

CRUNCH TIME: HOW CLIMATE ACTION IN THE 2020s WILL DEFINE AUSTRALIA



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The Climate Council acknowledges the Traditional Custodians of the lands on which we live, meet and work. We wish to pay our respects to Elders past, present and emerging and recognise the continuous connection of Aboriginal and Torres Strait Islander people to Country.

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Key findings 1

The Morrison government's weak 2030 target is out of step with the rest of Australia and the world; effectively setting us on a path towards catastrophic global warming.

- > The Australian government's 2030 target (which is 26-28% below 2005 levels) is pitiful. Australia's current policies are consistent with catastrophic global warming of more than 3°C.
- In effect, the Australian government is planning to do half of what the Business Council of Australia is calling for, and around half of what of our strategic allies have committed to.
- > The Australian Labor Party has pledged, if elected, to cut emissions by 43% by 2030 (based on 2005 levels). This will lower power bills and emissions, while creating more jobs and economic opportunities. However, it is not enough to avert dangerous levels of global warming.
- Most Australian states and territories are on the way to achieving higher 2030 emission reduction targets. On the whole, that adds up to a de facto nation-wide 2030 target of 37-42% below 2005 levels.
- The Climate Council is calling for Australia to reduce its emissions by 75% below 2005 levels by 2030. As a first step, the federal government should match key allies and commit to halving emissions this decade.

2

Australia signed up to the *Glasgow Climate Pact*, which collectively commits the world to a 45% reduction in emissions this decade (relative to 2010 levels) and requires all countries to increase their 2030 emissions reduction targets.

- > Governments agreed to revisit and strengthen their 2030 targets ahead of the 27th Conference of the Parties to the UN Framework Convention on Climate Change (COP27) in November 2022, and align them with climate action required to limit warming to 1.5°C.
- The Glasgow Climate Pact specifically urges those countries that failed to come to COP26 with a new 2030 emissions target – including Australia – to set a stronger 2030 target as soon as possible.
- > The Australian Government is the only major developed country to fail to update its 2030 target since 2015.
- Federal ALP plans to increase our national 2030 target to 43% would mean bringing Australia closer to a path of credible climate action.
 However, it effectively means other countries need to do more than Australia is in order to avert dangerous levels of global warming.



3

The world has effectively called time on coal. Increasingly, countries are accelerating their shift away from fossil fuels, which will dry up demand for Australian fossil fuel exports.

- > The Glasgow Climate Pact explicitly agrees to curtail coal-fired power – the first time a global agreement on this has been reached in 30 years of climate talks.
- > There has been a 76% reduction in proposed coal-fired power stations since the 2015 *Paris Agreement*. All significant international public finance for coal has ceased, and the private sector is also moving away from financing coal.
- "International finance is being redirected to help countries reliant on coal switch to clean energy alternatives faster. The Asian Development Bank has launched a multi-billion-dollar fund to buy up coal power stations in our region and retire them early.
- > Key markets for Australian fossil fuel exports (including China, Japan, India and South Korea) as well as countries thought previously to be growth markets (such as Vietnam and the Philippines) are setting net-zero targets and transitioning away from coal and gas.

4

Accelerating climate action at home will protect lives and livelihoods, and unlock Australia's world-leading potential for clean industries and exports.

- > Under a global average temperature rise of 1.1°C, Australia is already experiencing more powerful storms, destructive marine and land heatwaves, and a new age of megafires. This is harming Australian lives, and livelihoods.
- Australia has the most sunlight per square metre of any continent in the world, and offshore wind resources that rival those of the North Sea. Cutting energy waste and shifting to renewable electricity this decade would save Australians \$20 billion per year on average in fuel and power bills.
- > With the right policies, Australia could establish a clean exports mix that meets the needs of growing economies in Asia worth hundreds of billions per year – far exceeding the value of today's fossil fuel exports.
- Any expansion of gas or coal in Australia runs counter to the global race towards net zero emissions. It exposes households and businesses to higher costs, stranded assets and carbon tariffs.

Introduction

Our future depends on urgent and decisive action to respond to the climate crisis in the 2020s, as scientific consensus makes clear our window to avoid catastrophe is closing. In November 2021, governments from around the world convened at the UN Climate Change Conference in Glasgow (COP26) to respond to the rapidly escalating climate challenge. The pledges made at Glasgow have profound implications for the next Australian Government, particularly the need to promptly strengthen its 2030 emissions reduction target (UNFCCC 2021). A significantly stronger 2030 target will restore Australia's international standing, and unlock economic opportunities for Australians in clean industries and exports. Most importantly, it will better align with the global goal to limit warming to 1.5°C, which would help protect Australians, our Pacific neighbours and the global community from catastrophic climate change.

Recognising the existential threat of climate change, governments agreed in 2015, as a central tenet of the *Paris Agreement*, to hold warming to well below 2°C and to pursue efforts to limit it to 1.5°C. Science is clear that exceeding these thresholds is catastrophic for humanity. Subsequent reports by the Intergovernmental Panel on Climate Change (IPCC) have underlined the urgency of this. Importantly, these reports conclude that global emissions must plummet this decade (IPCC 2018, 2021). This was why the leadup to Glasgow and the conference itself overwhelmingly focussed on strengthening action *this* decade.

Under the *Paris Agreement*, governments agreed to strengthen their 'nationally determined contributions' (NDCs) – including their emissions reduction targets – every five years, to close the gap between existing pledges and what the science has shown is necessary (UNFCCC 2015). Glasgow was the deadline for all countries to do this. Australia was the only mature advanced economy that failed to strengthen its 2030 target ahead of or during the Glasgow conference.

Current 2030 commitments - if fully implemented - could limit warming to around 2.4°C (Climate Action Tracker 2021a).¹ This is progress, but it was widely agreed at COP26 that this is not enough. Limiting warming to 1.5°C is a matter of survival for many vulnerable communities, so governments agreed, through the *Glasgow Climate Pact*, that every country should review and strengthen its 2030 target within the next year – ahead of COP27 in Egypt in November 2022. Importantly those countries – including Australia – that failed to increase their 2030 commitment ahead of Glasgow, must revisit this as soon as possible.

No matter the target this won't become a 'set and forget' situation. From now on, countries will review their progress annually and hold a ministerial-level roundtable on continuing to step up action this decade. For the first time in a decision under the UN Framework Convention on Climate Change, all governments also agreed on the necessity to move beyond coal.

The Australian Government arrived in Glasgow as an outlier among its international peers; one of just a handful of countries that failed to strengthen its 2030 target (Climate Council 2021e). It then failed to join a number of landmark pledges, including the Global Methane Pledge and a new UK-led commitment to phase out coalfired power. Instead, it used its presence in Glasgow to promote the continued burning of fossil fuels. It quickly became clear that the Australian Government had fallen even further out of step with the rest of the world. As a result, Australia's international reputation took a further battering.

Multiple lines of evidence strongly suggest that we can no longer limit warming to 1.5°C without a temporary overshoot. The global average temperature rise will likely exceed 1.5°C during the 2030s (IPCC 2021). There's little time left to limit global warming below catastrophic temperature rises. Breaching 1.5°C of warming significantly increases the risk of triggering abrupt, dangerous and irreversible changes to the climate system. Every fraction of a degree of avoided warming matters, and will be measured in lives, species and ecosystems saved. We must do everything possible to deeply and rapidly cut our emissions, while also preparing for climate impacts that can no longer be avoided.

This briefing unpacks the key takeaways for Australia from the COP26 climate conference in Glasgow, in particular the urgent need for Australia to catch up with the rest of the world. The only way to do this is with a strong 2030 target and a suite of credible climate policies that accelerates the transition from fossil fuels to renewable energy and electrification.

¹ According to Climate Action Tracker, countries' existing 2030 targets alone would limit warming to 2.4°C. Factoring in countries' binding long-term and net zero targets would further reduce this to 2.1°C. However, there are some questions over the credibility of many of these long-term targets, in that many countries have not set 2030 actions and targets that align with them. If all the announced net zero commitments and targets under discussion are fully funded and implemented, warming would likely be limited to 1.8°C by 2100, with peak warming of 1.9°C. This 'optimistic scenario' more closely aligns with the warming projections published in November by the International Energy Agency (IEA 2021) and Climate Resource (Meinshausen et al. 2021), which likewise depend on all announced commitments being fully funded and implemented.

1.

Strengthening Australia's 2030 target

The most significant implication of the *Glasgow Climate Pact* for Australia is the need to come back as soon as possible, November 2022 at the latest, with a stronger 2030 target to align with the Paris temperature goal, "taking into account different national circumstances" (paragraph 29). Taking into account Australia's national circumstances, Australia should aim to reduce its emissions by 75% below 2005 levels by 2030. As a first step, and the minimum required to catch up with its allies, Australia should commit to at least halving its emissions this decade.

Figure 1: In aggregate, current 2030 targets from around the world have us on a path to around 2.4°C of warming. If all announced net zero commitments and targets are fully funded and implemented, warming could theoretically be limited to 1.8°C by 2100. If all countries were to follow Australia's example, the world would be on course for more than 3°C of warming, and up to 4°C.



GLOBAL SURFACE TEMPERATURE CHANGE RELATIVE TO 1850-1900

If all countries were to follow Australia, we'd be on a perilous path towards global warming of more than 3°C.

Figure 2: Glasgow Climate Pact Paragraph 29.

29. *Recalls* Article 3 and Article 4, paragraphs 3, 4, 5 and 11, of the Paris Agreement and *requests* Parties to revisit and strengthen the 2030 targets in their nationally determined contributions as necessary to align with the Paris Agreement temperature goal by the end of 2022, taking into accounts different national circumstances;

BOX 1: AUSTRALIA IN A 3°C WORLD

Australia's current climate policies are woefully inadequate, setting a course for more than 3°C global warming (Climate Action Tracker 2021b). The recent Australian Academy of Science (AAS) report 'The Risks to Australia of a 3°C Warmer World' describes in great detail our vulnerabilities in such a future, and the risks and costs that we would experience (Hoegh-Guldberg et al. 2021). Assessing what Australia might experience at 3°C or more of warming is based on a synthesis of multiple lines of evidence – observations of what is already occurring at a 1.1°C global temperature rise, modelling future impacts, and assessing the evidence from historical and paleoclimate records. The report paints a terrifying picture of what life might be like if Australia and the rest of the world don't accelerate climate action.

Figure 3: Police evacuate residents as the Green Wattle Creek bushfire moves towards the Southern Highlands township of Yanderra, December 2019. Bushfire seasons are lengthening and becoming more dangerous due to accelerating climate change.



BOX 1: CONTINUED

Impacts on health and well-being

The most serious threats to our health are becoming well known at a temperature rise of 1.1° C – bushfires, extreme heat, droughts, cyclones and storms, and torrential rains, flooding and hailstorms. Such events will become much more intense and more frequent in a 3°C world. A much hotter world will also exacerbate other, longer-term factors that can damage physical and mental health – such as ongoing decreases in rainfall, an increase in climate-sensitive vector-borne and other infectious diseases, and the psychological impacts of economic hardships driven by a changing climate.

Australia's cities and towns in a 3°C world

We are one of the most urbanised countries in the world, and worsening climate change brings multiple threats to our cities and towns. A one-metre sea-level rise, possible by the end of the century, would put 160,000 to 250,000 properties at risk of increasing coastal flooding. The combination of rising sea levels and increasingly intense low-pressure systems and cyclones greatly increases the damage from storm surges, inundation and coastal erosion. Extreme heat, bushfires and severe storms put mounting pressure on urban infrastructure and dwellings, rendering many properties and businesses uninsurable.

Impacts on Australia's ecosystems

At a rise of 1.1°C in global temperature, the Great Barrier Reef has already suffered three mass bleaching events within the past six years. All tropical coral reefs would cease to exist in a 3°C world. Intensifying heat stress would destroy many other coastal and marine ecosystems, with significant loss of biodiversity. Many land ecosystems would be destroyed or changed beyond recognition as multiple climate-related stresses – extreme heatwaves, bushfires and drought – intensify further and become more frequent.

Costs to Australia's primary industries – agriculture, forestry, fisheries and food production

The long-term drying trends in southwest and southeast Australia, punctuated by severe droughts, are already hammering our most important agricultural regions. In a 3°C world, escalating heat stress would have severe impacts on the welfare, production and reproduction of livestock. Primary producers would suffer reduced water availability, elevated heat stress and reduced water supplies, triggering declining health and economic well-being.

In summary, a 3°C world would have devastating consequences for all Australians, and the rest of our planet. There is much to be protected and saved in limiting warming to well below 2°C. 1.1

Australia's natural advantage

A LAND OF ENDLESS SUN AND WIND

Australia is a wealthy nation with a remarkable abundance of renewable energy resources and critical minerals, for which there will be strong demand in the global race to net zero. Australia's small population and abundance of renewable resources puts us in league of our own with 10,000 megawatt hours of technical renewable energy potential per year *per person* (Carbon Tracker Initiative 2021) – enough to power around 1,000 homes per year. Our enormous solar and wind generation potential could power not just our country, but growing economies in Asia as well.

Figure 4: Australians are avid users of solar power, with one in every four homes having solar panels installed on their rooftops.



Australia receives the most sunlight per square metre of any continent – an average of 58 million petajoules of solar radiation per year - which is enough to power our nation approximately 100,000 times over (Commonwealth of Australia 2021a). Australian families are avid users of solar power and in fact have the highest uptake of rooftop solar systems globally. One in four Australian homes have solar panels. As of 2020, there have been 2.68 million solar power systems installed nationwide (CSIRO 2021). Despite this, most of our electricity comes from fossil fuels (with around 8% generated by solar and around another 8% generated by wind) (DISER 2021).

Australia also has some of the best onshore wind resources in the world. The greatest onshore wind potential lies in the coastal regions of western, southwestern, southern and southeastern Australia. Good wind resources are not limited to our coastline, also extending hundreds of kilometres inland in regions of Western Australia, South Australia and western Victoria. Areas with high wind potential also lie along the higher exposed parts of the Great Dividing Range in south-eastern Australia (Commonwealth of Australia 2021b).

Australia has boundless renewable energy resources to become a powerhouse in a fossil fuel free world.

OFFSHORE WIND, WAVE AND GEOTHERMAL ENERGY

Australia has high quality and abundant offshore wind. Falling costs of offshore wind combined with other benefits such as high capacity factors,² diversity of supply, the potential for very large projects and the potential to redeploy workers in fossil fuel industries, has led to a surge of interest in offshore wind in Australia. The Australian Energy Market Operator (AEMO) has identified several offshore wind zones that could accommodate up to 40 Gigawatts of projects (AEMO 2021), and Australia's 'technically accessible'³ offshore wind resources have been estimated to be as high as 2,233 Gigawatts (Briggs et al. 2021). To put this in perspective, this would provide enough power for the entire United States. Australia's largest electricity market, the National Electricity Market, is around 54 Gigawatts.

Australian offshore wind resources are comparable to those of the North Sea (between the British Isles and the mainland of north-western Europe), where offshore wind is an established industry.

In good news, the Offshore Electricity Infrastructure Bill, which successfully passed the Senate in November 2021, paves the way for the development of this new industry in Australia (as well as renewable export projects such as Sun Cable's solar farm and battery storage project in the Northern Territory).

There are around 20 Gigawatts of offshore wind project proposals at early stages in the development pipeline already, with Alinta's Star of the South Project being the most advanced of these (Vorrath 2021). Australia also has vast potential for tidal energy, wave energy and geothermal energy, although these resources remain largely undeveloped (Commonwealth of Australia 2021b).

EMBRACING RENEWABLES IS A WIN-WIN-WIN

If Australia moves quickly, we have the opportunity to drastically reduce emissions, save money through reduced fuel and power bills, boost economic growth, generate tens of thousands of additional jobs and translate our renewable energy resources into clean energy export industries worth hundreds of billions per annum. Moving away from fossil fuels would also translate into tangible health benefits for Australians.



Figure 5: Wind farm in the North Sea off the coast of the United Kingdom. The Offshore Electricity Infrastructure Bill passed the Senate in November 2021, opening up opportunities for the offshore wind industry in Australia.

² The capacity factor of a generator is the actual amount of energy produced from the unit, compared to what is theoretically possible.

³ Including areas less than 100 km from shore, in water depths less than 1000m, within 100 km of substations and transmission lines and excluding environmentally restricted areas.

1.2

Economic benefits for Australians

A strong 2030 target is key to achieving decarbonisation earlier and faster, which will reduce its cost in later years, and reduce its cost overall. Rapid decarbonisation is also important for navigating a smooth transition to net zero, by stimulating investment and new jobs in the right areas. Setting a strong 2030 target will economically benefit Australians in at least three ways:

- > Driving clever investment and drastically reducing household bills
 A focus on the decarbonisation of
 Australian households by 2030 through an accelerated rollout of solar energy,
 batteries, electric vehicles, and energy
 efficient appliances (combined with
 appropriate financing models) could save
 Australian households \$5,000 on average
 per year by 2030 and more than \$6,000
 per year by 2035. Collectively, Australian
 households could be saving around \$40
 billion per year by the end of the decade (Rewiring Australia 2021).
- > Ensuring Australia reaches net zero while at the same time boosting long-term economic growth. Deloitte Access Economics estimates a smooth transition to net zero by 2050, including setting a 2030 interim target of around 46-50%, would result in an \$890 billion increase to GDP (net present value) due to higher productivity, and more than 195,000 additional jobs by 2070, leaving Australians \$5,000 better off per person in 2050 in today's dollars (BCA 2021).
- > Ensuring Australia can meet growing demand for renewably-powered energy and commodities sooner, securing the lion's share of new green export opportunities. Powering Australia's economy with low-cost and abundant renewable energy unlocks significant opportunities for Australia to become one of the world's biggest exporters of decarbonised commodities, including renewable hydrogen and green steel (Climate Council 2020a). Growing demand for electricity in countries like Indonesia and Singapore unlocks opportunities for Australia to export renewable energy directly to these countries via high-voltage direct current cables. If we don't move quickly to both decarbonise our domestic economy and invest in research and development into export-facing renewable industries, we may lose this once-in-a-lifetime opportunity to secure a long-term competitive advantage.

Decisive climate action this decade could boost Australia's economic performance, create jobs, reduce energy bills, and generate green export opportunities.



Figure 6: Artistic rendering of hydrogen renewable energy production.

1.3 Health benefits for Australians

Shifting from fossil fuels to clean renewable technology would help keep Australians safe and healthy.

In Australia, air pollution from fossil fuels is responsible for around 5,700 deaths per year, around 3-4% of all deaths each year (Vohra et al. 2021). Burning gas in our homes for cooking contributes up to 12% of the burden of childhood asthma in Australia (Climate Council 2021b). People living near busy roads used by petrol and diesel vehicles are more likely to have cardiovascular events (such as heart attacks), and babies are more likely to be delivered preterm (Raaschou-Nielsen et al. 2012; Miranda et al. 2013).



Figure 7: Household gas use, especially from gas stoves, contributes significantly to the burden of childhood asthma in Australia.

Even the process of extracting, transporting and burning fossil fuels causes health problems. Everyday operations endanger nearby communities through polluted water and airborne contaminants (Climate Council 2021b). When there is an industrial disaster, such as the Hazelwood coal mine fire that burned for 45 days and caused an estimated 11 premature deaths through air pollution (Kinsella 2015), the health consequences can be severe.

Cleaner, more breathable air afforded by a renewable energy system is good for our health now, as well as long into the future.

In Australia, people are already losing their lives to extreme heatwaves, storms, floods, and bushfires – and it's getting worse. In eastern Australian, more than 400 people died from smoke inhalation during the Black Summer fires (Borchers Arriagada et al. 2020). Millions of Australians breathed in extremely hazardous air as a result of Black Summer. The long-term effects of exposing our major cities to hazardous air pollution for weeks on end are as yet unknown. A report commissioned by the Royal Australasian College of Physicians modelled the costs of bushfires between 2021-2030, estimating 1,480 lives lost, a \$69 million healthcare bill and a \$100 billion hit on Gross Domestic Product. The modelling also shows that investing \$1 billion in limiting bushfire impacts on health by 10% would be recouped within a decade (Bragge et al. 2021).

These extreme events also damage infrastructure and the capacity of our health system to function. For example, heat-buckled train tracks put more cars on the road, which causes traffic jams. This in turn causes slower response times for emergency vehicles at a time when emergency call-outs are at their peak due to hot weather – Australia's most lethal environmental hazard (Doctors for the Environment Australia 2020).

The Federal Government's reckless choice to do next to nothing to reign in pollution places Australian lives and our well-being at increasing risk. 1.4

What should Australia's 2030 target be?

The Glasgow Climate Pact recognises that "limiting global warming to 1.5°C requires rapid, deep and sustained reductions in global greenhouse gas emissions, including reducing global carbon dioxide emissions by 45% by 2030 relative to the 2010 level and to net zero around mid-century, as well as deep reductions in other greenhouse gases" (paragraph 22).

Given the scale of the global emissions reduction task, and taking into account Australia's very high level of emissions and our huge renewable energy resources, Australia can and should cut its emissions at a faster rate than the required global average.

Figure 8: Glasgow Climate Pact Paragraph 22.

22. *Recognizes* that limiting global warming to 1.5 °C requires rapid, deep and sustained reductions in global greenhouse gas emissions, including reducing global carbon dioxide emissions by 45 per cent by 2030 relative to the 2010 level and to net zero around mid-century, as well as deep reductions in other greenhouse gases;

The Climate Council recommends Australia should aim to reduce emissions by 75% below 2005 levels by 2030 and reach net zero emissions by 2035. Based on a goal of limiting global temperature increases to 2°C, the Climate Change Authority recommended a range of 45-65% (relative to 2005 levels) leading into the 2015 Paris summit. Given that Australia's emissions have actually risen since the Paris meeting and climate risks and impacts are becoming more obvious and severe, a more ambitious upper target is essential. The full calculations and rationale behind this target recommendation are provided in our report Aim High, Go Fast: Why emissions need to plummet this decade (Climate Council 2021a).

Almost all Australia's key allies updated their NDCs in the lead up to or during COP26 in Glasgow, including setting much stronger 2030 targets:

- > The UK government announced its new target to reduce emissions by 78% by 2035 compared to 1990 levels will be enshrined in law. (The UK's 2030 target is a 68% cut in emissions below 1990 levels.)
- > The United States has set an emissions reduction target of 50-52% below 2005 levels by 2030.
- The European Union is putting into law an emissions reduction target of at least 55% below 1990 levels by 2030.
- > The average target of the G7 countries is a 53% cut in emissions by 2030 below 2005 levels (see Figure 7).

The Business Council of Australia recommends an emissions reduction target of 46 to 50% for 2030 (on 2005 levels). It is notably double Australia's current abysmal target of 26-28% by 2030. The Australian Industry Group has also called on the Morrison Government to commit to halving Australia's emissions this decade.

All states and territories in Australia have net zero targets, and most have set interim 2030 emissions reduction targets.

- The Australian Capital Territory is leading the way, with a 2030 target of 65-75% below 1990 levels.
- South Australia and New South Wales have 2030 emissions reduction targets of 50% below 2005 levels.
- Queensland and Victoria have 2030 emissions reduction targets of 30% and 45-50% below 2005 levels respectively.

The de-facto 2030 national target, based on the average of state-territory targets, is 37-42% below 2005 levels, with the lower range being notably close to the federal government's own forecast that emissions will fall by 35% below 2005 levels by 2030 (ClimateWorks Australia 2021). Individual efforts by states and territories would be much better supported by an explicit Federal Government target that drives investment in the right places. The ALP, if elected, has made a commitment to reduce emissions by 43% by 2030, based on 2005 levels. This is a step in the right direction, although more will be required. The onus is on the Federal Government to go harder and faster, setting climate targets that adequately meet the climate challenge.



2030 EMISSIONS REDUCTION TARGETS (below 2005 levels)

Figure 9: The Morrison Government's 2030 emissions reduction target is way out of step with what the science demands, and is a more expensive and dangerous path to reaching net zero emissions by 2050.

2.

Accelerating the move beyond coal and gas

The Glasgow climate summit provided a clear signal that the age of fossil fuels is coming to an end. Australia needs to prepare for a global shift away from coal and gas, and a rapid transition to renewable energy.

2.1 Coal: a dying industry

The Glasgow Climate Pact – endorsed by more than 190 countries – calls explicitly for an accelerated transition away from coal-fired power. There has been much commentary about last-minute moves in Glasgow to weaken the COP26 decision text – from a call to phase-*out* coal, to a call to phase-*down* coal. This commentary misses the key story. Coal is the single biggest contributor to dangerous climate change, and this was the first time in nearly three decades of UN climate talks that countries collectively agreed to curtail coalfired power.

Figure 10: Glasgow Climate Pact Paragraph 20.

20. *Calls upon* Parties to accelerate the development, deployment and dissemination of technologies, and the adoption of policies, to transition towards low-emission energy systems, including by rapidly scaling up the deployment of clean power generation and energy efficiency measures, including accelerating efforts towards the phasedown of unabated coal power and phase-out of inefficient fossil fuel subsidies, while providing targeted support to the poorest and most vulnerable in line with national circumstances and recognizing the need for support towards a just transition;

The Glasgow Climate Pact affirms a clear trend – the world is already moving away from coal. In the six years since the 2015 Paris Agreement, the global pipeline of proposed coal power stations has collapsed by 76% (by capacity) (Littlecott et al. 2021). Around the world 1,175 Gigawatts of planned coal-fired power projects have been cancelled. To put it another way, the world has avoided a 56% expansion of the global coal fleet, which would have been the equivalent of adding a second China to the world's coal capacity.

Importantly, the *Glasgow Climate Pact* called for an *accelerated* global transition away from coal. Governments are increasingly ruling out financing for coal power. Just this year, both the G7 and the G20 group of countries agreed to end overseas financing for coal. In September, China told the UN General Assembly it would no longer fund coal projects abroad, ending support for coal in its Belt and Road Initiative (Brant 2021). Effectively, all significant public international finance for coal has come to an end.

The private sector is also moving away from financing coal. At COP26, a raft of banks and financial institutions – including HSBC and Lloyds Bank, together accounting for more than US\$17 trillion in assets – joined the Powering Past Coal Alliance (PPCA 2021). Australia's 'big 4' banks have all ruled out funding for new thermal coal. Not only is financing for new coal drying up, finance is being allocated to close *existing* coal power – including in countries that are key markets for Australian coal exports. In the lead up to COP26, Britain and the US led a group of wealthy nations that pledged US\$8.6 billion to help South Africa speed up its exit from coal (Plumer 2021). This is a new approach to accelerating the transition away from coal power in developing countries, which sets a precedent for supporting the energy transition in high-emitting coalusing countries like India and Indonesia.

In Glasgow, the Asian Development Bank launched a new fund that is intended to hasten the end of coal power in Asia by buying coal-fired power stations and closing them early. The pilot fund, known as the Energy Transition Mechanism, will be allocated US\$3.5 billion and will initially focus on buying coal stations in the Philippines, Indonesia, Vietnam and Pakistan (Hook 2021). The fund has the backing of the multinational lender HSBC and the philanthropic foundations of Amazon founder Jeff Bezos and the late John D Rockefeller. The Asian Development Bank says the fund has huge potential, and could end up retiring 50% of coal power stations in Indonesia, the Philippines and Vietnam over the next 10 to 15 years (ADB 2021).

Governments and financial institutions are moving, and it's the end of the line for coal in a carbon constrained world.

2.2 No future in gas

In Glasgow more than 100 countries – including the United States and the United Kingdom – pledged to reduce global emissions of methane by 30% by 2030. Nearly all gas burned in Australia today is fossil methane, and large quantities of methane are wasted; being emitted along the entire gas supply chain (Climate Council 2020b).

Methane is the second biggest contributor to climate change, behind carbon dioxide, having contributed 0.5°C of the current 1.1°C of human-induced warming since pre-industrial times (Nature 2021). Nearly all gas burned in Australia today is fossil methane, and large quantities of methane are wasted; being emitted along the entire gas supply chain (Climate Council 2020).

The Australian government has promoted a reckless 'gas-fired' recovery from the COVID-19 pandemic. Instead of supporting the Global Methane Pledge, Australia promoted gas at COP26. The Australian Pavilion at the Glasgow climate summit featured exhibits from Australian gas corporations, including Woodside and Santos, and promoted carbon capture and storage, which effectively acts as a license to expand fossil fuel production.

Less than a fortnight after signing up to the Glasgow Climate Pact, the Federal Government released a National Gas Infrastructure Plan which called for the development of at least one new major gas basin before 2030 (Australian Government 2021a). This is completely out of step with the *Glasgow Climate Pact*, which calls for countries to set more ambitious climate targets this decade to limit warming to below the critical threshold of 1.5°C (paragraph 22 and 29). Indeed, by admission of McKinsey - the consultants that delivered the National Gas Infrastructure Plan to the Federal Government – the scenario that this plan is designed to deliver is a global temperature rise of 3.5°C by century's end (McKinsey 2021). The International Energy Agency has made it clear that there can be no new coal, oil and gas fields if we are to limit warming to 1.5°C (IEA 2021a).

Figure 11: The Australian pavilion at the UN climate summit in Glasgow featured Carbon Capture and Storage exhibition provided by Santos.



2.3 Net Zero Asia

The COP26 summit marked a turning point for energy in Asia. All of Australia's key markets for coal and gas exports – including China, Japan, India and South Korea – brought to Glasgow a timeframe for achieving net-zero emissions. This means Asia's major economies are effectively calling time on coal and gas. They also signalled they will be making huge new investments to meet their climate targets, which will in turn drive down prices for renewable energy, further displacing coal and gas. Key countries in southeast Asia - including Vietnam, Indonesia and the Philippines - also signed on to a new Global Coal to Clean Energy Transition Statement (UK COP26 Presidency 2021). By doing so they ruled out mooted growth markets for Australian coal. Over the past year, dozens of countries worldwide have committed to building no new coal power stations, including Pakistan, Sri Lanka, Malaysia, and the Philippines.

2.4

Australia's clean exports opportunity

Australia is the world's second largest thermal coal exporter, and equal largest exporter of liquified gas (Australian Government 2021b). The global race to net zero will mean that demand for thermal coal and gas will plummet. At the same time, demand for renewable energy (either delivered directly or via hydrogen produced with renewable energy), along with commodities such as 'green steel', will increase. Skyrocketing demand for batteries, electric vehicles, and renewable energy technologies will also drive demand for Australia's critical minerals - including lithium, cobalt, and rare earths. Recent estimates suggest these minerals will globally be worth A\$17.6 trillion over the next two decades (IMF 2021).

Managing Australia's transition toward a post-carbon economy offers once-ina-lifetime opportunities for economic growth. With the right policy settings, Australia could grow a clean export mix worth A\$333 billion per year, almost triple the value of existing fossil fuel exports (Beyond Zero Emissions 2021). At the same time, policymakers must now plan for the inevitable global shift away from both coal and gas-fired power, including creating a transition plan to support affected communities and dislocated workers. If Australian policy makers don't plan for the transition away from coal and gas, economic costs will only grow and communities will be left high and dry.

Many of Australia's key allies and trading partners are investing heavily in green industrial policy, and pricing carbon for their domestic producers. To re-level the playing field, they are looking to impose costs on exports from countries - like Australia that don't have policies in place to rapidly cut emissions. The European Union has announced a Carbon Border Adjustment Mechanism (CBAM) that is likely to impact Australia's GDP. If other countries follow suit, Australia will face serious consequences, including potential job-losses of up to 50,000 in Queensland and 20.000 workers in New South Wales (Climate Council 2021d). The EU's plans are likely to be the first of many that impose costs on countries delaying the energy transition.

In Glasgow, the EU and the US announced plans for a trade deal that would give preference to steel manufactured using lower carbon emissions, and impose costs on carbon-intensive steel produced in countries like China (White House 2021a). This may have flow-on impacts for Australia. Most significantly, it heralds a new era of 'carbon clubs' – where major powers band together to coordinate a shared approach to their emission reductions and impose penalties on other countries that are not meeting similar obligations (Nordhaus 2015).

The Glasgow climate summit signalled the global shift away from coal and gas is accelerating. Our national interests are now intertwined with a world racing towards net zero emissions.



Figure 12: Goods being loaded at the Port of Melbourne for export. Carbon tariffs will affect the economy of climate laggard Australia.

As the world transforms all economies to be powered by renewables, the Federal Government is putting the Australian economy and jobs at risk by propping up the fossil fuel industry.

3. Stepping up international cooperation

Figure 13: Cyclone Pam made downfall on Vanuatu 13 March 2015, destroying and damaging a total of 15,000 homes like this one. Pacific island countries are increasingly vulnerable to accelerating climate change and supercharged storms.

3.1 Climate finance, adaptation and loss and damage

While COP26 in Glasgow saw significant new commitments to action from developed and developing countries alike, it also highlighted the continuing shortfall in financial support from wealthy countries including Australia.

Stepping up contributions of international climate finance - that is, support from developed to developing countries for driving down emissions and adapting to the impacts of climate change - is fundamental to a successful global energy transition and to building the security and resilience of vulnerable communities.

Providing climate finance is firmly in Australia's national interest. Nonetheless, Australia continues to trail its peers in terms of how much finance it is providing. Despite announcing in Glasgow a modest increase in its current commitment – from AUD\$1.5 billion over 2021-2025 to AUD\$2 billion -

Australia's overall commitment is still only around a tenth of its fair share towards the longstanding and still unfulfilled global goal of mobilising USD\$100 billion a year by 2020 (Oxfam et al. 2021). Regrettably, the Australian Government has also continued to resist calls, including from Pacific island countries, to resume contributions to the Green Climate Fund.

COP26 in Glasgow also saw an unprecedented level of focus on the issue of permanent loss and damage from climate change, with the Glasgow Climate Pact recognising the urgency of scaling up finance to help avert, minimise and address loss and damage (paragraph 63). While wealthy countries failed to agree in Glasgow upon a new facility that would provide financial support to communities suffering irreversible losses, the Glasgow Climate Pact sets up a 'dialogue' that will determine such arrangements (paragraph 73).

Figure 14: Glasgow Climate Pact Paragraph 73.

Decides to establish the Glasgow Dialogue between Parties, relevant organizations 73. and stakeholders to discuss the arrangements for the funding of activities to avert, minimize and address loss and damage associated with the adverse impacts of climate change, to take place in the first sessional period of each year of the Subsidiary Body for Implementation, concluding at its sixticth session (June 2024);

The issue of loss and damage is of particular importance to Australia's Pacific and southeast Asia neighbours, who despite contributing almost nothing to global greenhouse gas emissions, already face permanent loss and damage due to climate change. Pacific island countries fought very hard to secure greater progress in Glasgow on the issue of finance to address loss and damage. While some progress was made, vulnerable countries and communities are still left with the prospect of further talks and negotiations rather than real assurances that much needed funding to address loss and damage will begin to flow. It is vital that the Australian Government support urgent and concrete progress on this front in the wake of Glasgow.

The outcome from Glasgow sets the stage for an even more determined push from the Global South next year at COP27 to secure finance to address loss and damage. Should Australia and other climate laggards fail to substantially increase their 2030 emissions reduction targets between now and then, the pressure to help address the economic and non-economic losses and damages faced by vulnerable developing countries and communities due to our inaction will only increase.

3.2 Australia's national security and international relations

GLASGOW AND SUPPORT FOR A RULES-BASED ORDER

Australia's approach to international relations is defined by support for a rules-based global order. Collectively agreed rules, arrived at through global diplomacy, are crucial in areas like trade, maritime shipping, management of the high seas, and limiting the spread of nuclear weapons. But when it comes to the UN climate regime, Australia finds itself among a small and isolated group of countries - including Saudi Arabia and Russia - resisting more ambitious global action to cut emissions. This approach to international obligations undermines Australia's professed commitment to the rules-based order.

WORKING WITH AUSTRALIA'S ALLIES

Australia's traditional allies - including the US, the UK and the EU – are committing to more ambitious climate action over the next decade (see Figure 2), and have made climate policy central to their statecraft. They are investing in green infrastructure and industrial policy, and using regulatory frameworks to encourage a shift away from fossil fuels. They are also promoting a rapid expansion of renewable energy, and encouraging the shift to electric vehicles.

Australia is being urged to join them. This year, the US formally put climate change 'at the centre of US foreign policy and national security' (White House 2021b). Australia's ambassador to Washington, Arthur Sinodinos, says the US wants Australia to commit to stronger targets to help put pressure on China to do its part (Hurst and Murphy, 2021). In October, Prime Minister Morrison informed the Cabinet that Australia would shift to net-zero emissions by 2050 because climate action had become a key pillar of the Western alliance (Citowicki 2021).

Diplomats from the US and the UK have made it clear they expect Australia to set a stronger 2030 target. UK High Commissioner Vicki Treadell told media in October that "the majority of other countries are going for 40-50% [cuts by 2030] so ideally that is what we would like to see" (Viñales 2021). United States charge d'affaires Mike Goldman said the US expects Australia to make deeper emissions cuts by 2030, to be consistent with achieving net-zero emissions by 2050 (Dziedzic 2021).

MAINTAINING REGIONAL SECURITY IN THE INDO-PACIFIC

International relations in the Indo-Pacific are increasingly shaped by geostrategic competition between major powers – especially between the US and China. Maintaining a position as the security partner of choice for Pacific island countries especially is more important than ever for Australia's strategic interests. It is also a key part of Australia's contribution to the ANZUS alliance.

Pacific island states see the impacts of climate change as their key security challenge, and have formally declared climate change the 'single greatest threat' to the region (Pacific Islands Forum 2018). Pacific countries want Australia – as the largest member of the Pacific Islands Forum – to develop more ambitious climate policy. A reluctance to set a stronger 2030 emissions target, and continued promotion of coal and gas, undermines Australia's strategic objectives in the Pacific, and risks a loss of geopolitical influence in the region (Climate Council 2021c).

The current chair of the Pacific Islands Forum, Fiji prime minister Frank Bainimarama, says Pacific island states expect Australia to set a 2030 target to cut emissions by 50 per cent or more (Bainimarama 2021).



Climat

United Nations Climate Change Conference

Figure 15: Fiji Prime Minister Frank Bainimarama. Pacific island countries want Australia to reduce its emissions by 50% or more by 2030.

Conclusion

Australians have so much to gain from a much stronger 2030 target, and so much to lose from a poor one. It is in our national interests, and the interests of all Australians to do more.

So far, the collective commitments and pledges made by countries are not enough to limit global warming to 1.5°C or even well below 2°C. We can only achieve this by doing much more to slash emissions over this decisive decade. Otherwise, we will exceed these critical temperature thresholds. Australia's existing 2030 target is woefully inadequate, and relys on other countries doing a lot more than us. If other countries adopted the same attitude, and put in the same, low effort then the world would be on track for more than 3°C of global warming. This would spell disaster for the Australian way of life - our health, livelihoods, and the iconic ecosystems that make our country such an amazing place to live.

Australia is an immensely lucky country, with so many natural advantages in the global race to net zero. Not only do we have world-class renewable resources, we also have abundant critical minerals, technical expertise and geographic proximity to the strong growth markets of Asia. Embracing a strong 2030 target would be a win-win-win for Australia. It would lower our emissions and save us all money in cheaper fuel and power costs. It would boost the productivity of our economy, particularly in our regions, and make us all healthier. It would help to restore our international standing, and make the world a much safer place.

Overall, a strong 2030 target means we can reach net zero in the smartest and cheapest way possible. On the other hand, if Australia keeps lagging so behind the rest of the world then this is going to lock in more climate harm. It will hold us back from grasping a once-in-a-lifetime opportunity to gain a competitive advantage in the global clean economy of the future. This is a no-brainer. Let's not squander our luck.

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