

Stop Worrying and Embrace Change

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When I was invited to contribute a chapter to a new book about climate change I found myself with a problem: how does one, in just a few thousand words, even begin to cover a subject of such scale and complexity? From which a myriad possible angles should the issue be approached? After all, I am not a scientist, nor am I an economist, a lawyer, a policy-maker, an engineer or a scholar. Although my career is now dedicated to science-based conservation, I am a latecomer to issues of the environment and climate change. It is only in the past few years that I have finally grasped the gravity and urgency of the issues we face.

I confess to having felt rather like the donkey in Buridan's fable, which, when placed equidistant of two bales of hay, could find no reason to choose one over the other and starved from indecision. Perhaps I could draw on my experience as a trader to discuss the role of markets in finding a solution? Markets for greenhouse gases will undoubtedly play a major role in the global response to climate change, yet we have already seen examples of the limitations of market-based instruments in addressing environmental issues; the over-allocation of emissions permits in the first EU trading scheme led to a collapse in the price of carbon, leaving little incentive for polluters to reduce their emissions. Similarly the over-allocation of water permits in the Murray-Darling Basin has become a policy nightmare for successive governments.

Even the most committed free marketer might recognise the irony of attempting to address chronic market failure with yet more markets. And so I decided against pursuing this angle as the focus of the chapter.

Perhaps then I should focus on the technological response to climate change? There is much to discuss: hybrid vehicles, smart metering, thermal efficiency and the limitless potential of Australia's vast renewable energy sources to expand technologies that are commercially available now, like wind, solar and geothermal. Then there are the latest developments in sliver-cell photovoltaics, emerging bioenergy, wave power or carbon capture and storage. But no, surely others more technically proficient than I should address these opportunities; these are matters for the engineer and the physicists, not for the layperson like me.

What about a discussion on reforming the tax system? The abolition of subsidies on imported 4-wheel-drives, fleet vehicles and inefficient industry would remove incentives to pollute and would save many millions of dollars into the bargain. Surely these issues are the domain of the accountant, the bureaucrat and the economist.

Many other issues also arose in my thinking: better planning and public transport, the removal of split incentives, such as those of tenant and landlord, mandatory energy standards, education, emissions reduction targets, climate science, policies to protect low-income households, global collaboration — each a worthy subject in its own right. On each occasion, however, I could justify to myself why someone else would be better equipped to address the issue.

Therein lies the issue of climate change: with such complex, vast and seemingly intractable issues before us, it is easy to become disengaged, to simply delegate responsibility to others. We see it in our politics — unless other countries act, we will not. We see it in our industry — that unless our competitors act, we must not. We see it in ourselves — that unless all others act, we cannot.

In the end I have chosen in this chapter not to apportion blame for climate change — although all of us are blameful. Nor have I chosen to focus on the consequences — although the consequences are as varied as they are grave. Instead I have chosen to relate how I came to embrace change and take personal action (albeit belatedly). Although at times we may feel like the donkey in the fable, crippled by indecision, once we decide to act real change is possible. I know it is possible, because I have made such a change.

Until the early years of the 21st century and despite mounting scientific evidence, I was a climate change sceptic. I found satisfactory the explanations that natural cycles, solar radiation or poor science were to blame; that climate change was an invention of a green movement whose real aim was to destroy capitalism and return the Earth to some pre-industrial utopia. If indeed the Earth was warming, then man was not responsible, so to take action would be an expensive futility.

To accept the truth of climate change would have meant the lifestyle I enjoyed could not continue. It would have meant that one of the fundamental bases of our economy and way of life – the burning of low cost and abundant fossil fuels – was unsound. Like many others of the time and many still today, faced with a choice between a convenient ignorance and a difficult reality, I chose ignorance.

By the time of my birth in the mid-1970s the possibility of a human-induced climate change had already begun to concern scientists. Fourier had described the natural greenhouse effect some 150 years before, and in 1975 the concentration of atmospheric CO₂ was around 330 parts per million (ppm) — much lower than today, but already an increase of almost 5% since the beginning of the 1960s. All of this was of course completely unknown to me, to my parents, their friends and the probably the politicians who governed them.

Growing up on a farm in Queensland in the 1970s and 1980s meant two choices: one could remain on the land and battle drought, flood, pests and yearly uncertainty for a tough but worthwhile life. Alternatively, one could seek an easier life in the city where the amount of rainfall was a conversation starter, not a matter of survival.

Like most of my generation I chose the latter. Careers in the environment rapidly gained popularity though the late 1980s and early '90s, but few specialist courses were offered. The usual suspects — finance, medicine, hospitality, law, trades and increasingly, computing, were the careers of choice. I decided on finance and a few weeks after the completion of high school I landed a job as a trainee trader on the floor of the Sydney Futures Exchange. On February 1, 1993 I began what I assumed would be a lifelong a career in the financial markets.

In those first months on the job, debate raged among traders as to whether the All Ordinaries could again break through the 2000-point barrier and whether petrol prices would reach 70 cents per litre. The European Community had just established the single

market and a birthday cake ensured Paul Keating would soon defeat John Hewson at the polls.

Meanwhile, six months earlier, the Rio Earth Summit, with its landmark conventions on Climate Change and Biodiversity, passed virtually unnoticed in the world of finance, and the concentration of CO₂ in the atmosphere quietly passed 350 ppm.

The next seven years were kind to a young and ambitious trader. Markets largely rose, matched by rising salaries and bonuses. The Asian Financial Crisis of 1997 raised fears of a global economic meltdown and pushed oil prices down to US\$8 a barrel the following year. Markets quickly recovered, however, aided by bailouts from the International Monetary Fund and US Federal Reserve (and on the evidence of the global financial crisis of 2008, few lessons were learnt).

Over the course of that same year, while the Kyoto Protocol was being negotiated, global concentrations of CO₂ rose by almost 3% — the biggest rise since records began — and 1998 was to become the hottest year on record. Financial markets remained oblivious to new evidence of a changing climate. Instead the focus of the trader was now the dot-com boom and the opportunity it brought to make vast sums of money from speculating on the new technologies of email and the Internet.

Then, in late 1999, the dream ended. The Sydney Futures Exchange, previously an ‘open-outcry’ system in which market participants compete for business in the pit through shouting and hand signals, was replaced by a computerised system and hundreds of traders, many with no other skills, lost their jobs. A few months later the dot-com boom became the tech-wreck, wiping out the paper wealth of many (myself among them).

For the next 18 months I tried in vain to defy the new reality of my situation, setting up a private trading account and competing for the meagre pickings left from the larger institutional players. It was, put mildly, an unwise decision and I soon found I had little money and little to do. I began to question the direction of my life and to take more of an interest in the world around me.

Severe flooding events in Asia, Europe and Africa were reinforcing public concerns that global warming was raising the risk of extreme weather events. The Intergovernmental Panel on Climate Change’s Third Assessment Report found ‘new and stronger evidence’ that

warming was attributable to human activity, and the Bush Administration, in its first year of office, renounced the Kyoto Protocol on the basis that it would harm the United States economy. Furthermore, just as it had in each of the 40 years that preceded it, levels of CO₂ in the atmosphere continued to rise — by the end of 2001 it had crept silently, invisibly, insidiously past 370 ppm.

I was now convinced that climate change was real, that it was caused by human activity and that it was a matter of pressing urgency. However, like so many people before and since, my newfound awareness did not translate into action. This time it was not apathy or ignorance that led to inaction, but confusion and a sense of powerlessness; a sense that whatever small personal action I took would be expensive and ultimately meaningless against a problem of this scale. I felt paralysed and so I did nothing. It would be four more years before I was finally motivated to act.

It was 2005 and as part of its corporate responsibility program, the packaging company I was then working for sponsored a number of its employees to take part in Earthwatch Institute conservation research projects around the world. The creation and sharing of knowledge with authority and passion is a hallmark of Earthwatch and its most important legacy. Earthwatch brings people from all walks of life together to work as researchers in the field, building their understanding of science and inspiring them to become agents of change. Having never travelled to Africa, the opportunity for an all-expenses-paid overseas trip was too tempting to miss, so I submitted an application and six months later I was on my way to Kenya.

The next few weeks changed my life. Living and working in the beachside village of Gazi, I joined a team of researchers and fellow volunteers from around the world on a project to restore the mangrove forests of the Swahili coast. I had previously regarded mangroves as little more than putrid swamps and breeding grounds for mosquitoes. I soon learnt that mangroves are in fact a global ecological and economic powerhouse, sequestering vast amounts of carbon, preventing coastal erosion, providing breeding grounds for fish, offering protection against storm surges and providing a vital economic resource for firewood, building materials and fish. Despite their critical importance, less than half of Earth's mangroves forests remain.

It was here that I came to understand the potentially devastating human cost of climate change. Coastal homes of mud, dung and straw would be physically threatened by rising sea levels, erosion and the increased frequency and severity of tropical storms; the loss of coral reefs would mean the decline of fish stocks and a traditional way of life that had remained largely unchanged since the end of the 19th century would be lost. It occurred to me then that the terrible injustice of climate change is that it will most affect those who are least responsible for it and least equipped to deal with its consequences.

Returning to Australia, I was out of excuses and it was clear that business as usual was not an option. I resolved to change my ways and to try to inspire others to do the same. I signed up for a degree in environmental management, made my home more energy and water efficient and set about securing a career with Earthwatch, the organisation that had such a profound impact on me. At the time of writing I have been with Earthwatch for close to two years, including the past year as Executive Director. Every day I am fortunate to hear stories of people being inspired to learn, to teach and to make change. The change they undertake themselves creates a ‘ripple effect’ that touches their families, workplaces, social and professional networks, schools and local communities.

A popular excuse for inaction, one that is a common refrain from politicians, is that Australia, with its 20 million people, is just too small to make a difference; that unless other countries act first nothing will change. Yes, it is true that Australia has a relatively small human population, but Australia is one of 17 megadiverse countries on Earth; countries that harbour the majority of the Earth’s plant and animal species.

Consider this: as Australians we make up just 0.33% of the world’s human population, yet we share our continent with an estimated 8% of the world’s biota. Some 450,000 species are known to occur in Australia, including 850 species of birds, 700 species of reptiles and 200,000 species of invertebrates. One figure commonly cited is that a single hectare of the Daintree rainforest is home to more flowering tree species than all of North America. Australia’s rate of endemic species — those species that occur nowhere else — is also notably high. According to the Australian Biological Resources Study, 85% of

flowering plants, 82% of terrestrial mammals and 89% of reptile species are endemic to Australia.

What does all that mean? To some it means little more than statistics. Or it could just mean, as I believe, that as Australians we have a greater responsibility than almost any other nation to look after our environment for future generations.

Although we have such a great responsibility upon us, our environmental record is not good. Consider that in the past 200 years, Australia has been home to almost half of the world's mammalian extinctions. Consider the degradation of our wetlands and the impending (but not inevitable) deaths of our southern river systems. Consider the 75% of all Australian species that remain undiscovered and may be going extinct before we even knew they existed.

Australia's national icons, the Great Barrier Reef, the Murray-Darling, Kakadu, the Kimberley, indeed our very quality of life are imperilled by rising concentrations of atmospheric greenhouse gases. Of course global cooperation is important, but the current lack of is not a reason for personal inaction. A fairer and more sustainable Australia, one in which the full costs of our activities are accounted for now and for the future, is only possible if enough Australians accept the challenge to act. Following here are six simple things every Australian can do today that will help alter the course of our future.

1. Reduce Your Own Carbon Footprint

Suggesting a reduction in personal emissions in a book about climate change might seem redundant, but it is included due its obvious importance. The things we can all do to cut our emissions are well known to most: we can drive a smaller car, or better still, take public transport. We can choose tap water over bottled. We can install energy and water-saving devices. We can recycle, choose green electricity and buy local produce. And if we are going to fly, we can choose to do it sparingly.

A web search will provide abundant free advice on how to reduce emissions quickly and cheaply.

2. Vote

According to the Bureau of Statistics 2006 Census, more than 800,000 young Australians will turn 18 between the 2007 and 2010

federal elections. That's a lot of first-time voters. Whatever your political inclination, make your voice heard.

3. Email your Member of Parliament

The short-termism of politics at all levels, the desire for re-election over the greater good, is an impediment to achieving long-term change. Convince your elected Member, whichever party they represent, that the best way to ensure re-election is to take strong and immediate action on climate change. The only investment required is five minutes of your time; surely everyone can afford that.

The full list of Members of the Australian House of Representatives, their electorates and contact details can be found at: <http://www.aph.gov.au/house/members/mi-alpha.asp>

4. Go Bush

The Earth is a global laboratory, an open classroom. The opportunities for learning and discovery, are open to all. Australia is blessed with a spectacular and unique environment and it provides people with the opportunity to learn, to go beyond their normal experience, to test themselves in new and uncertain environments. Get out and experience the wonder that is Australia; you will discover a land worth protecting.

5. Talk About It

A 2008 commissioned study for the United Nations Environment Program found that while nearly 90% of people aged 12 to 18 across the globe believed they could make a difference in the fight against climate change, most responded that they needed more information about what they could do. Talk to your friends about what actions they are taking and go online to learn about what you can do. Talk to your parents and grandparents about what they are doing and invite them to do more.

6. Citizen Scientist

And finally ... as I have, become a citizen scientist. The Intergovernmental Panel on Climate Change (IPCC) has identified large-scale data gathering as a high priority in the prevention of and adaptation to climate change. The size of this task means that scientists

simply cannot do it alone; success is only possible through a multi-sector approach that involves the public in the scientific process. Biologists almost universally predict increased rates of extinction due to climate change and natural processes like pollination, leafing, first flowering, fruit ripening or the arrival of migratory birds are being disrupted. At present there is little data available about how the changes will impact Australia.

Phenology is the study of the timing of these natural events, particularly in relation to climate. Northern hemisphere phenology networks engage the public in collecting data to establish the effects of climate change on natural events. In Britain the phenology network is high profile and successful both as a data-generation tool and as an education mechanism.

Central to this success is a suite of easily recognisable and recordable indicators, and 25,000 people gather 600,000 records on these indicators annually. The resulting data is used widely in climate-change research and reporting.

In 2009, a consortium of government, university, non-profit and business partners, led by Earthwatch Australia and Bureau of Meteorology, will establish ClimateWatch, a network of volunteers to observe and record changes in Australia's natural systems. Modern telecommunications and web-based information technology have created unprecedented opportunities to engage the public in science at national scales; ClimateWatch will give every Australian with a mobile phone or a computer the opportunity to become a climate scientist simply by walking to school, going on a bushwalk or going into the back yard.

To register as a ClimateWatcher and get involved go to www.climatewatch.net.au

Conclusion

By the end of 2009, the concentration of CO₂ in Earth's atmosphere will have passed 385 ppm, reaching ever closer to the point at which dangerous climate change becomes unstoppable. In the few minutes it will have taken to read this chapter, another 75,000,000 kgs of greenhouse gases will have been emitted into the atmosphere. But dangerous climate change is not inevitable; we can still prevent the worst effects and preserve our national icons and our quality of life.

We cannot rely solely on others to take action on our behalf, and I invite all Australians to consider how they can make a difference.

It is not important which first step you take, only that you take it.



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