Getting smart on climate change

Oxfam Australia

A great opportunity

This is an exciting time to be alive. While the challenges we face from climate change are enormous, so too are the opportunities.

If left unchecked, climate change threatens not just our way of life, but the lives of millions of people living across the Pacific, Asia and beyond. The flipside is that climate change presents us with a tremendous opportunity to reassess our priorities and shape a new, sustainable and more just world.

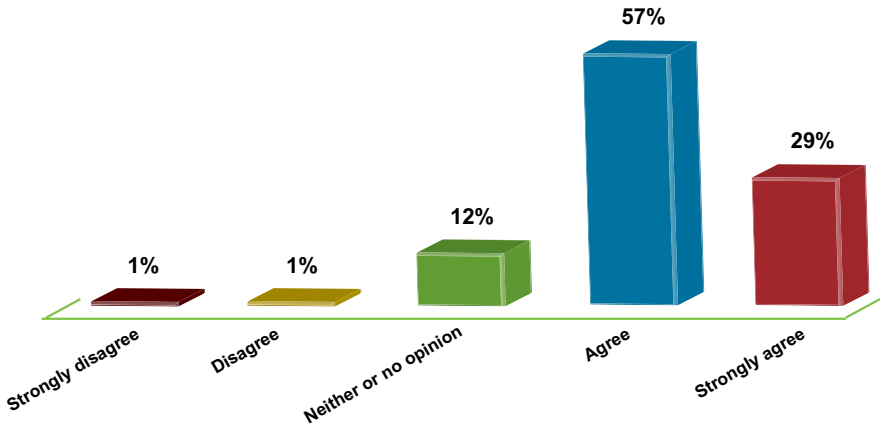
It also presents Australia with an opportunity to develop new industries and create new jobs. This will secure Australian prosperity for future generations and could help in assisting developing countries, (through a mix of trade, technology transfer and funding for adaptation and emissions reductions) to leapfrog the high polluting development path of the past.

Australia has been described as a clever country. Our response to climate change will show us if this is still the case.

"Of all developed countries, Australia probably has the most to lose from inaction and the most to gain from global mitigation."

Ross Garnaut, Professorial Fellow, Faculty of Economics and Commerce, University of Melbourne.

Eighty-six per cent of Australians want businesses to be more active in changing to a cleaner, smarter economy[1].



Climate of the Nation: Australians' Attitudes toward Climate Change and its Solutions', The Climate Institute, August 2010

1 www.climateinstitute.org.au
2 http://www.wunderground.com/blog/JeffMasters/comment.html?entrynum=1701
3 http://www.munichre.com/en/

April 2011 Update

Since this booklet was first published in 2010, the case for urgent action on climate change has further strengthened. Not only was 2010 the warmest year since records began more than 130 years ago, but 20% of the Earth's land mass experienced new temperature highs.[2] This contributed to climate-related disasters leading to USD $130 billion in losses, rising food prices and more than a doubling of climate-related deaths in comparison to 2009.[3]

Photo: John Sones/Oxfam Aus.

It's about the future, both here and abroad.

Climate change doesn't respect borders. The carbon pollution of one country affects us all. Currently, the impacts are being felt most dramatically by poor people in developing countries; and they have few resources to adapt.

Of the rich, developed nations, Australia has paid a higher price than most, with our 13-year drought, the 2009 bushfires, and the severe flooding and cyclone Yasi in northeast Australia in 2011. Where we differ from poor countries is in the drought, fire and flood relief and other social security assistance that Australians can access.

Left unchecked, however, the number and intensity of natural disasters resulting from climate change – and the resultant costs – are going to skyrocket for us all. And the longer we wait, the costlier it will be.

We are currently living at the expense of future generations, so it's vital the world faces this challenge together.

“It’s happening” say climate scientists

The overwhelming scientific consensus is that the Earth is warming due to human activity.

The release of greenhouse gases into the atmosphere is trapping heat on Earth, leading to rising temperatures[4]. This in turn has led to changes in weather patterns, declining biodiversity, rising sea levels – and with it increasing thirst, hunger and displacement of people from their homes and traditional lands.

Being uncertain or sceptical is an understandable first reaction for those learning about climate change. But many climate deniers dress themselves up as sceptics to muddy the water about the science.

Deniers of climate change point to drops in temperature based on a narrow selection of years to refute global warming. By contrast, most scientists acknowledge that for accuracy you need to look at a much longer timeframe. When we do, we see that the earth’s temperature has risen by almost one degree Celsius since pre-industrial times, in line with an increase in greenhouse gas emissions.

The Intergovernmental Panel on Climate Change (IPCC) – a body of more than 2,500 scientific experts from 194 countries – is in agreement; climate change is happening, and it presents us with an enormous challenge which can’t be ignored.

4 *The Science of Climate Change: Questions and Answers*, Australian Academy of Science, Canberra, August 2010 www.science.org.au

Photo: Mahmud/Oxfam.

Global impacts rising

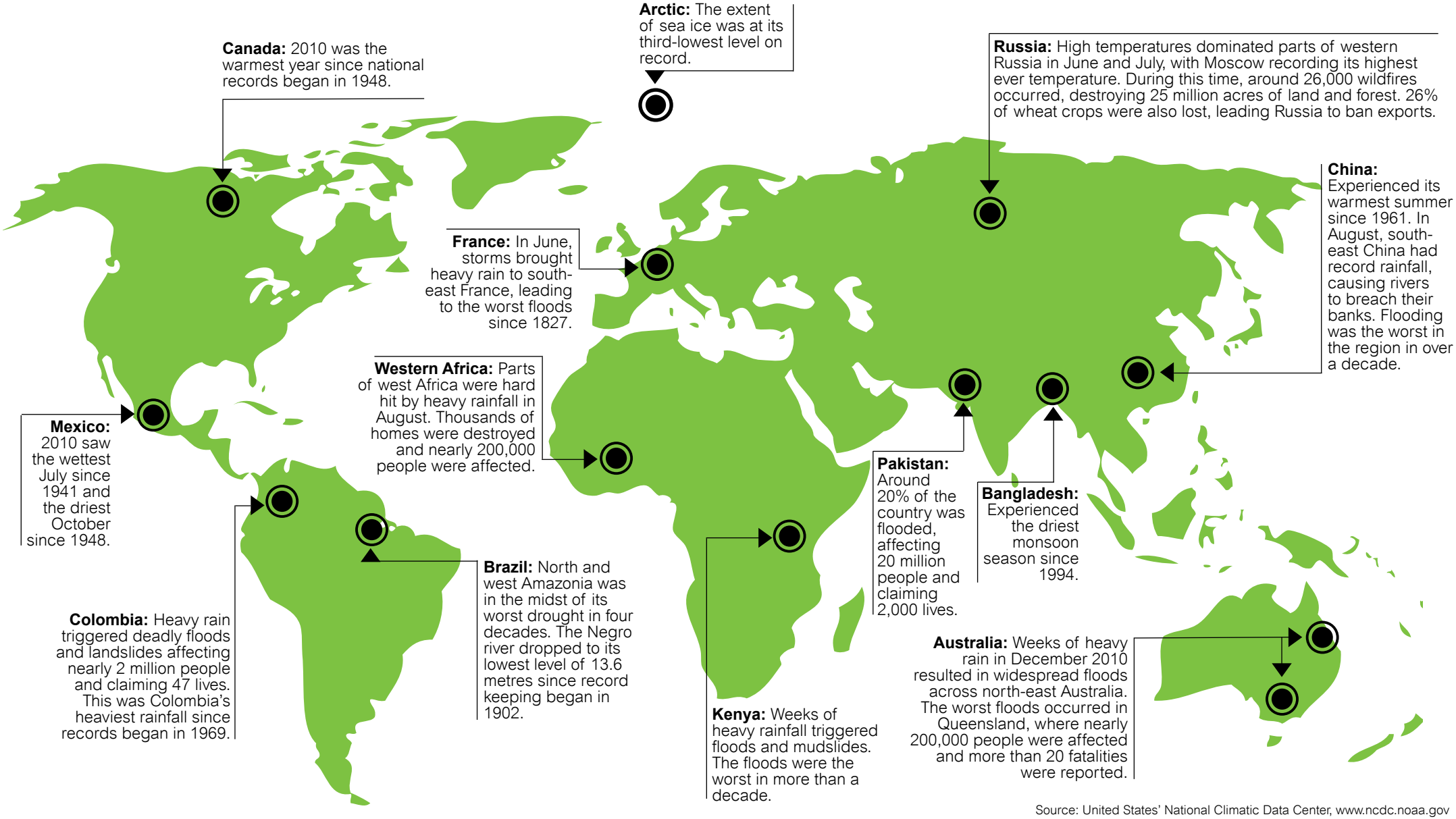
Oxfam's work across almost 100 countries shows that millions are already facing the impacts of climate change. While it's impossible to attribute individual natural disasters to climate change, the increasing number and scale of these disasters are entirely consistent with the predictions of climate scientists. Events like the 2010 Pakistan floods that displaced 20 million people – almost Australia's population – and the heat wave and fires in Russia (that has led to a ban on Russian wheat exports) give us a glimpse of what will be "the new norm" if we don't act soon.

In the Pacific Island state of Kiribati, rising sea levels and tidal surges are eroding the coastline, destroying crops and contaminating ground water. "Our efforts to develop are already being undermined by climate change – the cost to future generations will be enormous", says Pelenise Alofa, Chairperson of the Kiribati Climate Action Network.

Photo: Rodney Dekker/Oxfam Aus.

A sample of significant climate anomalies and events in 2010

Climate change impacts are expected to destabilise the Asia-Pacific region, with 75 million people likely to be displaced by 2050.



Source: United States' National Climatic Data Center, www.ncdc.noaa.gov

Fresh foods increasingly scarce in Pacific Island nation of Tuvalu

Watch Niu's story at
www.oxfam.org.au/blogs/Niu

"It is getting very difficult to catch fish now," says Tafue Lusama, Chairperson of the Tuvalu Climate Action Network. "Increased carbon in the atmosphere has led to rising sea temperatures, ocean acidification and coral bleaching. This has contributed to a sharp decline in fish stocks".

As a result, "the cost of fish caught around our islands has become very expensive," says Tafue. "It is cheaper for a person to ... buy a tin of fish ... which is processed thousands of miles away ... than buying fish from local fishermen", he says. This has also meant a loss of employment and income for many locals.

Rising sea levels and tidal inundations linked to climate change have also significantly reduced access to locally-grown foods including the staple root crops taro and pulaka.

The costs of climate change could cripple many Pacific Island states if they don't receive adequate resources to adapt.

These climate impacts have contributed to an increased reliance on imported, processed foods – the consequence is a rise in health conditions like diabetes and hypertension previously little known in Tuvalu.

Such health and other costs of climate change could cripple many Pacific Island states if they don't receive adequate resources to adapt.

Niu Ioane is preparing a home-made fertiliser for his taro garden. Taro, a root crop on which Niu's family relies for food and income, is becoming harder to grow in the increasingly salty soils.

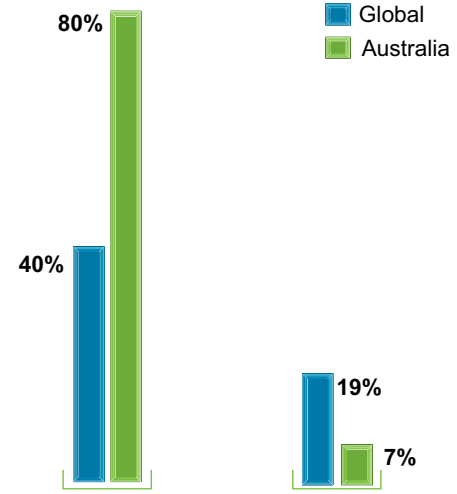
Photo: Rodney Dekker/Oxfam Aus.

Australia is vulnerable too

Much of Australia's wealth and high standard of living has come through industrialisation and the burning of coal and oil. These processes release carbon into the atmosphere. Our history of releasing carbon, together with the fact that we are now the highest-per-person greenhouse gas polluter in the developed world, means we have a responsibility to act.

Paradoxically, our wealth is now threatened by this carbon-reliant development path. If we don't innovate, the projections are for more regular and severe bushfires, floods and droughts – but also the loss of other valuable resources.

Energy produced from coal and renewables.



Coal supplies 40% of the world's electricity, in Australia it makes up more than 80%[5]

Renewable energy makes up 19% of the world's electricity supply and 7% of Australia's[6]

5 *International Energy Agency* http://iea.org
6 *REN21. 2010. Renewables 2010 Global Status Report* (Paris: REN21 Secretariat) www.ren21.net
7 CO2 Now http://co2now.org/

The Great Barrier Reef

The amount of carbon dioxide in the Earth's atmosphere is increasing. As of September 2010, it stood at 386.8 parts per million (ppm), by March 2011 it had climbed to 392.4 ppm[7]. If we don't reduce this to 350 ppm in the medium term, the Great Barrier Reef is expected to die within forty years. The economic impact from losses in the tourism and fishing industries are potentially enormous – not forgetting the loss in marine biodiversity and natural protection against storm surges.

Photo: courtesy of 350.org/media

The costs of inaction

Rather than enjoying the future benefits of stable economic growth, inaction on climate change means that impacts and associated adaptation costs are set to grow exponentially. These will affect food and electricity prices, personal wealth and Australia's trade position.

One of the world's leading climate change economists, Nicholas Stern estimates that the annual cost of action on climate change to be around 1-2% of GDP by 2050. This compares with inaction which is projected to cost 5-20% of GDP by 2050 [8] [9].

Increasing food prices

Climate change is increasing the severity and frequency of drought, particularly in our breadbasket, the Murray-Darling Basin. Left unchecked, this means drought assistance to farmers will increase from once every 25 years (on average), to once every two years by 2040.

Water shortages, storm impacts, bushfires and floods – as well as an increase in pests and disease – will trigger a rapid decline in food production. Australia will become a net importer of food rather than a net exporter. The result will be much higher grocery prices and displacement of many communities from the Basin[10].

Increasing energy prices

We are already seeing power bills going up because of outdated infrastructure. AGL Energy has warned that the current uncertainty around climate policy has led to underinvestment in the electricity industry, which will cost consumers an extra $2.1 billion a year by 2020.

Impacts on wages and property

Real wages are predicted to be around 12% lower if we don't take strong early action on climate change[11].

One example is in the building industry. With heat waves impacting tradesmen and labourers' ability to work, the costs of construction will rise while individual workers will lose wages. A similar situation is already being witnessed in India.

The greatest financial costs, however, will be damage to homes and businesses from an increasing number of extreme weather events. The value of property at risk in the medium-term from rising sea levels, erosion and storm surges in Australia, is estimated to be as much as $150 billion.

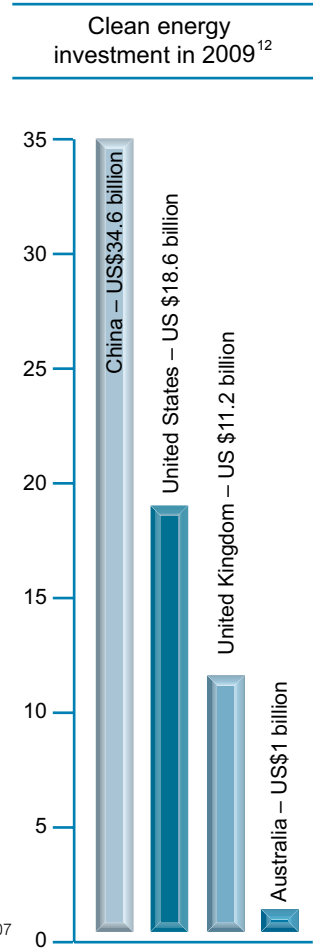
Without action, our trade competitiveness will suffer

Thirty-two countries have emissions trading schemes already, and China has recently announced plans to introduce one in the next five years. As countries place limits on carbon pollution, trade barriers are likely to be enforced against others who fail to curb their emissions. Our trade competitiveness would then be damaged as a result.

With our stock exchange comprised of so many high-polluting companies, our superannuation industry is also exposed. Without strong action, to curb our emissions, our super funds risk huge losses as stocks decline in value over the long-term.

Business leaders are increasingly calling on the government to act on climate change so their companies aren't at a disadvantage, and won't miss global investment and job opportunities. The head of BHP Billiton, Marius Kloppers, has called on the government to set a price on carbon.
We "... believe that such a global initiative will eventually come and, when it does, Australia will need to have acted ahead of it to maintain its competitiveness", said Mr Kloppers.

Richard McIndoe, Managing Director of TRUenergy, has also said "... we really need to ... have a dialogue with the government about the best way to attract investment in low carbon pollution technology now. There is no time to waste."



8 *Blueprint for a Safer Planet*, Nicholas Stern, 2009
9 *Stern Review: The Economics of Climate Change*, Nicholas Stern, 2006 http://www.hm-treasury.gov.uk
10 *Climate Change in Australia: Technical Report 2007*, CSIRO and Bureau of Meteorology, 2007 www.climatechangeinaustralia.gov.au/
11 *The Garnaut Climate Change Review: Final Report*, Commonwealth of Australia, 2008 www.garnautreview.org.au
12 *Who's Winning the Clean Energy Race? Growth, Competition and Opportunity in the World's Largest Economies*, Pew Charitable Trusts, March 2010 www.pewtrusts.org

Science shows the way forward

According to the latest research, in order to prevent dangerous climate change, countries, like Australia, must reduce their carbon pollution by at least 40% by 2020 (below 1990 levels) and return levels of atmospheric carbon dioxide to less than 350ppm. Worryingly, Australia is currently headed in the wrong direction. Recent government estimates show that if Australia does not act soon, our emissions will actually increase by 25% by 2020 (based on 1990 levels)[13]. The technology needed to cut carbon pollution is available now. We could do this by:

1. Phasing out dirty coal power stations and retraining the workforce for the renewable energy sector.
2. Investing in renewable energy like solar, wind, geothermal and wave technology.
3. Legislating a price on carbon pollution that both reduces our emissions and ensures that low income Australian families are no worse off. (This could be achieved through a tax or an emissions trading scheme.)
4. Redirecting the $10 billion[14] in annual subsidies for fossil fuels to invest in climate change initiatives including the domestic renewable energy sector and to assist developing countries to adapt to climate change.
5. Making big business pay for its pollution.
6. Improving energy efficiency, for example in the motor vehicle industry.
7. Championing a fair, ambitious and legally-binding global agreement on climate change.

13 Australia's Emissions Projections 2010, www.climatechange.gov.au
14 ***Subsidies that Encourage Fossil Fuel Use in Australia***, Broadway: Institute for Sustainable Futures, University of Technology, Sydney, 2003 http://www.isf.uts.edu.au

Acting on climate change is good for our economy

The world's leading economists agree: tackling climate change is the cheaper path.

Nicholas Stern, Chairman of the Grantham Institute on Climate Change at the London School of Economics, says "the economic cost of inaction or delayed action on climate change far outweighs the cost of action now".

In Australia too, both our Treasury and the eminent climate change economist, Ross Garnaut, emphasise the benefits of leading on climate change action rather than following.

Professor Garnaut says that by 2050, Australia can be a low-carbon economy with strong economic growth and rising living standards.

Acting on climate change will grow jobs

The European Commission President has called for a doubling of the number of Europeans employed in green industries in the next 10 years – Germany alone employs 1.6 million people in this sector. In the United States, President Obama has also set a target of an additional five million green jobs in the next 10 years.

The race for low-carbon investment and a clean energy economy is on, and China is leading it. More than one million people are already employed in China's clean energy sector – and it's growing at a rate of 100,000 additional jobs each year. Furthermore, China has pledged to reduce the carbon intensity of their economy by between 40- 45% by 2020.

Wanting to keep up in the race for green jobs, some European countries are pushing to raise the EU's carbon pollution reduction target from 20% to 30% by 2020. Writing in the Financial Times, ministers from France, Germany and the UK, state that, "If we stick to a 20% cut, Europe is likely to lose the race to compete in the low-carbon world to countries such as China, Japan or the US[15]."

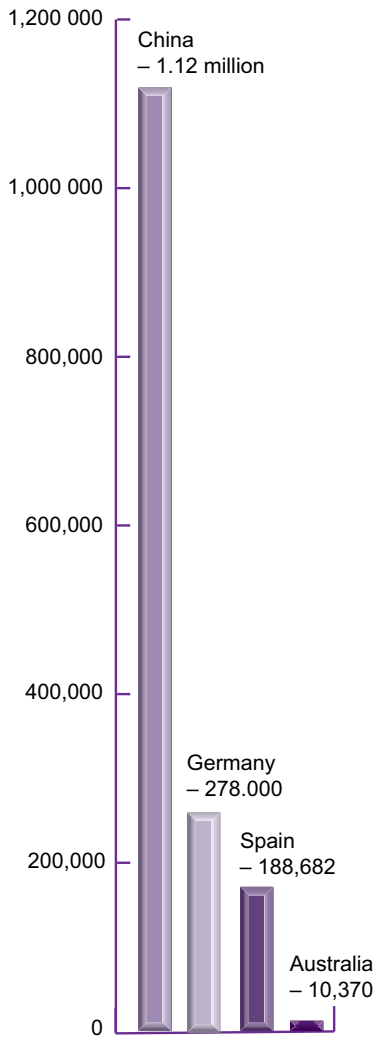
Even some of the world's poorest countries, including Costa Rica, Ethiopia, the Maldives and Samoa, have set strong targets for clean energy development. For instance, the Maldives is aiming to be carbon-neutral by 2020.

Australia could be a major player in this transition to a global, clean energy economy, but vested interests and unfounded fears of job losses are preventing it. In fact, coal mining may not be as crucial to the economy as we are often led to believe. According to the Australian Coal Association the sector contributes just 3.7% of Australia's GDP[16].

Zero Carbon Australia has shown we could have 100% renewable energy within a decade, and this with a net increase in jobs. While costing $37 billion per year over 10 years, we would save $1600 billion in fossil fuel costs by 2040[17].

Research undertaken by the Australian Council of Trade Unions and the Australian Conservation Foundation further backs this up. They found cutting greenhouse pollution by 25% would create 3.7 million new jobs by 2030 and leave households 10% better off overall[18].

Number of renewable jobs in Australia, Spain, Germany and China[19]



15 *Europe needs to reduce emissions by 30%*, Financial Times, 14 July 2010, www.ft.com
16 *Australian Coal Association* www.australiancoal.com.au/
17 *Zero Carbon Australia: Stationary Energy Plan*, published by the Melbourne Energy Institute, University of Melbourne, July 2010 http://media.beyondzeroemissions.org
18 *Creating Jobs - Cutting Pollution: the roadmap for a cleaner, stronger economy*, Australian Council of Trade Unions and Australian Conservation Foundation, May 2010 www.actu.org.au
19 *Australian Renewable Energy Training and Workforce Strategy for 2020: Renewable Energy Jobs in 2009 and Forecasts to 2020*, Clean Energy Council, September 2009 www.cleanenergycouncil.org.au
China Leading Global Race to Make Clean Energy, The New York Times, 30 January 2010, www.nytimes.com
Low-Carbon Jobs in an Inter-Connected World, Global Climate Network March 2010 www.globalclimatenetwork.info
Renewable energies and employment generation in Spain, Instituto Sindical de Trabajo, Ambiente y Salud, January 2008 www.istas.net

Photo: Jim Holmes/Oxfam.

Acting on climate change will improve household budgets

A report by the Australian Institute shows that if a "fair" carbon tax was set up – one which returned tax revenues to households rather than compensated polluters – households could be better off.

Introducing a carbon tax of $25 per tonne has the potential to raise $13 billion in new revenue and therefore could put more than $1,000 back into the pockets of the average Australian family each year[20].

Acting on climate change will improve our health

Every year we pay around $6 billion to treat health problems caused by the burning of fossil fuels[21]. Lowering carbon pollution will not only reduce this cost to the tax-payer but also guard against the potential health impacts of climate change, for instance, by mitigating the southward spread of the malaria and dengue fever transmission zones[22].

"Australia's energy industry will need to evolve...whether [we] like it or not…miners...want to avoid catastrophic climate change too. They want their kids to inherit a healthy planet, just like anyone else in the community[23]."

Tony Maher,
National President, Construction, Forestry, Mining and Energy Union.

20 *Why a carbon tax is good for the hip pocket,* The Australian Institute, August 2010 www.tai.org.au
21 *Australia's Green Economic Potential*, Centre for Policy Development, Sydney, August 2010 http://cpd.org.au
22 *The Climate Impacts on Australia and the Benefits of Early Action to Reduce Global Greenhouse Gas Emissions*, www.csiro.au
23 *CFMEU welcomes Greg Combet as the best man for a vital job,* 13 September 2010 www.cfmeu.com.au

Photo: Caroline Irby/Oxfam.

Get smart or go under

The world's population is consuming the planet's natural resources at an unprecedented rate. We would need the equivalent of 1.5 planet Earths to make our current consumption of natural resources sustainable. If everyone lived like the average Australian we would require 3.8 planets to sustainably support the world's population[24].

A sustainable economy is the only way to guarantee living standards in Australia will improve and poverty can be reduced in developing countries.

Will you act and ask the Australian Government to get smart on climate change before we get left behind?

Photo: Michael Myers/Oxfam Aus.

There are so many reasons why acting on climate change is the smart option for the Australian economy. Not least of which is that it means a cleaner, more prosperous future for our children and for others around the world.

Yes, there are costs with tackling climate change, but it's the cost of inaction that we really can't afford.

So now you've got the facts, what can you do?

1. **Learn more:** visit **www.oxfam.org.au/climate-change** to learn more about the economics of climate change.

2. **Spread the word:** when you've finished with this booklet, pass it on to a friend or colleague, or send them the link to download it from **www.oxfam.org.au/climate-change**

3. **Be heard:** call on the Australian government to get smart on climate action. Send a message to the Minister for Climate Change and Energy Efficiency, Greg Combet, using the postcard with this publication, or take action online at **www.oxfam.org.au/climate-change**

4. **Get connected:** Join our online community 'A Climate for Change'. Connect with like-minded people and share ideas about how to tackle climate change at **aclimateforchange.org**

oxfam.org.au/climate-change

24 Living Planet Report, 2010, World Wildlife Fund www.wwf.org.au

Ngaunta Ienraoi (15) lives in Kiribati, an island nation in the Pacific. She stands where her grandmother's house once was. The wall behind Ngaunta protects other houses from sea level rise. Photo: Rodney Dekker/OxfamAUS.

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