



# BRINGING PARIS HOME

**HOW AUSTRALIA MEASURES UP AGAINST  
THE NEW GLOBAL CLIMATE AGREEMENT.**

## **BRINGING PARIS HOME: HOW AUSTRALIA MEASURES UP AGAINST THE NEW GLOBAL CLIMATE AGREEMENT**

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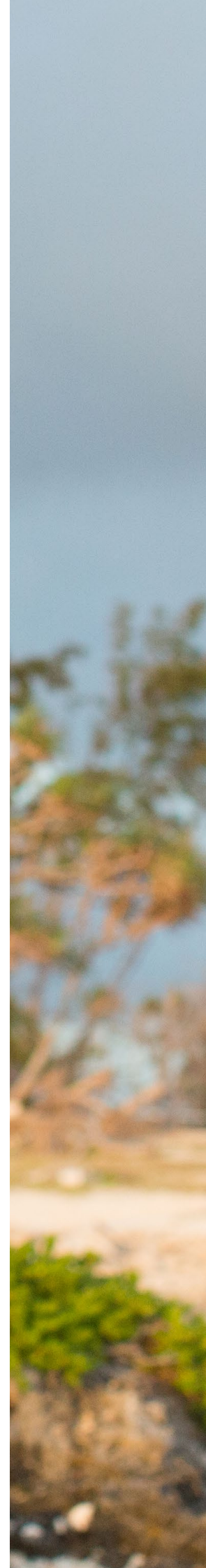
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**COVER:** ETON VILLAGE, EFATE ISLAND, VANUATU: Daniel Kaltonga is a fisherman and farmer. He has been told to relocate his family from their seaside home due to the risk of storm surges similar to the one resulting from Tropical Cyclone Pam. In nearby Epau, storm surges have led to waves travelling more than 100 metres inland, through houses and gardens. Coastal erosion is also damaging roads. "We are in the disaster zone, so we are having to move," Daniel says. Photo: Arlene Bax/OxfamAUS.







In December 2015, at the Paris Climate Change Conference, the world reached a universal agreement for tackling climate change. On 22 April 2016, world leaders will sign the Paris Agreement in New York and ensure it enters into force as soon as possible.

But for Australia, the gap between what this agreement demands of us and the level of commitments we currently have on the table remains extraordinarily wide. Australia continues to lag far behind other countries' actions.

The months since Paris have delivered forceful reminders of what is at stake: temperature records have been shattered; the Great Barrier Reef has suffered unprecedented bleaching; Cyclone Winston brought devastation to Fiji; and a super-charged El Niño wrought havoc across our region.

Australia must act immediately to bring its actions into line with the goals of the Paris Agreement, including efforts to limit global warming to 1.5°C, providing adequate support to developing countries, and protecting the rights of vulnerable communities. Australia has all it needs to be part of today's climate and energy solutions, and to create a brighter future for Australia and the world. A majority of Australians support stronger action, but big polluters, vested interests and failures of political leadership are holding us back.

As we approach the 2016 federal election, Australia needs a visionary plan of action to address climate change, and this should be at the heart of all parties' agendas.

This report outlines Australia's three key tasks — to end carbon pollution, to support developing countries and to protect vulnerable communities — and compares political parties' positions with the goals of the Paris Agreement.





## HOPE, HORROR, AND URGENT NEED

In December 2015, and after more than two decades of negotiations, the international community reached a universal agreement for tackling climate change.

Within months of achieving this beacon of hope, the world faced a series of terrifying reminders of what is at stake and the great urgency of taking stronger action. February 2016 was the most abnormally warm month on record globally,<sup>1</sup> marking an upward surge in a trend that has seen 14 of the 15 warmest years on record occur since 2000, with 2015 the hottest of all.<sup>2</sup> Cyclone Winston was the second category 5 cyclone to make landfall in the Pacific in as many seasons, destroying entire villages in Fiji and killing at least 43 people. In March, there was news that damage to our precious Great Barrier Reef was far worse than first feared.<sup>3</sup> Across the region, an exceptionally strong El Niño has compounded existing challenges.<sup>4</sup> At the time of publication, as many as 4.3 million people in the Pacific, including up to 42% of the population of Papua New Guinea, continue to face hunger, poverty and disease due to drought and other stresses exacerbated by El Niño. Worryingly, recent research suggests that these particularly strong El Niño events are now likely to occur twice as often as in the past.<sup>5</sup>

**ABOVE:** TEAORAEREKE VILLAGE, TARAWA, KIRIBATI: Tiiria, 11, walks on a fallen coconut tree near her family home. Sea level rise, increased wave heights, higher storm surges and other pressures are causing extensive coastal erosion and salt water inundation. Communities are losing their coconut palms, breadfruit trees and other plants that they rely on. Photo: Vlad Sokhin/Panos/OxfamAUS.

The Paris Agreement provides a solid foundation for greatly enhanced cooperation on climate change. It commits the international community to keeping the global average temperature rise to well below 2°C and to aim for 1.5°C — a limit rightly demanded by the world's most vulnerable countries. It demands that action on climate change promotes human rights, the rights of indigenous peoples, gender equality, and the rights of future generations. It commits developed countries to increase support to developing nations to implement their clean energy plans and build their resilience to the impacts of climate change. And it demands that solutions are found for those who face loss of land, homes and livelihoods due to our historical failures to act quickly enough to curb carbon pollution.

But there's a problem: the gap between the changes that the agreement demands and the level of commitments



we have so far put on the table remains too wide. Far-reaching and rapid action is needed to protect the rights and lives of vulnerable communities and future generations and to hold true to the Paris Agreement. The time for baby steps has passed. Bold leaps forward to a smarter, cleaner world are now urgently required, but right now Australia is lurching backwards. After the removal of several key climate policies, including the price on carbon, Australia's emissions actually rose in 2014–2015.<sup>6</sup>

As we approach the 2016 federal election, a visionary plan on climate change must be at the heart of all parties' plans for our future. Unprecedented numbers of Australians are demanding stronger action.<sup>7</sup> Our Pacific neighbours, who have contributed almost nothing to the causes of climate change, are showing real leadership. It's time Australia showed similar leadership.

This briefing lays out the bare bones of the action needed from Australia in three key areas:

1. The rapid decarbonisation of the Australian economy in order to reach **zero carbon pollution well before mid-century**.

2. **A substantial increase in support to developing countries so that they can fulfil their clean energy plans and adapt to climate change.** Australia's total contribution from public sources and the private sector should reach at least AUD \$3.2 billion per year by 2020.

3. **Finding solutions for our region's most vulnerable communities**, including those who face permanent losses due to climate change.

Climate change poses immense challenges, but also opportunities. The choice for Australia could not be clearer. Will we continue on our current path, clinging to the industries of the past, harming the economy and contributing to increasing risks and hardships for our neighbours and future Australians alike? Or will we rise to the challenge with an exciting vision of a fairer, sustainable Australia, and work as a good global citizen towards a brighter, safer and more prosperous future for everyone?

The Paris Agreement has told us what we have to do. It's time to get cracking.



DRANA SETTLEMENT, RAWASA, FIJI: On Saturday 20 February 2016, Tropical Cyclone Winston made landfall in Fiji, leaving at least 43 people dead and whole villages destroyed. At its centre, the category 5 cyclone had gusts of up to 325km/h. "This is the strongest cyclone Fiji has ever seen and the impacts are horrific," Dolores Devesi, Oxfam's Country Director in Fiji said. Photo: Adi Kautea Nacola/OxfamAUS.



# 1. ENDING CARBON POLLUTION

The reality is that 90% of Australia's known coal reserves would need to be left unburned to secure even a 50% chance of keeping warming below 2°C.<sup>8</sup> By some assessments, we have already exhausted the amount of carbon pollution we can afford if we're to have a good shot at keeping global warming below 1.5°C.<sup>9</sup> These facts make it clear that meeting the goals of the Paris Agreement will require very rapid decarbonisation.

**For Australia, the rapid transition away from fossil fuels must begin immediately.** Fulfilling our share of the global task — taking into account our contribution to climate change, our relative wealth, and the options we have available for reducing pollution — means reducing our own pollution to zero well before mid-century. Putting us on course means cutting pollution by:

- at least 45–65% below 2005 levels by 2025; and
- at least 65–80% below 2005 levels by 2030.

Despite our massive potential for solar power and other clean energies, **Australia uses more coal power as a proportion of its total energy supply than almost any other developed country.**<sup>10</sup> At the heart of our national climate action strategy, we need a plan to phase out all coal-fired power plants, starting with the orderly closure of the oldest and dirtiest plants within

## THE PARIS AGREEMENT

The agreement aims to keep global warming to “well below 2°C” and “to pursue efforts to limit the temperature increase to 1.5°C”.

In order to achieve this goal, it aims for global emissions to peak as soon as possible and then to fall rapidly and reach net zero in the second half of this century.

In 2018, there will be a global stocktake. By 2020, governments will need to either make new commitments or update existing ones to bring them closer to achieving these shared goals. This process will be repeated every five years.

While all countries must make the strongest efforts possible, developed countries must cut pollution faster, as they are responsible for a greater proportion of the world's pollution and more able to make cuts.

the next term of government. Importantly, we must ensure that communities affected by these closures are supported to find other sources of employment. **The technology exists for Australia to achieve 100% renewable electricity before 2035.**<sup>11</sup> Ending Australia's dependence on coal is the first necessary step in eliminating our carbon pollution.

Reaching zero emissions will also require changes in land management and the protection and restoration of our ecosystems. There are many possibilities for initiatives that will improve the integrity of our ecosystems and provide communities with new opportunities, while simultaneously helping to avoid pollution and reabsorb carbon from the atmosphere. Many of the traditional practices of Aboriginal and Torres Strait Islander Peoples can reduce pollution and provide new income opportunities for Indigenous communities. For example, traditional fire management in Australia's tropical savannahs can reduce greenhouse emissions and maintain soil carbon by reducing the incidence of large fires during the dry season.<sup>12</sup>

The Paris Agreement aims for a balance between the amount we pollute and the amount we reabsorb through, for example, restoring forests. This is commonly known as “net zero” emissions. This concept may have lulled some into a sense that we can continue to burn fossil fuels. However, the world simply does not have enough land available to compensate for delays in real action. Failing to acknowledge this reality could have devastating consequences for poor people in developing countries, as communities are forced off their land — which is also their source of food — so that it can be used to offset the carbon pollution that wealthy countries create.<sup>13</sup>

We can transform Australia from a polluting backwater to a prosperous, zero-pollution, clean energy economy by changing how we produce energy, preserving the integrity of our ecosystems, valuing and using traditional and Indigenous knowledge, and by embracing our renewable energy potential. **The barriers are not technological or economic, but political.**

The coming years present us with the twin challenges of addressing climate change and eradicating poverty. **Under the United Nation's new Sustainable Development Goals, the world aims to end poverty in its all forms everywhere by 2030.** Without us taking considerably stronger action, the impacts of climate change threaten to push more than 100 million people back into poverty



VANUATU, EFATE ISLAND, ERATAP VILLAGE: Mala Silas chooses to use her own solar power in her home rather than connect to the local grid. For much of the Pacific, electricity, where available, has depended on expensive imports of diesel and other fuels. Renewable energy is both reducing fuel costs and enabling more people to gain access to electricity. Photo: Arlene Bax/OxfamAUS.

over the next 15 years.<sup>14</sup> **Addressing climate change and reducing poverty can, and indeed must, go hand in hand.** For example, for many of the more than one billion people worldwide still living without electricity, local renewable energy solutions offer a faster, cheaper, healthier and more self-sufficient means of accessing electricity than connection to a centralised energy grid.<sup>15</sup>

India, like many developing countries, has put in place ambitious plans for clean energy in order to avoid emissions, increase energy access and ensure long-term energy security. But realising these plans will depend on international cooperation and financial support. Less developed nations cannot be expected to achieve zero pollution as quickly as very wealthy countries such as Australia.

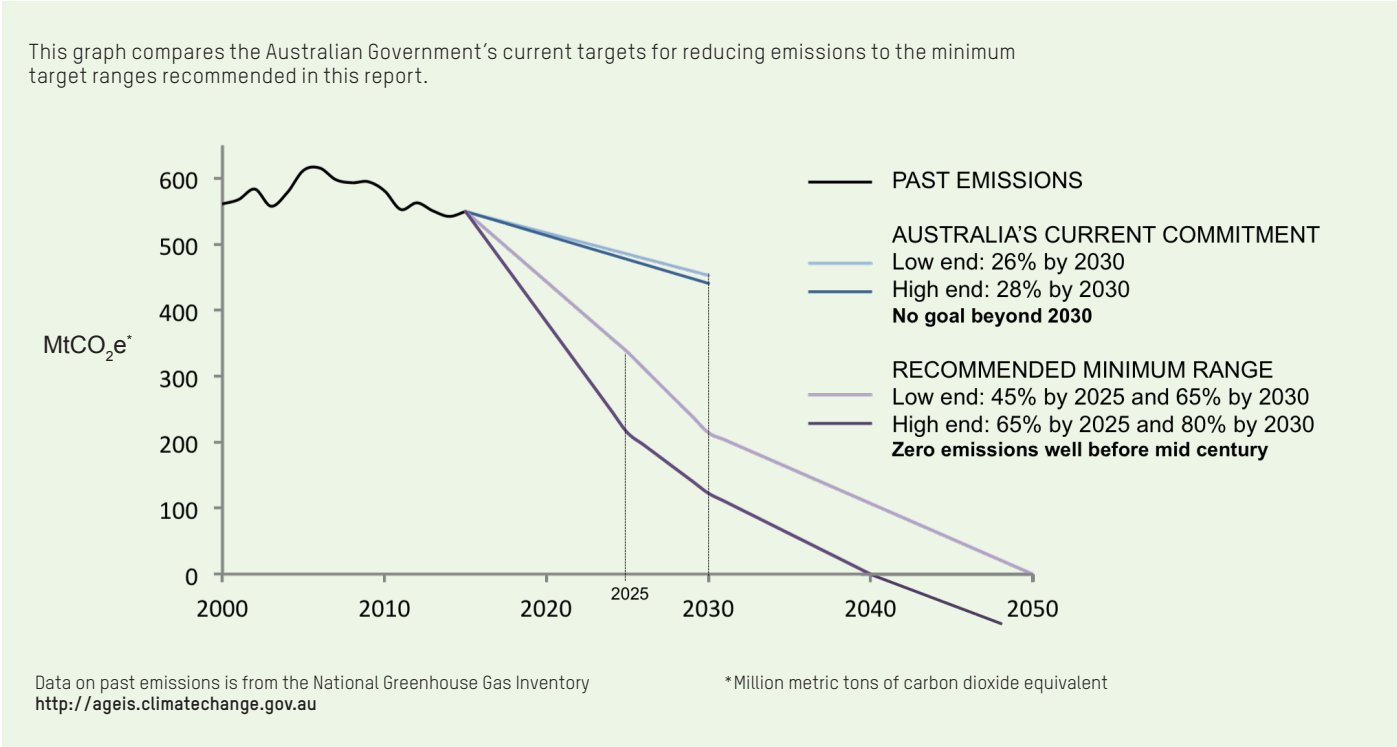
Ultimately, to help return the level of carbon pollution in the atmosphere to safer levels, Australia must aim to achieve below-zero emissions by reabsorbing more

carbon dioxide and other greenhouse gases than we emit. In addition to this, as a wealthy, developed nation, Australia must do its bit to help developing countries avoid pollution and increase their ability to adapt to, and recover from, the effects of climate change.

## NO NEW COAL MINES IN AUSTRALIA

As a first step towards a complete phase-out of all fossil fuel extraction, there should be no new coal mines nor coal mine expansions approved in Australia. This must be accompanied by the rapid phasing out of coal-fired power in Australia and greater support for clean energy plans in developing countries.

# HOW DOES AUSTRALIA MEASURE UP ON POLLUTION REDUCTION TARGETS?



## INTERNATIONAL COMPARISONS

In contrast to the global trend, Australia's emissions actually rose in 2014–2015. Australia's current target for 2030 would leave us with the highest per capita emissions and the most carbon-intensive economy in the developed world.<sup>16</sup>

Meanwhile in China, where emissions per person are less than a third of Australia's, total emissions appear to have fallen last year due to a decrease in coal use and rapid growth in clean energy.<sup>17</sup>

Pacific countries, despite having contributed almost nothing to global carbon pollution, are showing real leadership. For example, the Marshall Islands plans to reduce its emissions by 45% below 2010 levels by 2030, and achieve net zero emissions by 2050 or earlier. In February 2016, Fiji's parliament became the first in the world to agree to ratify the Paris Agreement.<sup>18</sup>

Globally, investment in clean energy surpassed investment in fossil fuels in 2011 and has continued to grow ever since. Since 2013, the world has been adding more new power from clean energy sources than from coal, oil and gas combined. In contrast, clean energy investment in Australia has fallen sharply over the past three years.

## COMPARING THE PARTIES

COALITION	LABOR	GREENS
The Coalition parties have not set a long-term goal for reducing carbon pollution and are standing by the target of 26%–28% below 2005 levels by 2030.	The Labor Party's policy is to achieve net zero emissions by 2050. At the time of publication, Labor was gathering feedback from businesses and the community on a tentative target for 2030 of 45% below 2005 levels.  Labor's target for clean energy is to deliver at least 50% of our electricity generation from renewable sources by 2030.	The Greens' policy is to: achieve net zero emissions by 2040 at the latest; cut emissions by 40%–50% below 2000 levels by 2025; and cut emissions by 60%–80% below 2000 levels by 2030. Adjusted to below 2005, this equates to 45%–54% by 2025 and 63%–82% by 2030.  The Greens' target for clean energy is to deliver 100% clean energy as quickly as possible, with at least 90% by 2030.



## 2. SUPPORTING DEVELOPING COUNTRIES

Responding to climate change means doing all we can to tackle the problem at its source, while also addressing the impacts that can no longer be avoided.

While climate change affects us all, the impacts are typically felt first and hardest by countries and communities who have done the least to cause the problem and are least able to adapt to new pressures.

**In Pacific Island countries, emissions per person range from around one-thirtieth to one-tenth of the emissions of the average Australian, yet many of these countries are among the most vulnerable to the impacts of climate change.<sup>19</sup>**

In the low-lying countries of Kiribati, Tuvalu and the Marshall Islands, communities already face severe challenges as rising sea levels contaminate fresh water supplies, destroy food crops and swallow land. But it is not only these low-lying countries that are at acute risk in a warming world. For example, many Pacific Island countries lie in the path of tropical cyclones, and climate change is intensifying their destructive impacts. The maximum wind speed and amount of rainfall associated with tropical cyclones is likely to increase this century.<sup>20</sup> At the same time, storm surges are compounded by the rise in sea levels. And while it is the extreme events — such as cyclones and king tides — that make the headlines, the gradual shifts in weather patterns and other “slow onset” changes pose an equal threat. A very high proportion of Pacific communities live in rural and remote areas,<sup>21</sup> where most people relying on subsistence fishing, farming and agriculture. As a result, they are strongly affected by shifting rainfall patterns, as well as the impact of a warming and acidifying ocean on marine life. The powerful El Niño of 2015–2016 has compounded these pressures for countries across the region, and Papua New Guinea, Vanuatu, the Marshall Islands, Samoa, Tonga and Fiji continue to suffer significant consequences.<sup>22</sup>

### BUILDING COMMUNITY RESILIENCE

Although it is possible to adapt and build community resilience to some of these changes, this involves costs — costs caused by the excesses of the wealthy industrialised world, which vulnerable communities cannot afford to pay. **Pacific Island countries have developed detailed national adaptation strategies and the region has become the first in the world to fully integrate climate change and disaster risk management**

### THE PARIS AGREEMENT

The Paris Agreement strongly reaffirms the role of developed countries in supporting climate action in developing countries — both mitigation (avoiding emissions) and adaptation (building resilience of communities to impacts).

Developed countries agreed back in 2010 to mobilise USD \$100 billion (AUD \$133 billion) a year by 2020 from both public and private sector sources to support developing countries. In Paris they agreed to continue providing finance at that level until 2025. They also reiterated that there must be a balance of resources between mitigation and adaptation. The latter is less able to attract private investment and depends on increased public funding. Developed countries have been urged to come up with a concrete roadmap for meeting the existing USD \$100 billion a year commitment. Prior to 2025, governments will set a new, higher collective goal.

**into a single overarching regional strategy.<sup>23</sup>** But support with implementation remains inadequate.

In 2011, the World Bank estimated the costs that developing countries would face in adapting to a 2°C warmer world as being USD \$70 billion–\$100 billion a year (AUD \$93 billion–\$133 billion) between 2010 and 2050.<sup>24</sup> However, in 2014, the United Nations Environment Program suggested that the costs would be two to three times higher than that by 2030, and four to five times higher by 2050.<sup>25</sup> Of course, these adaptation costs will rise substantially if we do not keep the global average temperature rise below the agreed limits.<sup>26</sup> Even if the sum of commitments already made by individual countries to limit the global average temperature rise were fully implemented, we would still be on course for a catastrophic temperature rise of around 3°C.<sup>27</sup>

Activities that reduce pollution — most obviously clean energy programs — can provide attractive business propositions for the private sector. However, climate change adaptation is more reliant on public funding as it does not typically provide the same return on investment.



SOUTH TARAWA, KIRIBATI: Tinaai Teaua, a member of Kiribati Climate Action Network (KiriCAN) stands in front of mangroves planted near Bonriki International Airport. Throughout the Pacific, communities are working hard to build their resilience to the impacts of climate change. Mangroves help to protect the coast and are an important habitat for marine life.  
Photo: Vlad Sokhin/Panos/OxfamAUS.





Analysis by the OECD showed that, in 2013–2014, only 16% of international climate finance went towards climate change adaptation.<sup>28</sup> However, developed countries have made a commitment that, of the USD \$100 billion a year they plan to mobilise by 2020, expenditure will be balanced between mitigation (reducing emissions) and adaptation (building the resilience of communities to impacts). This will require substantially increasing the amount of available public funding.

## A CLEAN ENERGY FUTURE FOR ALL

**Around the world, developing countries are implementing ambitious clean energy plans.** India plans to have 175 gigawatts of renewable energy projects operational by 2022<sup>29</sup> — this is around four times Australia’s entire electricity generating capacity from all sources.<sup>30</sup> Papua New Guinea aims to reach 100% renewable energy by 2030.<sup>31</sup> The shift to clean energy promises many additional benefits, from reducing “energy poverty”, to creating new jobs, to reducing particulate pollution from coal burning, which contributes to hundreds of thousands of premature deaths.<sup>32</sup> In China, where coal consumption declined 3.7% in 2015<sup>33</sup>, the rapid shift towards clean energy is being driven both by the imperative to reduce greenhouse gas emissions and public outcry over harmful levels of particulate pollution in its cities.

However, for many developing countries, fulfilling their plans will depend on international support. Moving to a zero-pollution world requires shifting trillions of dollars from high-carbon investments to climate solutions.<sup>34</sup> Although there is a major role for the private sector, laying the foundations will also require public financial support, particularly if we’re to ensure that no community is left behind.

## SCALING UP SUPPORT

**The Paris Agreement recommitments developed countries to support climate action in developing countries by increasing available funding and through cooperation on technological development.**

Australia’s current commitment to provide at least AUD \$1 billion over the next five years falls significantly short of the level of support expected, and is weaker than commitments from other wealthy developed nations. **Based on Australia’s relative economic strength and our contribution to climate change, we can and should contribute 2.4% of the current goal of USD \$100 billion a year (AUD \$133 billion).**<sup>35</sup>

If there is to be a balance of expenditure on adaptation and mitigation, then at least half of this amount will have to come from public finance contributions as adaptation is less likely to attract private investment.

“Moving to a zero-pollution world requires shifting trillions of dollars from high-carbon investments to climate solutions. Although there is a major role for the private sector, laying the foundations will also require public financial support, particularly if we’re to ensure that no community is left behind.”

In other words, Australia should aim to provide at least USD \$1.2 billion (AUD \$1.6 billion) in public funds annually by 2020, and achieve an equivalent contribution from the private sector.

**As climate change is an additional challenge to those that overseas aid programs were originally designed to address, Australia’s contributions to international climate finance should be in addition to our existing overseas aid commitments.** There are several ways we could increase the pool of available public funding, including raising revenue from a carbon pricing scheme and redirecting fossil fuel subsidies.<sup>36</sup>

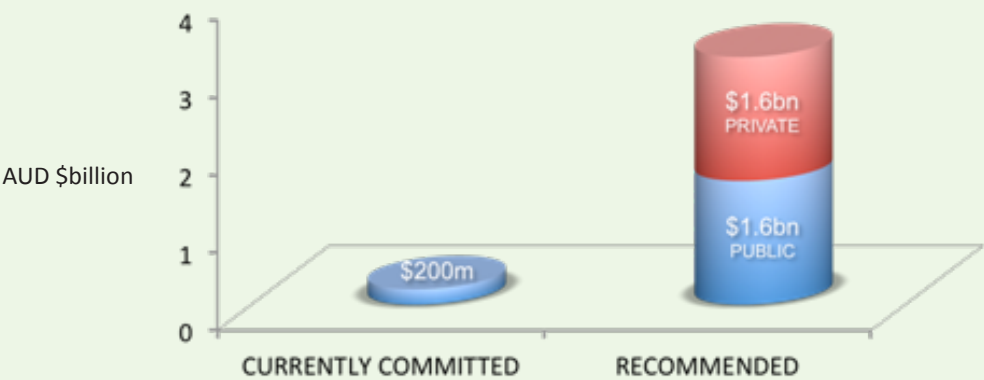
The effectiveness of support depends not only on the total amount of funding available, but also the targeting of this support: funding must prioritise the needs of the most vulnerable communities and groups. Right now, smaller countries struggle to access the funding that has already been made available, due to bureaucratic hurdles and the complexity of the funding environment. Some of the most at-risk communities have so far received little, if any, support from the international community.

In November 2015, Australia was re-elected as Co-Chair of the Green Climate Fund, a position we held from 2012 to 2013. The Green Climate Fund is an international fund established to increase support for climate action in developing countries. Australia should use its position as co-chair to ensure that the fund prioritises those at greatest need of assistance.

By developing and implementing a comprehensive climate change strategy for its aid program, Australia can ensure that ongoing and scaled-up bilateral support reaches those who need it most. The strategy must recognise the disproportionate impact of climate change on women and youth, as well as their vital role in solutions.

# HOW DOES AUSTRALIA MEASURE UP ON INTERNATIONAL CLIMATE FINANCE?

This graph shows the international climate finance Australia has currently committed to providing per year, compared to what would be our fair share of the international goal of USD \$100 billion (about AUD \$133 billion) a year by 2020.



## INTERNATIONAL COMPARISONS

Several countries have made significant new commitments to increase the international climate finance they provide. For example, Germany has committed to doubling climate finance in its national budget by 2020, to reach around USD \$4 billion. Based on the relative size of our economies, this would be equivalent to Australia contributing around USD \$1.5 billion (AUD \$2.1 billion) in public funding a year by 2020.

Although developing countries are not required to provide international climate finance, some developing countries have decided to contribute. China has committed to contribute USD \$3.1 billion over three years.

In addition to new commitments made by governments, several companies have made significant pledges. For example, IKEA plans to spend EUR €1 billion (AUD \$1.5 billion) of its profits on renewable energy and climate change adaptation projects in developing countries.

## COMPARING THE PARTIES

COALITION	LABOR	GREENS
At the Paris Climate Change Conference, Prime Minister Malcolm Turnbull announced “Australia will contribute at least AUD \$1 billion over the next five years from our existing aid budget both to build climate resilience and reduce emissions.” <sup>37</sup> This was not a scale-up in response to the goals of the new agreement: at an average of at least AUD \$200 million a year, it does not increase the level of climate finance provided by Australia between 2010 and 2015. In addition, part of this funding will go towards meeting Australia’s existing commitment to provide AUD \$200 million over four years to the Green Climate Fund.	The Labor Party’s national platform says it is “committed to ensuring Australia’s continued commitment to international climate finance, in line with the shared international goal of mobilising public and private funds to assist vulnerable communities address climate change”, though it has not specified an amount nor guaranteed that funds will not be diverted from other aid priorities in order to meet this commitment.	The Greens have committed “to delivering public and private climate finance in line with Australia’s fair share of the USD \$100 billion goal”. At time of publication, the Greens had not specified an amount. The Greens have stated “climate finance must not be diverted from existing foreign aid budgets” and that they “support targeted assistance, particularly in the Asia-Pacific region, for climate change adaptation measures”.





### 3. PROTECTING VULNERABLE COMMUNITIES

While the Paris Agreement aims to radically increase both the pace of pollution reduction and communities' ability to adapt to, and recover from, the impacts of climate change, it also recognises that an increasing number of people will be faced with changes that are impossible to adapt to.

Already, with warming of around 1°C, some communities have faced irreparable losses that can be credibly attributed in part to climate change, such as contamination of fresh water and the loss of arable land, homes and livelihoods. Many more will face similar risks over the coming years and decades.

For example: millions of people worldwide depend on coral reefs for their livelihoods,<sup>38</sup> but climate change, along with other stresses, has already placed the world's coral reefs in jeopardy; and in the world's mountainous regions, as glaciers melt, glacial lakes grow and eventually burst, creating disaster for nearby people and settlements.<sup>39</sup>

Relocation will invariably be people's last resort. For much of the world's population, land is not only a source of sustenance, but is intimately connected to their culture, history and identity. Nonetheless, the ability to migrate will be a necessary part of some communities' ability to survive in the face of climate change. Anote Tong, former President of Kiribati, has called for people to be able to "migrate with dignity".<sup>40</sup>

**ABOVE:** TARAWA, KIRIBATI: Tekiraraiti Takakia stands in front of a destroyed "kiakia", a traditional I-Kiribati resting house. The house was destroyed by a king tide in 2015. Tekiraraiti says: "King tides threaten us. Big waves flood our homes; destroy our houses. Our plants can't grow here anymore, water containers are damaged too; trees fall. I like to live here, but there is no hope. Eventually we will leave this place, it's just a matter of time." Photo: Vlad Sokhin/Panos/OxfamAUS.

Arrangements for addressing permanent losses due to climate change are in their very early stages, and a number of approaches will need to be identified and developed. Insurance schemes will play some part.

But there must be solutions for people who face permanent losses. Being surrounded by some of the countries most vulnerable to the impacts of climate change, Australia must be at the forefront of developing long-term solutions.

#### THE PARIS AGREEMENT

As well as sections dealing with mitigation (avoiding emissions), adaptation (building resilience of communities to impacts), finance, technology development, and more, the Paris agreement contains a distinct section on "loss and damage". This sets the stage for substantive and focused international dialogue about how to address permanent loss and damage from climate change, such as land lost permanently to rising seas.

This section of the agreement makes permanent the Warsaw International Mechanism for Loss and Damage — an institution established in 2013 to explore initial questions about loss and damage, but which was set to expire in 2016 — and urges countries to cooperate in areas such as risk assessment, insurance, and understanding events that may involve permanent loss and damage.

Governments also agreed to establish a task force for addressing human displacement associated with climate change.





DANBAGL VILLAGE, SIMBU PROVINCE, PAPUA NEW GUINEA: Margaret Thomas planted her kaukau (sweet potato) a month ago but the lack of rain due to the El Niño drought conditions is stunting the plants' growth. The crop should be larger, fuller and producing four or five potatoes per plant. Margaret says each of these plants are likely to yield just one or two. "In the past the other dry seasons were quite difficult, but not as difficult as now. Today's dry season is worse because all the vegetables in the gardens, especially the sweet potatoes are being destroyed ... The supply of food has decreased, even the quality of food is bad now." Photo: Rodney Dekker/OxfamAUS.



# NOTES

<sup>1</sup>*State of the Climate — Global Analysis February 2016*. National Oceanic and Atmospheric Administration.

<https://www.ncdc.noaa.gov/sotc/global/201602>

<sup>2</sup>*State of the Climate — Global Analysis Annual 2015*. National Oceanic and Atmospheric Administration.

<https://www.ncdc.noaa.gov/sotc/global/201513>

<sup>3</sup>*Great Barrier Reef coral bleaching at 95 per cent in northern section, aerial survey reveals*. ABC, 28 March 2016.

<http://www.abc.net.au/news/2016-03-28/great-barrier-reef-coral-bleaching-95-per-cent-north-section/7279338>

<sup>4</sup>For information on the impacts of the 2015–2016 El Niño, see: <https://www.elninoxfam.org/>

<sup>5</sup>El Niño is a climate phenomenon, occurring approximately every three to seven years, when the surface temperature in the central and eastern tropical Pacific ocean is much warmer than average, causing significant changes to the weather patterns in many regions of the world. Occasionally, as in 1997–1998 and 2015–2016, a “super” El Niño develops. A study in *Nature Climate Change* in 2014 suggested that with climate change, these particularly strong El Niño events may occur twice as often as in the past — approximately every 10 years rather than every 20 years.

*Increasing frequency of extreme El Niño events due to greenhouse warming*. W. Cai et. al., *Nature Climate Change*.

<http://www.nature.com/nclimate/journal/v4/n2/full/nclimate2100.html>

<sup>6</sup>*Quarterly Update of Australia’s National Greenhouse Gas Inventory: September 2015*. Department of the Environment, Australian Government.

<http://www.environment.gov.au/system/files/resources/9b0ac13-09b9-4d48-8fca-0ea2337fb297/files/nggi-quarterly-update-sep-2015.pdf>

<sup>7</sup>On 27 November 2016, 40,000–60,000 people joined the People’s Climate March in Melbourne — the largest ever event of its kind in Australia. A survey published in March 2016 revealed that almost half of Australian voters say that policies on climate change will influence the way they vote at the upcoming election.

*Climate Change rally: Tens of thousands gather in Melbourne ahead of UN talks*. ABC, 28 November 2015.

<http://www.abc.net.au/news/2015-11-27/people-rally-in-melbourne-for-climate-change/6981136>

*Climate change a vote changer at federal election, says poll*. The Guardian, 17 March 2016.

<http://www.theguardian.com/environment/2016/mar/17/climate-change-a-vote-changer-at-federal-election-says-poll>

<sup>8</sup>*The geographical distribution of fossil fuels unused when limiting global warming to 2°C*. Christophe McGlade and Paul Ekins, *Nature* 517, January 2015.

<http://www.nature.com/nature/journal/v517/n7533/full/nature14016.html>

<sup>9</sup>See, for example: *Climate Reality Check: After Paris, Counting the Cost*. David Spratt, March 2016.

<http://www.breakthroughonline.org.au/>

<sup>10</sup>Electricity production from coal sources [% of total]. World Bank Data: <http://data.worldbank.org>

<sup>11</sup>See, for example: proposals by think tank Beyond Zero Emissions. <http://bze.org.au/>

<sup>12</sup>See, for example: *Kimberley Land Council – Cultural Enterprises*

<http://www.klc.org.au/land-sea/kimberley-land-council-cultural-enterprises>

<sup>13</sup>*Caught in the net: How “net-zero emissions” will delay real climate action and drive land grabs*. ActionAid, June 2015.

[http://www.actionaid.org/sites/files/actionaid/caught\\_in\\_the\\_net\\_actionaid.pdf](http://www.actionaid.org/sites/files/actionaid/caught_in_the_net_actionaid.pdf)

<sup>14</sup>*Shockwaves: Managing the impacts of climate change on poverty*. World Bank, November 2015.

<https://openknowledge.worldbank.org/bitstream/handle/10986/22787/9781464806735.pdf>

<sup>15</sup>*Powering up against poverty: Why renewable energy is the future*. Oxfam, June 2015.

[https://www.oxfam.org.au/wp-content/uploads/2015/08/coal\\_report\\_lowres\\_web21.pdf](https://www.oxfam.org.au/wp-content/uploads/2015/08/coal_report_lowres_web21.pdf)

<sup>16</sup>*Making sense of Australia’s post-2020 emissions reduction target*. The Climate Institute, August 2015.

[http://www.climateinstitute.org.au/verve/\\_resources/Factsheet\\_per\\_capita.pdf](http://www.climateinstitute.org.au/verve/_resources/Factsheet_per_capita.pdf)

<sup>17</sup>*Decrease in China’s coal use sees global emissions fall in 2015*. Carbon Brief, December 2015.

<http://www.carbonbrief.org/decrease-in-chinas-coal-use-sees-global-emissions-fall-in-2015>

<sup>18</sup>*Republic of the Marshall Islands Intended Nationally Determined Contribution*. July 2015.

<http://www4.unfccc.int/submissions/INDC/Published%20Documents/Marshall%20Islands/1/150721%20RMI%20INDC%20JULY%202015%20FINAL%20SUBMITTED.pdf>

<sup>19</sup>*A Question of Survival: Why Australian and New Zealand must heed the Pacific’s calls for stronger action on climate change*. Oxfam, September 2015.

[https://www.oxfam.org.au/wp-content/uploads/2015/09/2015-86-pacific-islands-forum-breifing-a-question-of-survival\\_fa2.pdf](https://www.oxfam.org.au/wp-content/uploads/2015/09/2015-86-pacific-islands-forum-breifing-a-question-of-survival_fa2.pdf)

<sup>20</sup>The extreme ferocities of Cyclone Winston [2016] and Cyclone Pam [2015] were consistent with warnings of a likely increase in the wind speed and amount of

rainfall associated with tropical cyclones. According to the Intergovernmental Panel on Climate Change (IPCC)’s Fifth Assessment Report:

*“Projections for the 21st century indicate that it is likely that the global frequency of tropical cyclones will either decrease or remain essentially unchanged, concurrent with a likely increase in both global mean tropical cyclone maximum wind speed and rain rates.”* (likely = greater than 66% probability)

*“It is more likely than not that the frequency of the most intense storms will increase substantially in some basins under projected 21st century warming.”* (more likely than not = greater than 50% probability)

At the same time, storm surges and coastal flooding associated with tropical cyclones are exacerbated by the rise in sea level. See, for example:

*Coastal flooding by tropical cyclones and sea-level rise*. J. Woodruff et. al., *Nature*, 2013.

<http://www.nature.com/nature/journal/v504/n7478/full/nature12855.html>

<sup>21</sup>Rural population [% of total population]. World Bank Data <http://data.worldbank.org>

<sup>22</sup>For information on the impacts of the 2015–2016 El Niño, see: <https://www.elninoxfam.org/>

<sup>23</sup>*Strategy for Climate and Disaster Resilient Development in the Pacific*. <http://gsd.spc.int/srdp/>

<sup>24</sup>*Economics of Adaptation to Climate Change*. World Bank, 2011.

<http://www.worldbank.org/en/news/feature/2011/06/06/economics-adaptation-climate-change>

<sup>25</sup>*Adaptation Gap Report 2014*. United Nations Environment Programme.

<http://www.unep.org/climatechange/adaptation/gapreport2014/>

<sup>26</sup>Op. Cit.

<sup>27</sup>*Synthesis report on the aggregate effect of the intended nationally determined contributions*. United Nations Framework Convention on Climate Change, October 2015.

<http://unfccc.int/resource/docs/2015/cop21/eng/07.pdf>

<sup>28</sup>*Climate finance in 2013–14 and the USD 100 billion goal*. OECD, October 2015.

<http://www.oecd.org/env/cc/oecd-cpi-climate-finance-report.htm>

<sup>29</sup>*India’s Intended Nationally Determined Contribution: Working towards climate justice*.

<http://www4.unfccc.int/submissions/INDC/Published%20Documents/India/1/INDIA%20INDC%20TO%20UNFCCC.pdf>

<sup>30</sup>Australia’s total installed generating capacity is currently around 44GW. Source: Australian Energy Regulator.

<https://www.aer.gov.au/industry-information/industry-statistics/wholesale-statistics/generation-capacity-and-peak-demand>

<sup>31</sup>*Papua New Guinea’s Intended Nationally Determined Contribution*.

[http://unfccc.int/files/focus/ndc\\_registry/application/pdf/png\\_indc\\_to\\_the\\_unfccc.pdf](http://unfccc.int/files/focus/ndc_registry/application/pdf/png_indc_to_the_unfccc.pdf)

<sup>32</sup>*Powering up against poverty: Why renewable energy is the future*. Oxfam, June 2015.

[https://www.oxfam.org.au/wp-content/uploads/2015/08/coal\\_report\\_lowres\\_web21.pdf](https://www.oxfam.org.au/wp-content/uploads/2015/08/coal_report_lowres_web21.pdf)

<sup>33</sup>*China’s unwinding from coal*. Tim Buckley, Institute for Energy Economics and Financial Analysis, 14 March 2016.

<http://ieefa.org/data-bite-chinas-unwinding-coal/>

<sup>34</sup>In 2014, Oxfam compared a number of existing estimates of the total investment needed to keep warming to below 2°C. These ranged from USD \$363 billion to USD \$2.4 trillion a year over the next 20–30 years.

*Breaking the Standoff: Post-2020 climate finance in the Paris Agreement*. Oxfam, November 2014.

<https://www.oxfam.org.au/wp-content/uploads/2014/12/breaking-the-standoff-embargoed-to-1-december-2014-full-report.pdf>

<sup>35</sup>*Fulfilling Australia’s international climate finance commitments: Which sources of financing are promising and how much could they raise?* Frank Jotzo et. al., October 2011.

[http://www.climateinstitute.org.au/verve/\\_resources/anu\\_financingoptionspaper\\_october2011.pdf](http://www.climateinstitute.org.au/verve/_resources/anu_financingoptionspaper_october2011.pdf)

A variety of other methods for calculating fair shares, such as that used by the Climate Equity Reference Project, arrive at similar figures. <http://climateequityreference.org/>

<sup>36</sup>*Breaking the Standoff: Post-2020 climate finance in the Paris Agreement*. Oxfam, November 2014.

<https://www.oxfam.org.au/wp-content/uploads/2014/12/breaking-the-standoff-embargoed-to-1-december-2014-full-report.pdf>

<sup>37</sup>Media release during Paris Climate Change Conference. 30 November 2016.

<https://www.pm.gov.au/media/2015-11-30/2015-united-nations-climate-change-conference>

<sup>38</sup>By one assessment, “30 million people are virtually totally dependent on coral reefs for their livelihood or for the land they live on [atolls].”

*Status of Coral Reefs of the World: 2008*. Global Coral Reef Monitoring Network.

[http://www.icriforum.org/sites/default/files/GCRMN\\_Status\\_Coral\\_Reefs\\_2008.pdf](http://www.icriforum.org/sites/default/files/GCRMN_Status_Coral_Reefs_2008.pdf)

<sup>39</sup>*Loss and Damage: Climate Reality in the 21st Century*. ActionAid, CARE, WWF, November 2015.

<http://careclimatechange.org/wp-content/uploads/2015/11/Loss-and-damage-climate-reality-in-the-21st-century.pdf>

<sup>40</sup>The notion of “migration with dignity” has been advocated by Anote Tong, former President of Kiribati.

See: <http://www.climate.gov.ki/category/action/relocation/>





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