fall-in-carbon-emissions-20141223-12d1z3.html>>; AAP, 'Carbon Tax Repeal Sparks Jump in Australia's Electricity Emissions', *The Guardian* (online), July 5, 2015 <<http://www.theguardian.com/environment/2015/jul/05/carbon-tax-repeal-sparks-jump-in-australias-electricity-emissions>>.

TABLE 1: AUSTRALIA'S CARBON PRICING MECHANISM (2012-2014)

The carbon pricing mechanism (CPM) under the *Clean Energy Act 2011* (Cth) sought to 'put a price on carbon' so that major greenhouse gas emitters would be required to internalise the costs of carbon pollution. The CPM covered 60% of Australia's emissions and imposed obligations on approximately 500 emitters, known as liable entities. These entities were liable to surrender emission allowance units commensurate with their 'covered emissions', that is, those greenhouse gases released into the atmosphere in Australia as a direct result of the operation of the entity's facility. Each emission allowance unit represented 1 tonne of CO₂ equivalent. During the first three years of the CPM, the unit price was 'fixed' with a starting price of \$23 per tonne in the 2012-2013 financial year. During the fixed price period, liable entities were required to acquire units at the fixed charge rate and surrender sufficient units to cover their emissions for that year. They were unable to trade surplus units, but could sell back their unneeded units to the Clean Energy Regulator, for a discounted price. From July 2015, the CPM would have transitioned to a 'floating price' phase. In this phase, units were to be auctioned by the Clean Energy Regulator with the price of units ultimately set by the market. Units would have been tradeable, as in a classic emissions trading scheme, so that businesses that had surplus units could sell those to others who required extra units to cover their annual emissions.

With the repeal of the *Clean Energy Act 2011* (Cth), and other climate-relevant laws such as the *Energy Efficiency Opportunities Act 2006* (Cth), the landscape of federal climate law is now sparse. The 'centrepiece' of the Abbott and Turnbull government's climate policy is the misleadingly named 'Direct Action'. While often compared with the direct regulatory strategy being pursued by the former Obama Administration in the United States (see further section 3.4.1 below), the Direct Action policy imposes only very weak limits on greenhouse gas emissions from large emitting sources. Australian Panel of Experts on Environmental Law, *Energy Regulation* (Technical Paper 6, 2017) also discusses Direct Action vs carbon pricing as energy regulation policy options.

The legislative basis for Direct Action is a 2014 amendment to the *Carbon Credits (Carbon Farming Initiative) Act 2011* (Cth), which previously provided for the Carbon Farming Initiative (CFI) – a form of carbon offset for the agricultural and land sector that allowed the generation of credits that could be used as emissions offsets under the carbon pricing mechanism.⁴⁴ The amending legislation established the Emissions Reduction Fund (ERF) and rolled the CFI into this fund. Allocated \$2.55 billion in the 2014-2015 budget, the ERF provides financial incentives to businesses, organisations and individuals across a variety of sectors to reduce emissions. Participants tender emissions-reducing projects that are selected through an auction process run by the Clean Energy Regulator. Successful projects receive Australian carbon credit units (ACCUs), which can either be sold back to the government at the contracted price accepted in the auction process, or on the international voluntary carbon market. To date, three auctions have been held for the ERF with contracts issued to purchase more than 143 million tonnes of carbon dioxide equivalent (t CO₂-e) emissions reductions from vegetation, waste, agriculture, savanna burning, energy efficiency, transport and coal mine gas projects.⁴⁵

The ERF is essentially a voluntary scheme for emissions reduction,⁴⁶ though some broad constraints on emissions were

44 The CFI Act established a process for the recognition of eligible offsets, with projects assessed in relation to certain rules and standards. Credits could be generated either by carbon sequestration or carbon avoidance activities including reforestation, grazing management, application of biochar to soil and various methane reduction livestock management activities. These measures have now been rolled into the ERF as projects which can tender for funding under that scheme.

45 See further Clean Energy Regulator, *Third Auction Results Released* (6 May 2016) <http://www.cleanenergyregulator.gov.au/ERF/Pages/News_and_updates/News-item.aspx?ListId=19b4efbb-6f5d-4637-94c4-121c1f96fcfe&ItemId=250>.

46 Voluntary schemes for emissions reduction in Australia have largely been judged ineffective in significantly lowering national greenhouse gas emissions. See for example, R Sullivan, 'Greenhouse Challenge Plus: A New Departure or More of the Same?' (2006) 23 *Environmental and Planning Law Journal* 65 finding that the Howard government's Greenhouse Challenge Program failed to provide 'strong incentives for Australian business to significantly reduce its greenhouse gas emissions'.

introduced on 1 July 2016 through the scheme's 'safeguard mechanism'.⁴⁷ This mechanism covers facilities with direct (scope 1) emissions⁴⁸ of more than 100,000 t CO₂-e a year (around 140 businesses or approximately half of Australia's emissions). Covered facilities must ensure their emissions do not exceed their individual 'baseline' - the highest level of reported emissions for a facility over the historical period 2009-10 to 2013-14. In the electricity industry a sector-wide baseline applies and is set at the high point of sectoral emissions over the period 2009-10 to 2013-14; although individual baselines apply in the event that the sectoral-baseline is exceeded. These already generous baselines can be further adjusted to accommodate economic growth, natural resource availability, and a range of other factors. It is likely that most covered facilities will easily meet their baselines, obviating the need for any emissions reductions from a 'business-as-usual' scenario. New investments instituted from 2020 onwards will be subject to a potentially tighter 'best practice' standard. Compliance measures for the safeguard mechanism suggest that facilities will be given significant flexibility to determine how they meet baselines, including through the purchase of ACCU offsets, or averaging emissions over a two or three-year period. The flaws in the scheme, in terms of climate mitigation regulation, are further explored at section 3.2 below.

Beyond Direct Action/the ERF, a range of other federal laws regulates aspects of Australia's greenhouse gas emissions generation.⁴⁹ The most important of these is the *Renewable Energy (Electricity) Act 2000* (Cth), which establishes the Renewable Energy Target (RET) with the goal of increasing the uptake of clean, renewable energy sources in the electricity sector. The scheme utilises a market in renewable energy certificates (RECs) generated from renewable energy activities and purchased by electricity generators to drive the uptake of renewable energy. After problems of REC oversupply, under the Rudd government, the scheme was split into small-scale (rooftop solar) and large-scale components. Following the election of Tony Abbott as Prime Minister, the future of the scheme and renewable energy investment in Australia were the subject of considerable uncertainty. After a government review of the RET, the 2020 target for the large-scale component of the scheme was reduced from 41,650GWh to 33,000GWh (a near 20% cut).⁵⁰ The Abbott government also instructed the Clean Energy Finance Corporation to halt investment in wind power projects,⁵¹ although this decision was subsequently reversed by the Turnbull government in signs of a changing federal attitude to renewables and climate policy more generally.

Emissions from the land-use sector and from transportation are subject to little federal control in strong contrast to other developed nations. Indeed, fossil fuel subsidies provided by the federal government contribute to unsustainable energy use and emissions in transportation. Some constraints on new greenhouse gas-intensive development are potentially provided by the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) (*EPBC Act*), being the federal environmental impact assessment (EIA) legislation. While the *EPBC Act* does not include a trigger for environmental assessment specifically tied to greenhouse gas emissions or climate change, EIA conducted for projects that impact matters of national environmental significance, for example world heritage properties or Commonwealth listed threatened species, may involve a consideration of climate change issues. This issue has been the subject of several challenges before the Federal Court of Australia questioning the approval of new coal mines, but advocates have so far been unsuccessful in stopping coal projects on the basis of their contribution to greenhouse gas emissions and climate change.⁵²

47 For details see Department of Environment and Energy (Cth), *The Safeguard Mechanism* (2016) <<https://www.environment.gov.au/climate-change/emissions-reduction-fund/publications/factsheet-erf-safeguard-mechanism>>.

48 Scope 1 emissions are those directly produced by a facility for example, carbon dioxide emissions from a coal-fired power plant. Scope 2 emissions are indirect emissions from the consumption of purchased electricity, heat or steam. Scope 3 emissions are all other indirect emissions, for instance, from burning of coal harvested in a domestic coal mine.

49 These include the *National Greenhouse and Energy Reporting Act 2000* (Cth) (which establishes reporting requirements for greenhouse gas emissions and energy consumption by large corporate emitters with the data used to compile national greenhouse inventories and reports on national emissions data submitted under the UNFCCC) and voluntary programs such as the National Carbon Offset Standard Carbon Neutral Program (which certifies products, businesses or events as carbon neutral against the Australian government's National Carbon Offset Standard).

50 ABC News, 'Renewable Energy Target: Legislation to Cut RET Passes Federal Parliament', *ABC News* (online), 23 June 2015 <<http://www.abc.net.au/news/2015-06-23/amendments-to-cut-renewable-energy-target-pass-parliament/6568642>>.

51 Jane Norman, 'Clean Energy Finance Corporation directed by government to stop funding wind farms', *ABC News* (online), 11 July 2015 <<http://www.abc.net.au/news/2015-07-12/government-lobbies-for-cefc-to-stop-wind-farm-funding/6613590>>.

52 See for example, *Wildlife Preservation Society of Queensland Proserpine/Whitsunday Branch Inc. v Minister for the Environment and Heritage* (2006) 232 ALR 510; *Mackay Conservation Group Inc v Commonwealth* [2015] FCA (4 August 2015) (Katzmann J) (approval for Adani coal mine set aside on the basis of a failure by the Minister to consider impacts on threatened species. The Minister later remade the decision, approving the mine, after consideration of these impacts).

2.2.2 State climate mitigation measures and complementarity issues

In addition to federal climate legislation there is an array of policy and legislative arrangements in each state and territory. Alongside a number of self-standing climate change laws, such as the *Climate Change Act 2010* (Vic),⁵³ state laws encompass legislation on renewable energy and energy efficiency, and forestry carbon rights. In the mid-2000s, states and territories evinced interest in developing an inter-jurisdictional emissions trading scheme to regulate greenhouse gas emissions from the stationary energy sector.⁵⁴ If this scheme had gone ahead it might have operated somewhat like the state-based regional greenhouse gas trading schemes in the United States, such as the Regional Greenhouse Gas Initiative (RGGI) and the Western Climate Initiative (WCI). However, plans for a state-led national emissions trading scheme were shelved when the Rudd Labor government won power in 2007. It is possible that, with several states and territories (for example, Victoria, South Australia and the ACT) now pursuing climate policies that are more progressive than those at the federal level, proposals for a sub-national emissions trading scheme may be revived.

The potential for innovative climate mitigation measures at the state level is illustrated by past initiatives, many of which were repealed or removed in the belief that they would become unnecessary in the face of a nation-wide carbon price.⁵⁵ This included cutting-edge schemes such as the NSW Greenhouse Gas Abatement (GGAS) scheme - the first trading scheme worldwide to address emissions from the electricity sector.⁵⁶ If ambitious climate mitigation action does not emerge at the federal level, it is likely that some states and territories will move to fill the gap with measures such as stringent state-level emissions reduction targets and renewable energy goals.

The centralisation of climate policy that occurred with the carbon pricing mechanism was supported by many commentators at the time as preferable to a regulatory mosaic with the potential for overlapping or conflicting requirements and a fragmentation of mitigation efforts.⁵⁷ Others expressed more caution as to the merits of a centralised approach which, in light of subsequent events, seems prescient. Tim Bonyhady, for example, argued that in a context 'where there is little basis for having faith in any level of government', the best approach may be one that uses federal regulation to set a floor for climate change protection, which states or local governments are free to exceed in their own laws.⁵⁸ This approach bears some similarities to the subsidiarity principle adopted in the European Union and also to the United States *Clean Power Plan* efforts (described further at 3.4.1 below). The latter establishes national standards for emissions reductions from existing coal-fired power plants, but then allows state governments to devise their own mix of measures to meet those standards. Such an approach has the advantage that it introduces a degree of uniformity by way of national minimum standards or targets, yet prevents those measures from becoming the lowest common denominator for all regulation in the area. In a partisan political environment, a decentralised/diversified approach may also provide some safeguard against radical shifts in climate policy with successive administrations.⁵⁹

53 This legislation is currently under review by the Victorian government. In December 2015, the Independent Committee appointed to undertake the review issued a far-reaching report including recommendations for a long-term emissions reduction target and a Charter of Climate Change Objectives and Principles see Wilder, Skarbek and Lyster 'Independent Review of the Climate Change Act 2010' (2015) Department of Environment, Land, Water and Planning <<http://www.delwp.vic.gov.au/environment-and-wildlife/climate-change#review>>. These recommendations are now before the Victorian parliament.

54 'Possible Design for a National Greenhouse Gas Emissions Trading Scheme' (Discussion Paper, National Emissions Trading Taskforce, August 2006).

55 At the time of development of national emissions trading proposals, the Council of Australian Governments (COAG) developed a set of 'Complementarity Principles' for federal and state governments to review the need for other emissions reduction measures alongside the national scheme: COAG, *COAG Principles for Jurisdictions to Review and Streamline their Existing Climate Change Mitigation Measures* (November 2008) <https://www.coag.gov.au/sites/default/files/20081129_complementarity_principles.pdf>. The result of this process was the phasing out of the NSW Greenhouse Gas Abatement (GGAS) scheme and other similar State schemes in favour of the national-level emissions trading scheme eventually implemented through the carbon pricing mechanism. Similar questions were raised in respect of the relationship between the mandatory national emissions trading scheme and voluntary measures and carbon markets. For discussion see The Climate Group, *The Role of Voluntary Action in Light of the CPRS and Australia's Ratification of the Kyoto Protocol* (May 2009) Climate Group <http://www.theclimategroup.org/_assets/files/The-role-of-voluntary-action-in-light-of-CPRS--May-2009.pdf>.

56 For an overview of the GGAS scheme see T Kearney, 'Market-based Policies for Demand Side Energy Efficiency: A Comparison of the New South Wales Greenhouse Gas Abatement Scheme and the United Kingdom's Energy Efficiency Commitment' (2006) 23 *Environmental and Planning Law Journal* 118.

57 See N Durrant, *Legal Responses to Climate Change* (Federation Press, 2010) 3; R Garnaut, *Garnaut Climate Change Review* (Cambridge University Press, 2008) 317-318.

58 T Bonyhady, 'The New Australian Climate Law' in Bonyhady and Christoff (eds) *Climate Law in Australia* (Federation Press, 2007) 26.

59 H M Osofsky and J Peel, *Energy Partisanship* (2016) 65 *Emory Law Journal* 695 (forthcoming), SSRN: http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2523911. Experimentation by states with green industrial policies may also be an effective means, over time, of building coalitions in support of stronger climate measures: J Meckling et al, 'Winning Coalitions for Climate Policy: Green Industrial Policy Builds Support for Carbon Regulation' (2015) 349 *Science* 1170.

3. Current challenges and opportunities

The *Paris Agreement* has been lauded as a ‘historic breakthrough’ in international climate law and policy that puts the world on a path to achieving sustainable emissions levels and avoiding the worst effects of climate change.⁶⁰ While this view is not universally shared, after the many failures of international climate law over the past two decades, the *Paris Agreement* has achieved some significant ‘success’. In particular, the *Agreement* adopts an ambitious long-term temperature goal and puts in place reasonably rigorous processes for encouraging, reviewing and progressing national actions to reduce emissions by all countries.

Ultimately, the effectiveness of the *Paris Agreement* and of international cooperative efforts to avert dangerous climate change will depend on national governments taking strong domestic emissions reduction efforts, in conjunction with sub-national governments, businesses and civil society. In accordance with the bottom-up structure of the *Paris Agreement*, the focus is on countries adopting, in good faith, ambitious, equitable national actions to achieve the *Agreement’s* objectives rather than international enforcement of particular emissions cuts on states. If Australia is to be a constructive participant in the post-2020 international climate regime, and contribute its ‘fair share’ to global mitigation efforts, it will need to put in place more stringent emissions reduction targets and domestic mitigation measures than it has presently. Recommendations on how Australia can transition towards a low-carbon economy is detailed in Australian Panel of Experts on Environmental Law, *Energy Regulation* (Technical Paper 6, 2017).

That said, keeping temperatures ‘well below’ 2° C will clearly not be achieved through government efforts alone. Climate law of the future is likely to feature a multi-level, polycentric regulatory arrangement consisting of action at many different levels and in many different forums, including through domestic and transnational emissions trading programs, actions by cities to reduce emissions, litigation domestically and transnationally to attribute responsibility for climate harms and resultant human rights violations, and efforts to engage the private sector in clean energy development and adoption. The major concerns with this approach to climate law relate to the piecemeal nature of regulation, lack of coordination and the potential for conflicting measures, and determining whether the sum of the parts will add up to the whole in terms of meeting global emissions reduction targets.⁶¹ In addition to instituting their own emissions reduction measures, it will be important for governments to have in place appropriate regulatory settings that encourage energy transition and innovation in the private sector, discourage emissions-intensive practices, and support other climate mitigation activities of non-state actors.

The following sections focus on two aspects of Australian climate law and policy most in need of improvement in order to meet new international requirements and to ensure a safe and sustainable climate future for the country: national emissions reduction targets and measures for ensuring economy-wide emissions reductions.

3.1 Australia’s weak emissions reduction targets

At the domestic level in Australia, climate law is in a state of flux. On the mitigation front, Australia’s short-lived carbon pricing mechanism placed it - for a time - among the leading climate jurisdictions worldwide. With the repeal of the carbon price and efforts to wind back renewable energy and climate measures at the federal level and in some states, Australia is regarded internationally as a laggard on climate change. The installation as Prime Minister of Malcolm Turnbull - a known climate moderate - may signal the potential for a new policy direction on climate, but a key challenge for Turnbull remains convincing other members of his own Coalition government of the need for change.

One key area where the Turnbull government needs to ‘step up’ on climate change concerns the nation’s weak pre- and post-2020 emissions reduction targets. Although the announced targets seem fixed at present, the conclusion of the *Paris Agreement* provides opportunities to increase their ambition. In the pre-2020 period, there will be concerted efforts at the international level under the *UNFCCC* to encourage ‘enhanced action’ by parties. The Australian

⁶⁰ Coral Davenport, ‘Nations Approve Landmark Climate Accord in Paris’, *New York Times* (online), 12 December 2015 <http://www.nytimes.com/2015/12/13/world/europe/climate-change-accord-paris.html?_r=0>.

⁶¹ Peel, Godden and Keenan, above n 7.

government has followed through on the Prime Minister's announcement to ratify the *Doha Amendment*, but should now encourage other *Kyoto Protocol* parties to ratify so the amendment can come into force. This would make the 2020 target internationally binding on Australia. As current estimates suggest, the 2020 target will be readily met. The government also has the opportunity to enhance domestic emissions reductions in the pre-2020 period by:

- voluntarily cancelling international carbon credits from the first commitment period (for example, certified emissions reductions under the Clean Development Mechanism, excess assigned amount units from coming in under target in the first commitment period) so they are not applied towards the Australian target in the second commitment period. This would in effect require deeper domestic emissions cuts to meet the target of 5% below 2000 levels by 2020 since carbon credits banked from the first commitment period would not be applied as an offset;
- working with non-party stakeholders to catalyse their efforts to strengthen mitigation actions. This might involve encouraging and/or incentivising private sector efforts of the type outlined in Australian Panel of Experts on Environmental Law, *The Private Sector, Business Law and Environmental Performance* (Technical Paper 7, 2017) (for example, through enhanced disclosure requirements) or sub-national initiatives (for example, of states, territories and councils).

RECOMMENDATION 5.1

Australia should encourage broad ratification of the Kyoto Protocol Doha Amendment and re-evaluate its currently weak pre-2020 (second commitment period) target in line with the guidance provided by the Paris Outcome. Another practical step would be to forgo available credits banked from the first commitment period as a way of increasing the domestic emissions reduction effort necessary to meet the second commitment period target.

In relation to Australia's post-2020 target (that is, its first NDC), the *Paris Agreement* process will also provide several opportunities for Australia to reconsider its adequacy and to enhance its ambition in line with the new long-term temperature goal of the *Agreement* (see section 2.1.2 above). The *COP Decision* adopting the *Paris Agreement* also specifically requests that parties with 2030 targets (such as Australia) update these contributions by 2020.

In looking to revise the post-2020 target, the Australian government would be well advised to look to the recommendations of the Climate Change Authority, which issued a report in June 2015 assessing Australia's 'fair' contribution to global emissions reduction efforts. The Authority recommended a 2025 target of a 30% reduction below 2000 levels and further reductions by 2030 of 40-60% below 2000 levels. It found that while these targets would be 'challenging' they are consistent with climate science and comparable with the efforts of other countries; moreover, the Authority highlighted the major benefits that would accrue to Australia from avoiding the harmful consequences of climate change and participating in the economic opportunities posed by transition to a low-carbon economy.

RECOMMENDATION 5.2

Australia should re-evaluate its currently weak post-2020 target in line with the guidance provided by the Paris Agreement and the recommendations of the Climate Change Authority. The Authority's most recent report suggests a 2025 target of a 30% cut from 2000 levels would represent a fair and ambitious contribution to the global response on climate change mitigation.

3.2 Ineffective policy measures to reduce emissions

Apart from inadequate emissions reduction targets, a key deficiency of Australian climate law at present is the lack of credible national climate measures to deal with emissions reduction beyond 2020 and to transition Australia away from fossil fuel dependence to a clean energy economy. Even in respect of the present 2030 goal of a 26-28% cut on 2005 levels, it is unclear that current policy measures - especially the ERF - will be adequate to deliver on this low target. With projected emissions growth to 30% above 2005 levels by 2030, cutting emissions by 26-28% will be 'a substantial task'.⁶² Many commentators have expressed concern that the ERF lacks medium term sustainability and will not 'scale up' effectively to deliver on post-2020 emissions reduction commitments.⁶³ In this regard, a national carbon price offers a preferable regulatory measure that will be both scalable and more cost-effective than the ERF. In addition, Australian businesses that were previously subject to the carbon price still have systems in place to measure and account for emissions and are thus well-placed to respond to such a measure.

Moreover, even when the carbon pricing mechanism was in effect it did not extend to Australia's full carbon footprint, which is substantial in global terms given the nation's fossil fuel exports. The issue of offshore (scope 3) emissions from Australian coal and their contribution to climate change has been raised in a number of climate change cases. The question of whether such emissions should be factored into assessment of new Australian coal mine proposals has received a mixed reception in the courts.⁶⁴ Nonetheless, reconciling domestic climate policy and environmental assessment laws with export-oriented energy production remains a major issue for Australia; it goes to the heart of whether Australia will contribute its fair share to global emissions reduction efforts necessary to avert dangerous global warming.

RECOMMENDATION 5.3

A national carbon price offers a preferable regulatory option for achieving absolute, economy-wide emissions reductions than the current Emissions Reduction Fund (ERF) policy. In designing domestic emissions reduction policies, Australia should consider the full carbon footprint of local activities including their offshore (scope 3) emissions.

3.2.1 Options for reform

The most effective measures that could currently be taken to address concerns with the adequacy of Australian climate law would be to specify strong emissions reduction targets for the post-2020 period and to implement regulatory measures to allow cost-effective achievement of those targets.⁶⁵ This section of the *Technical Paper* canvasses options for reform of Australian climate law, focusing on national level measures for emissions reduction. It first considers how existing measures (the ERF and safeguard mechanism) might be strengthened before examining more far-reaching reforms. In this regard, the paper draws on experience from other jurisdictions that have utilised or are currently implementing national mitigation measures either via direct regulation or emissions trading schemes.

Although the following sections focus on national emissions reduction measures, such measures generally operate in conjunction with a suite of complementary measures at multiple levels of government that aim to reduce carbon

62 Climate Change Authority, 'Towards a Climate Policy Toolkit: Special Review of Australia's Climate Goals and Policies' (Report 3, Climate Change Authority, 2016) 49 <<http://www.climatechangeauthority.gov.au/reviews/special-review/towards-climate-policy-toolkit-special-review-australias-climate-goals-and>>.

63 See for example, Jotzo, above n 37; Peter Christoff, 'On These Numbers, Australia's Emissions Auction Won't Get the Job Done', *The Conversation* (online), 26 April 2015, <<http://theconversation.com/on-these-numbers-australias-emissions-auction-wont-get-the-job-done-40761>>; Paul Burke and Frank Jotzo, 'Wrong Way, Go Back,' *Australian National University Crawford School of Public Policy* (online), 17 March 2014 <<https://crawford.anu.edu.au/news-events/news/3718/wrong-way-go-back>>; Peter Hannam and Johnathan Swan, 'Ross Garnaut Slams Abbott Government's Direct Action Policy as Like a 'Martian Beauty Contest'', *The Sydney Morning Herald* (online), 7 March 2014 <<http://www.smh.com.au/federal-politics/political-news/ross-garnaut-slams-abbott-governments-direct-action-policy-as-like-a-martian-beauty-contest-20140306-34atj.html>>.

64 J Peel and H M Osofsky, *Climate Change Litigation: Regulatory Pathways to Cleaner Energy* (Cambridge University Press, 2015).

65 For further recommendations on key policy tools for a low carbon transition, see Australian Panel of Experts on Environmental Law, *Energy Regulation* (Technical Paper 6, 2017).

emissions across the economy. While the idea of carbon pricing as a sole measure for climate change mitigation had substantial currency in Australia following the recommendations of the *Garnaut Review*,⁶⁶ ‘best practice’ from climate leader jurisdictions such as California and the EU suggests a diversified portfolio of measures is preferable. This diversified ‘toolkit’ approach, utilising a range of tailored measures, has also received support from the Climate Change Authority in its most recent review of Australia’s climate goals and policies.⁶⁷

3.3 Modifying the ERF and safeguard mechanism

Within the constraints of current national climate policy, there is the potential to modify the operation of the ERF to strengthen its potential as an emissions reduction measure. The avenue for doing so would be the safeguard mechanism, which establishes emissions baselines for covered businesses (see section 2.2.1).

Options for strengthening the safeguard mechanism would include:

- **increasing its coverage:** for instance, the carbon pricing mechanism applied to entities responsible for one or more facilities with annual direct emissions of 25,000 t CO₂-e (whereas the safeguard mechanism is limited to entities with annual direct emissions of 100,000 t CO₂-e or more). Even broader coverage could be achieved if entities were required to account for indirect emissions (emissions from electricity consumed or associated with the full life cycle of products, that is, scope 3 emissions).
- **increasing the stringency of baselines:** this might be achieved by selecting a different historical point for determining allowable emissions or by using best practice in the sector to establish sector-wide baselines. Progressive downward adjustment of baselines across time would provide incentives for continued emissions reductions by businesses.
- **inter-linkage with other schemes:** this would broaden the market for emissions reductions and enhance cost-effectiveness. It would allow businesses that cannot meet baselines to purchase credits from other creditable schemes (international, regional or in other countries) to meet their liabilities.

A strengthened safeguard mechanism would operate somewhat like a baseline-and-credit ETS, akin to the previous NSW GGAS scheme.⁶⁸ If the regulations governing baseline setting were to be tightened, coupled with measures allowing the purchase of international carbon credits in addition to ACCUs, the safeguard mechanism could operate as a form of market control on emissions levels.

As the detail of the safeguard mechanism’s operation is contained in legislative rules made by the government, it can be readily modified. The review of the ERF and safeguard mechanism scheduled for 2017 could provide an opportunity for these reforms.

While the ERF with a strengthened safeguard mechanism would still represent a second-best option to mandatory, economic-wide emissions reduction controls (on grounds of cost-effectiveness and scalability), it would nonetheless be a substantial improvement over the current policy that places limited controls on domestic emissions growth.⁶⁹

66 R Garnaut, *Garnaut Climate Change Review* (Cambridge University Press, 2008); R Garnaut, *Update Paper 6: Carbon Pricing and Reducing Australia’s Emissions*, (2011 Update, Garnaut Climate Change Review, 2011). Since the Reviews, however, Professor Garnaut’s views appear to have changed with more recent op eds endorsing carbon pricing in conjunction with other measures such as the RET. See R Garnaut, ‘Climate Change: The Challenge for Australia’, *Sydney Morning Herald* (online), 15 June 2015 <<http://www.smh.com.au/environment/un-climate-conference/climate-change-prime-minister-tony-abbott-warming-to-bigger-greenhouse-cuts-20150622-ghubqk.html>>.

67 Climate Change Authority, above n 62, 1.

68 A Pears, ‘Direct Action could deliver a useful outcome: carbon trading’, *The Conversation* (online), 3 November 2014 <<http://theconversation.com/direct-action-could-deliver-a-useful-outcome-carbon-trading-33736>>. Baseline-and-credit ETS schemes set a baseline level of emissions, improvements upon which generate credits for participating firms: M Wilder and M Miller, ‘Carbon Trading Markets: Legal Considerations’ in T Bonyhady and P Christoff (eds) *Climate Law in Australia* (Federation Press, 2007) 68.

69 In the interests of policy ‘stability’ the Climate Change Authority recommends strengthening the ERF to include more stringent safeguard measures for high-emitting sectors. In addition, the Authority recommends the introduction of an emissions-intensity scheme for electricity generators from 2018 that would employ baselines declining to zero by 2050. See Climate Change Authority, above n 62, Chapter 5.

3.4 Mandatory national emissions reduction measures

More ambitious policy and legal reforms to address climate change mitigation in Australia could draw on past experience with the carbon pricing mechanism as well as the wealth of experience available from other jurisdictions (see Table 2).⁷⁰

Table 2: Regulatory options for climate mitigation - experience from other jurisdictions

Regulatory model	Example	Details
Market-based (mandatory) Models		
Carbon tax	British Columbia carbon tax	Tax levied per tonne of carbon dioxide. Current tax of \$CAN30/tonne (approx. \$USD20/t). Regarded as the most significant carbon tax in the Western hemisphere.
Cap-and-trade ETS	EU ETS	Largest international system for trading emissions allowances covering 31 countries and around 45% of EU emissions. Applies to high-emitting energy and industrial facilities and aviation. Reductions of 21% from 2005 levels by 2020 and 43% by 2030 forecast.
Baseline-and-credit ETS	NSW GGAS	State greenhouse gas benchmark of 7.27 t of CO ₂ e of emissions from electricity per head of the state population. Electricity retailers and other parties involved in the NSW electricity market are required to meet mandatory benchmarks based on the size of its share in the state's electricity market. GGAS participants surrendered a prescribed number of GGAS certificates (or renewable energy certificates under the RET scheme) for any emissions above their individually assigned targets with certificates being transferable, thereby creating a market for their purchase.
Non market-based Models		
Direct regulation	<i>US Clean Power Plan</i>	National emissions standards for carbon pollution from power plants. The Environmental Protection Agency (EPA) establishes carbon dioxide emission performance rates with states and tribes choosing the measures employed to meet the standards.

These policy options have recently been the subject of comprehensive review by the Climate Change Authority, which discerns two general categories of market policies and non-market policies. The former encompass voluntary carbon pricing (such as the Direct Action/ERF mechanism as it currently exists with weak safeguards), mandatory carbon pricing (such as the former carbon pricing mechanism) and other mandatory price-based mechanisms (such as the RET).⁷¹ Non-market policies include regulatory measures, information programs and innovation support. The discussion below highlights two key policy measures - one market-based (emissions trading schemes) and one non-market based (direct regulation of emissions) - that have been the centrepiece of climate regulation in major emitting countries. It explains how these policy measures work in other jurisdictions and how they might be implemented in Australia

⁷⁰ For more information on policy options to regulate the energy sector, including the relative strengths of mandatory and non-mandatory policy mechanisms, see Australian Panel of Experts on Environmental Law, *Energy Regulation* (Technical Paper 6, 2017).

⁷¹ See Climate Change Authority, 'Draft Report: Australia's Climate Policy Options' (Report 2, Climate Change Authority, 2015) <<http://www.climatechangeauthority.gov.au/node/381>>.

as part of a reform program directed to increasing the ambition and effectiveness of the national climate mitigation response.

3.4.1 Direct regulation: The US example

Direct regulation involves the imposition and enforcement of mandatory emissions standards for emitting sources. Sources targeted by regulatory measures can include emitting facilities (for example, electricity generators and industrial facilities), buildings, agriculture or vehicles. As discussed in Australian Panel of Experts on Environmental Law, *Energy Regulation* (Technical Paper 6, 2017), Australia has regulatory measures in place for energy efficiency in buildings and appliances. However, no direct regulatory measures apply to emissions from electricity or transportation, two sectors that account for half of the national emissions.

Direct regulation fell out of favour in environmental policy during the 1990s and 2000s with the adoption of market-based approaches. The *Kyoto Protocol*, for example, endorsed the use of carbon markets to drive lowest-cost emissions reduction.⁷² This policy choice has been influential in the design of domestic climate measures as the discussion below of emissions trading schemes indicates.

The primary example of direct regulation in the climate field comes from power plant measures under the US *Clean Air Act*⁷³ (although a number of countries also use a regulatory approach for emissions from the transportation sector). It is worth noting that the former Obama Administration considered direct regulation a second-best regulatory approach; the Administration proposed a national cap-and-trade emissions trading program in 2009, but implementing legislation was defeated in Congress.⁷⁴ Ironically, it is likely that more stringent reductions in emissions will be achieved through direct regulation than would have occurred under a more business friendly market-based approach. Since under the current *Clean Air Act*, regulations stem from the executive branch, they are susceptible to change with future incoming administrations (and indeed, President Trump has indicated that these emissions reductions for coal plants will be rolled back). Implementation of the regulations has also been delayed by litigation, with businesses and states holding coal-based economies, challenging the EPA's mandate to regulate greenhouse gas emissions from power plants under the *Clean Air Act*.⁷⁵

EPA regulation of power plants under the *Clean Air Act* encompasses two main elements.⁷⁶ The first is the Carbon Pollution Standard for new, modified or reconstructed power plants. The emissions limits under this Standard are performance standards set at the degree of emissions limitation achievable through the application of the 'best system of emission reduction' that the EPA determines has been adequately demonstrated. The emissions level permitted under the Carbon Pollution Standard is one that effectively requires either the use of natural gas or partial carbon sequestration and capture. This Standard is implemented directly through federal rules under section 111(b) of the *Clean Air Act*.

The second element of the EPA's power plant rules, more complex and contentious, is the *Clean Power Plan* that applies to existing coal-fired power plants. This program aims to reduce carbon dioxide emissions from the power sector by 30% from 2005 levels by 2030. Drawing on a different section of the *Clean Air Act*, this regulation takes the form of emissions guidelines for states to follow in developing implementation plans for emissions reduction from existing plants. States have flexibility in designing emission standards to meet the guidelines; for instance, some states might use an emissions trading scheme (or a regional scheme of this kind) as part of their implementation, others might rely heavily on energy efficiency measures and so on. If a state fails to develop an implementation plan within the required timeframe then the EPA can develop a federal plan for that state.⁷⁷

⁷² *Kyoto Protocol* art 17 (emissions trading). See also Joint Implementation (art 6) and the Clean Development Mechanism (art 12).

⁷³ 42 USC § 7401 – 7671q (1963).

⁷⁴ *American Clean Energy and Security Bill*, H.R.2454, 111TH Congress (2009-2010).

⁷⁵ For the latest iteration of this litigation see *Murray Energy Corp et al v EPA* (DC Cir, 9 June 2015) dismissing as premature an industry suit seeking to prevent EPA from issuing a final *Clean Power Plan* rule regulating greenhouse gas emissions from existing power plants. However, in early 2016, the Supreme Court issued a stay preventing further implementation of the *Clean Power Plan* until after pending litigation in the DC Circuit is resolved.

⁷⁶ For further details of the EPA's greenhouse gas regulations see United States Environmental Protection Agency *Regulatory Initiatives* <<http://www.epa.gov/climatechange/EPAactivities/regulatory-initiatives.html>>.

⁷⁷ *Clean Air Act* 42 USC § 7410 (1963).

If Australia were to follow a similar direct regulatory model to that in the United States this would most likely require new stand-alone federal legislation as Australia has no equivalent to the US *Clean Air Act* (new legislation was also the preferred approach proposed in the discussion paper on ‘A Cleaner Future for Power Stations’ issued by the Gillard government).⁷⁸ Constitutional authority for the legislation would derive from the external affairs power as the legislation would be the basis for implementation of Australia’s commitments under international climate treaties. Following the U.S. model, emissions standards could be set for both existing, and new or modified, power plants as well as other high-emitting facilities.

3.4.2 Emissions trading schemes

The other major category of regulatory measures used to achieve mandatory emissions reductions is market-based instruments. The most common market-based instruments are carbon taxes and emissions trading schemes (ETS) (see Table 3).

TABLE 3: CARBON TAX VERSUS ETS

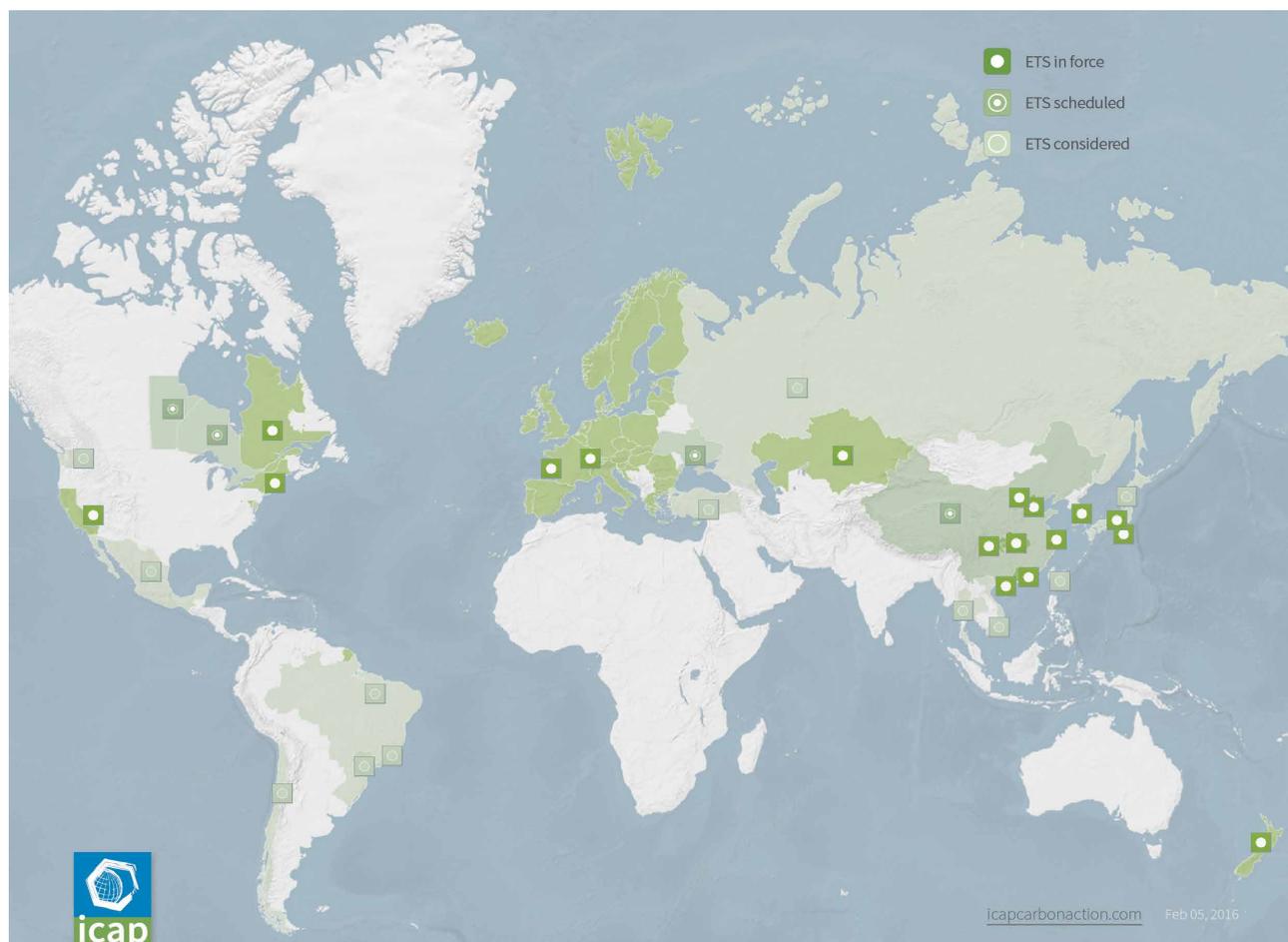
A carbon tax places a levy on the price of a product that (in an ideal world) should reflect the social cost of the associated greenhouse pollution. Businesses are then free to decide what quantity of pollution reduction to offer in response. At their core, carbon taxes involve taxing or charging the carbon content of fuels or greenhouse gas emissions. The basic theoretical premise is the need to correct for the externalisation of the environmental costs associated with carbon emissions. The main advantage of a carbon tax is seen to be its cost-effectiveness as carbon abatement can be delivered at a known cost. On the other hand, this mechanism offers less flexibility to business and the overall amount of carbon abatement delivered is uncertain as it depends on the stringency of the tax and the response of business.

While an ETS also involves a price signal, it operates on a different principle by controlling quantity (the number of emission permits available for emission reduction) rather than price. Under a cap-and-trade ETS, the number of permits to emit greenhouse gas emissions is limited and progressively reduced over time. The advantage of this system is that it delivers certain, quantifiable emissions reductions with flexibility to business given the capacity for trading of permits. The disadvantage of ETS is that the market is susceptible to price fluctuation (and crash) and that a significant regulatory apparatus is necessary to manage the new carbon market that is created.

Although many economists continue to favour a carbon tax as a superior market policy instrument (and a number of jurisdictions operate carbon taxes), ETS have emerged as the most politically palatable option for combining a commitment to mandatory carbon pricing with a cost-effective market-based regulatory approach. Consequently, ETS are the most widely adopted policy measure for emissions reduction globally (see Figure 1 below). The ETS is also a tool that has enjoyed (at times) bipartisan support in Australia.

⁷⁸ See Department of Energy, Resources and Tourism, ‘A Cleaner Future for Power Stations’ (Interdepartmental Task Group Discussion Paper, 2010) <<http://industry.gov.au/Energy/Documents/sustainability-and-climate-change/DiscussionPaperCleanerFuturePowerStation.pdf>>.

Figure 1: ETS globally



Source: (International Carbon Action Partnership, <https://icapcarbonaction.com/ets-map?view=etsmap>)

The basic premise of an ETS (at least in the most common ‘cap-and-trade’ variant) is that emissions are capped relative to a historical baseline. Covered entities under the scheme can either choose to meet the cap through activities that reduce emissions (or sequester carbon) or to buy allowances from other covered entities or market participants who reduce below the cap and hence generate emissions credits. To be effective as an environmental measure, the cap must be sufficiently stringent and should decline incrementally over time.

While the essential structure of an ETS is well-settled, experience with this policy instrument has shown that the devil is in the detail; specifically, design of the ETS matters enormously to its success as a climate mitigation measure. The vast literature on the failures of the early iterations of the European Union ETS - particularly the problem of over-allocating permits to emitters - emphasises this point.⁷⁹ Key design questions (from an environmental effectiveness rather than a market effectiveness point of view) include:

- how to ensure the cap is set at a sufficiently stringent level in light of the best available climate science and reduced appropriately over time;
- how to allocate permits to covered entities, for example, an auction process for allocation is more efficient, but

⁷⁹ Amongst many examples, see A D Ellerman et al, *Pricing Carbon: The European Union Emissions Trading Scheme* (Cambridge University Press, 2010); S Bogojevic, *Emissions Trading Schemes: Markets, States and Law* (Hart, 2013).

business often favours a grandfathered approach where initial permits are allocated for free based on historical emissions levels; and

- whether and to what extent trading will be allowed outside the cap, for example, through linkage to other ETS, through the inclusion of carbon offsets etc.⁸⁰

In the long-term it is likely that Australia will return to some form of a price on carbon; this certainly seems to be the expectation of businesses.⁸¹ The federal Opposition, for example, has committed to pricing carbon if it wins government, with a cap-and-trade ETS as the centrepiece policy measure for doing so.⁸² While there is no one-size-fits all prescription for an ideal ETS, scheme design in Australia could draw on the wealth of experience and lessons from other jurisdictions including the European Union, New Zealand and California. The Coalition government has indicated an ETS is 'off the table', but there is nonetheless potential for the ERF to evolve into an ETS over time as described in section 3.3 above.

⁸⁰ D M Driesen, 'Design, Trading, and Innovation' in J Freeman and C D Kolstad (eds), *Moving to Markets in Environmental Regulation* (Oxford University Press, 2007) 436.

⁸¹ F Jotzo, 'The CCEP Australia Carbon Pricing Survey 2012: Policy Uncertainty Reigns but Carbon Pricing Likely to Stay' (2012) 45(4) *Australian Economic Review* 395.

⁸² H Aston and L Cox, 'Bill Shorten faces grassroots Labor push to get serious on climate targets', *Sydney Morning Herald* (Sydney), 19 May 2015. A comprehensive approach to addressing Australia's carbon footprint would also require the inclusion of scope 3 emissions from Australian coal, an issue not currently addressed in the Labor climate policy.

4. Next-generation Australian climate law

This *Technical Paper* has considered Australian climate law for greenhouse gas emissions reduction with a strong focus on current legislation and policies, and options for reform in the short-to-medium term. It has put forward recommendations for the strengthening of Australia's present emissions reduction targets (for the periods up to 2020 and 2030) and for improving the effectiveness of measures to implement such targets.

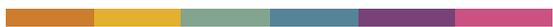
In these *Technical Papers*, APEEL has also sought to consider what Australia's 'next generation' environmental laws should look like. It is the nature of climate law and policy to be forward-looking; climate science tends to speak in terms of changes likely to take place over this century and targets for emissions reduction are often formulated in terms of long-term future commitments, for example, in respect of 2030, 2050 etc. Taking this longer-term view, what does APEEL foresee as the elements of next-generation of climate change mitigation laws in Australia?

It is now clear as a matter of climate science and international law that the next few decades will need to see very rapid reductions in greenhouse gas emissions towards net zero carbon (and after that to negative emissions) to stabilise temperature rises at safe and sustainable levels.⁸³ In Australia this will require laws providing for:

- ambitious emissions reduction targets seeking progressive reductions in emissions up to 2050 when emissions should be close to zero or below zero (for instance, through deployment of carbon sequestration in sinks such as forests or through carbon capture and storage technologies);
- a national carbon price to provide a cost-effective mechanism for driving economy-wide emissions reductions and technological innovation for clean energy;
- phasing out fossil fuel energy sources and fossil fuel production by 2050 or earlier to avoid financial risks of stranded assets in an increasingly carbon-constrained world (the *Paris Agreement* aims for a 'balance' between emissions from sources and extractions by sinks, that is, oceans and forest, by the second half of the century; a goal which cannot be achieved without foregoing carbon intensive fossil fuels or drastically ramping up carbon capture and storage capacity); and
- a range of complementary measures at the national and sub-national levels designed to enhance energy efficiency, increase renewable energy uptake, and encourage low-carbon resilient development.

⁸³ See above n 20 and Rogner et al, above n 21: climate science indicates that a high level of risk is associated even with achievement of the 2°C warming threshold. This has spurred the international policy shift towards aiming to keep temperature rises to 1.5°C, with even that level considered insufficient to protect and preserve highly vulnerable ecosystems such as coral reefs.

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