1 *Climate change and corporate capitalism*

Climate change is the biggest challenge of our time. It threatens the well-being of hundreds of millions of people today and many billions more in the future … No one and no country will escape the impact of climate change.

Former UN Secretary-General Kofi Annan (2014)

The future looks bleak. As an opening remark, this might seem unduly downbeat; but it is necessarily realistic. Every day we are confronted by fresh evidence that humanity is shuffling ever closer to the abyss. New data and studies are now habitually underlined by dramatic events all around the globe. Fundamental assumptions of our weather, our climate, and our ecosystem are collapsing before our eyes. As environmental activist Bill McKibben (2013a: 745) has argued: 'We don't need to imagine the future of climate change, because it is already here.'

Of course, the notion of destruction is hardly novel. Any student of economic history knows the idea has been a grim constant in attempts to characterise the relationship between capitalist dynamism and ever-spiralling consumption. Karl Marx and Friedrich Engels ([1848] 1998) warned of *enforced* destruction. Joseph Schumpeter (1942) championed a dauntless culture of *creative* destruction. Yet we now find ourselves in a new and altogether more frightening era of so-called progress: the age of creative *self*-destruction.

We are destroying *ourselves*. It is as simple as that. Economic growth and the exploitation of nature have long gone hand-in-hand, but they now constitute the most ill-fated of bedfellows. Climate change, the greatest threat of our time, is the definitive manifestation of the well-worn links between progress and devastation. And as we continue to shamble towards a tipping point from which any meaningful return will be utterly impossible, a familiar message rings out from the corporate world: 'business as usual'.

This book is about that message. It is about the corporate world's relationship with climate change; it is about the terrible paradox at the heart of that relationship; and it is about how that relationship affects us all. It is about how such a message could come to be accepted in the face of the steady annihilation of our planet; it is about how we might recognise it for what it is – the most dangerous of fallacies – and replace it with something more in keeping with our increasingly desperate plight.

Understanding corporate responses to climate change

Scientists can pinpoint with increasing certainty humanity's role in particular climate catastrophes (Lewis and Karoly, 2013). We first began researching corporate responses to climate change for this book in 2008 and in the years since have witnessed a procession of extreme weather events linked to the worsening climate crisis.

- In 2010, Pakistan experienced its worst floods in living memory. An estimated 20 million people were directly affected (Coumou and Rahmstorf, 2012).
- In the same year Russia endured its worst-ever heatwave and drought. Around 56,000 people died as a result (Trenberth, 2012).
- In 2011, the southwestern United States was plunged into the most devastating drought in its history (an ongoing crisis that is the worst drought in this region in 1,200 years (Griffin and Anchukaitis, 2014). At the same time the Mississippi suffered massive floods that matched the 'great floods' of 1927 and 1933 (Masters, 2012).
- In 2012, Arctic summer sea ice melted to an all-time low. The decline was so great that scientists now project the Arctic Ocean could be ice-free in only a few decades (NSIDC, 2012).
- In the same year New York was hit by Hurricane Sandy (Barrett, 2012). The resulting images of one of the world's great cities succumbing to nature proved especially powerful.
- 2012/13 also saw devastating bushfires across Australia during the country's hottest-ever summer. The heat was so intense that new colours had to be found to depict its severity on weather charts (Steffen, 2013).
- In November 2013, super-typhoon Haiyan hit the Philippines, the most powerful tropical cyclone to make landfall in recorded history, resulting in an estimated 10,000 fatalities (Schiermeier, 2013).

- In 2014, scientists announced the collapse of the West Antarctic ice sheet. This process is expected to result in a sea-level rise of as much as five metres and has been described by glaciologists as 'unstoppable' (Rignot, 2014; Rignot et al., 2014).

The increasing sophistication of climate science reinforces the catastrophic implications of 'business as usual' for a twenty-first-century world. Global average temperature increases of 3–5°C by the end of the century have been projected, with much of this warming locked in as early as 2020–2030 (IPCC, 2013; New, et al., 2011; The World Bank, 2012). The worst-case scenarios paint an 'unimaginable' vision of large tracts of the Earth rendered uninhabitable, the collapse of global food production, the acidification of the oceans, substantial sea-level rises, and storms and droughts of growing intensity – a literal hell on Earth (Hansen, 2009; Lovelock, 2009).

And yet how do we choose to respond? Tangible political action remains limited to rhetorical flourishes against a background of even greater fossil fuel exploitation. While governments and international organisations pledge reductions in greenhouse gas (GHG) emissions and businesses promote 'sustainability', global emissions have increased to record levels. Despite heightened political awareness of the problem of anthropogenic climate change, as outlined in Figure 1.1, total GHG emissions have continued to grow and indeed the rate of growth has accelerated in recent years (Global Carbon Project, 2014). There is plainly a substantial disconnect between how we value our socio-economic activities and how we regard what the established body of climate science is telling us (IPCC, 2013; Melillo et al., 2014).

How can we let this happen? There is no doubt that the sheer scale of the problem makes genuinely united efforts difficult, but there are other fundamental reasons for humanity's alarmingly limited reaction to the spectre of ecological disaster. Insouciance and apathy cannot be dictated by mere logistics alone. In this book we argue that the corporate world's engagement with climate change represents a profound influence on humanity's actions – and, more significantly, its inactions – in responding to the fast-unfolding crisis.

Business plays a dual role in climate politics. On the one hand, corporations are the principal agents in the production of GHG emissions in the global economy; on the other hand, they are also seen as our best hope in reducing emissions through technological innovation.

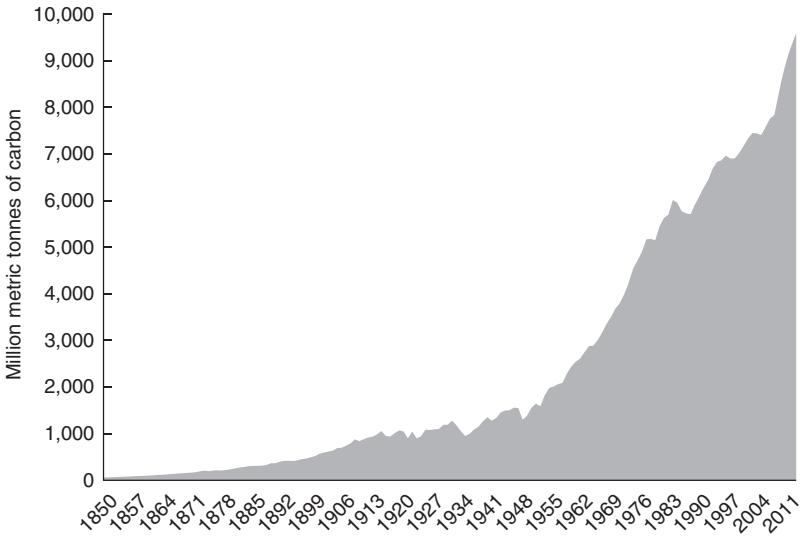

Figure 1.1 Global fossil fuel CO_2 emissions, 1850–2012.
Source: Based on data from Boden, T. A., Marland, G. and Andres, R. J. (2013) *Global, Regional, and National Fossil-Fuel CO_2 Emissions*. Oak Ridge, TN: Carbon Dioxide Information Analysis Center, Oak Ridge National Laboratory, U.S. Department of Energy, http://cdiac.ornl.gov/trends/emis/tre_glob_2010.html

Just as they are part of the disease, we dream corporations will be part of the cure. This dichotomy was neatly summed up by billionaire entrepreneur and 'green business' champion Richard Branson when he claimed that 'our only hope to stop climate change is for industry to make money from it' (Neubacher, 2012).

We contend that the particular neoliberal variant of late capitalism that now dominates the global economy places humanity at a strategic disadvantage in responding to the threat of climate change. This brand of corporate capitalism frames business and markets as the only means of dealing with the crisis, rejecting the need for state regulation and more local democratic options. In essence, the prevailing corporate view is that capitalism should be seen not as a cause of climate change but as an answer to it. A problem brought about by overconsumption, the logic goes, should be addressed through *more* consumption. By contrast, we believe the solution lies not in greater capitalism but in a strengthening of the very democracy that this strain of corporate hegemony seems determined to herd to the margins.

There are a great many books now exploring the different features of the climate crisis, but our focus is explicitly on the role of corporations as central players in the human response to climate change. Unlike popular polemics, our analysis is based on extensive research into the practices, policies, and strategies of major businesses.

Our research involved interviews with more than 70 senior managers, industry representatives, and business advisers from 25 different large corporations in Australia (see Appendix Table A.1), as well as analysis of company documentation, including strategy outlines, policy statements, and submissions to government on climate policy. Our respondents came from a diverse range of industries, including mining and resources, manufacturing, energy, consumer products, retail, banking and insurance, professional business services, transport, and aviation. The corporations involved included some of the world's biggest multinationals. The insights we were able to derive were therefore global.

From our initial sample we selected five corporations as case studies. These were subjected to a more detailed analysis of their responses to climate change. Further interviews with senior and operational managers were carried out, and an even larger body of relevant documentation was examined. The five corporations chosen were:

- A leading energy producer that was supplementing fossil fuel generation with renewable energy sources
- A large insurer that was measuring the financial risks of extreme weather events
- A major financial services company that was factoring a 'price on carbon' into its lending to corporate clients
- A global manufacturer that was reinventing itself as a 'green' company producing more efficient industrial equipment and renewable energy technologies
- A media company that had embarked on a major eco-efficiency drive to become 'carbon-neutral' (see Appendix Table A.2).

Our purpose in this book is not simply to describe what corporations are doing in response to climate change (a topic which has been documented by others, see, e.g., Hoffman, 2007; Pinkse and Kolk, 2009) but to put this empirical detail into a broader conceptual framework that contributes to our grasp of the response of humanity as a whole. In particular, in the pages that follow we aim to explain the *processes*

that underpin how business corporations engage employees, customers, industry associations, the media, governments, and citizens on this issue. We believe this approach is vital to understanding the part corporations play in the politics of climate change at multiple levels in society. In particular, we seek to go beyond existing descriptive and normative approaches to develop a more sociologically and critically informed theory of corporate responses to climate change. In doing this we engage with the deeper debates that are now appearing in critical social theory about how and why humanity has been largely unable to muster a meaningful response to the crisis that is engulfing it.

Many have posited that climate change represents an especially 'wicked problem' because of its scale, its lack of immediacy, and its intangibility (Giddens, 2009; Hulme, 2009), but we suggest there are more deep-rooted reasons for our collective inaction and that these stem from the basic features of our economic system. Specifically, we argue that the threat of climate change is fundamentally connected with the expansion of global capitalism. Revoking Schumpeter's concept of 'creative destruction' as a source of economic and social dynamism, we characterise the link between economic growth, corporate innovation, and environmental destruction as a process of 'creative *self*-destruction' in which economic expansion *relies on* the continued exploitation of natural resources. We believe climate change has revealed this underlying dynamic in its starkest form: the potentially cataclysmic trade-off between economic and environmental well-being.

Before we present this argument in greater detail we set out in the remainder of this introductory chapter some necessary contextual information. This includes an outline of climate change's emergence as a political and social issue and how this has varied around the world and over time. We then provide an overview of the different roles business corporations have played in responding to climate change. Finally, we summarise the structure of the book.

Climate change: a brief overview

The science of climate change and global warming hinges on the chemical make-up of our atmosphere and its conduciveness to a habitable environment for life on Earth. The key mechanism is the way in which greenhouse gases such as carbon dioxide (CO_2), methane (CH_4), and nitrous oxide (N_2O) absorb and re-emit infrared radiation from the

Earth's surface, slowing the passage of energy back to space. The concentrations of greenhouse gases play a critical role in ensuring a balance in the Earth's energy budget, resulting in stable climatic conditions for the existence of life as we know it (Archer and Rahmstorf, 2010; Hansen et al., 2007).

Earth's climate has of course changed substantially before. Variations in the Earth's orbit around the Sun, fluctuations in solar output, volcanic activity, and other factors have all played their part. But the recent rapid rise in atmospheric concentrations of greenhouse gases resulting from human industrialisation of the past 200 years is unprecedented (Archer and Rahmstorf, 2010). Our combustion of large volumes of fossil fuels such as coal, oil, and gas for energy, manufacturing, and transport, as well as the depletion of carbon sinks such as forests and peat lands, has led to shifts of a magnitude and pace seldom witnessed before.

The growing concentration of greenhouse gases has been demonstrated through observational studies such as the famous Keeling Curve, which has charted monthly variations in the concentration of atmospheric CO_2 in parts per million (ppm) since the late 1950s, as well as comparisons with ice core samples dating back to many tens of thousands of years (Lüthi et al., 2008). In 2013, CO_2 concentrations exceeded 400ppm, a level not seen on this planet for at least 800,000 years and perhaps as much as several million years (Carrington, 2013; IPCC, 2014c) (see Figure 1.2). Moreover the link between dramatically increasing GHG concentrations and a warming climate has been demonstrated by a broad range of scientific investigation, particularly paleoclimatic research and more recent observation of temperature anomalies (IPCC, 2013; Mann et al., 1999; PAGES 2k Consortium, 2013).

While the science underlying the so-called greenhouse effect dates back nearly two centuries (Edwards, 2010; Weart, 2003), its mainstream recognition in policy and government circles did not truly occur until the 1980s. Piqued by the action of individual scientists and international organisations such as the World Meteorological Organisation (WMO) and the United Nations Environment Programme (UNEP), political acknowledgement of climate change became particularly evident in 1988, when, against the backdrop of an unseasonably warm US summer, several related events occurred on the international stage:

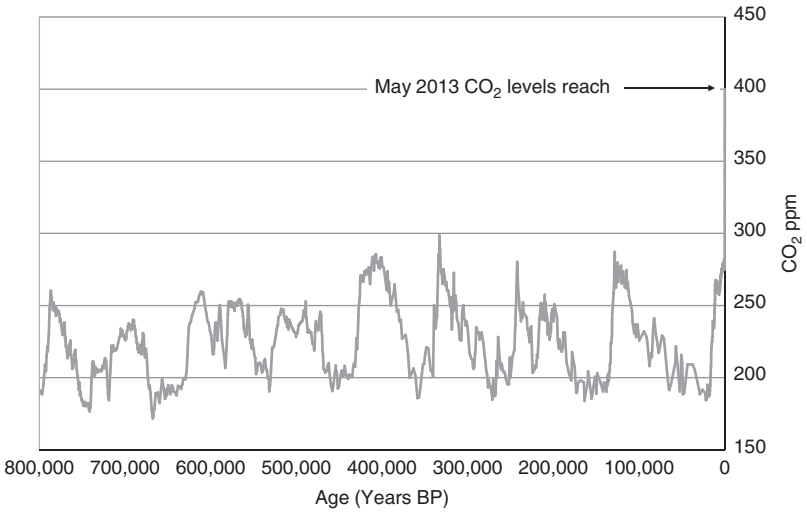

Figure 1.2 Atmospheric CO_2 concentrations in the past 800,000 years.
Source: Based on data from National Climatic Data Center/NOAA (www.ncdc.noaa.gov/paleo/pubs/luethi2008/luethi2008.html)

- National Aeronautics and Space Administration (NASA) scientist James Hansen testified to a US congressional committee that observed temperature increase was clear evidence of global warming
- A conference of the world's leading climate scientists emphasised the need for governments to set enforceable targets for the reduction of GHG emissions
- British Conservative Prime Minister Margaret Thatcher described the dangers of global warming and the need for countries to join together in tackling the problem (Andresen and Agrawala, 2002; Weart, 2011).

In the same year this political awareness also found institutional expression with the formation of the Intergovernmental Panel on Climate Change (IPCC), an international agency of experts that assesses the latest scientific knowledge on climate change and the environmental and socio-economic impacts of the phenomenon. In producing regular reviews of climate science, the IPCC has provided a basis for ongoing international negotiations over climate change policy. Its first report, published in 1990, was soon followed by negotiations for an international agreement to limit global warming and, in 1992, a meeting

of world leaders in Rio de Janeiro – the so-called First Earth Summit (Edwards, 2010; Weart, 2011).

These early political negotiations soon exposed climate change's fundamentally divisive nature. Taking meaningful action to respond to the threat would require significant reductions in the global production of GHG emissions, which in turn would demand government regulation of fossil fuel use and/or taxation. Thus a classic 'tragedy of the commons' dilemma was revealed: economic development based on fossil fuel use benefited individual countries in the short term at the cost of long-term environmental destruction. Not surprisingly, conscious of their individual economic interests, nations diverged markedly in how they approached negotiations. Early opponents of agreed emissions reductions included the world's pre-eminent economy, the United States; the oil-rich kingdoms of the Middle East; and countries, such as Canada and Australia, heavily reliant on fossil fuels as key sources of energy and export earnings.

The political implications of climate change also laid bare schisms between the so-called developed economies of the global North and the developing nations of the South. The climate crisis was an outcome of historical emissions that had facilitated the developed world's economic wealth, while many developing economies had yet to enjoy these economic gains and would be the most exposed to future climate change impacts. As Klein (2014: 181) notes, given the lack of funding from developed economies to assist in a transition away from 'dirty energy', this legacy has forced even progressive governments in countries like Bolivia and Ecuador to pursue even greater fossil fuel extraction.

These national and regional conflicts over climate change have played out over the past two decades at various UN Climate Change Conferences. The United States, in particular, influenced by domestic political considerations, has had a central role in delaying global action. Neoconservative politicians and fossil fuel interests have waged a relentless campaign against regulation, stressing 'uncertainty' and 'doubt' about climate science (Dunlap and McCright, 2011; Mooney, 2005a; Oreskes and Conway, 2010). Despite a firming of scientific findings and IPCC projections suggesting increasingly dire environmental, social, and economic impacts, global agreement on a response has remained both illusive and illusory.

Consider, for example, an alleged high watermark in global climate negotiations: the so-called Kyoto Protocol, which resulted from the 1997 UN Conference on Climate Change and committed wealthy, developed economies to undertake significant emissions cuts. Domestic political gridlock meant the United States failed to ratify the agreement – largely on the pretence that it excluded developing countries (Clark and Berners-Lee, 2013) – thereby handing other developed economies an excuse to avoid taking strong action.

Against this political conflict, public awareness and concern over climate change have also soared over the past decade or more. Several factors have played a role. We have seen extreme weather events, including the 2003 European heatwave, which resulted in tens of thousands of fatalities, and Hurricane Katrina, which decimated the US city of New Orleans in 2005 (Van Aalst, 2006). Thanks to films such as *The Day after Tomorrow* (Emmerich, 2004) and *An Inconvenient Truth* (Guggenheim, 2006), climate change has also entered the public imagination through popular culture.

Interestingly, this growth in public awareness, although in general demonstrated by opinion polls (Brulle et al., 2012; Leviston et al., 2011), has varied strikingly from country to country. Citizens in South America have registered the greatest concern, while those in the United States and China – the world's largest emitters – seem far less worried (Carrington, 2011). Indeed, there is mounting evidence that the media in the United States, the United Kingdom, Canada, and Australia has contributed to public polarisation on the issue (Boykoff, 2011; Painter, 2011).

In the wake of the fourth IPCC report, which was published in 2007 and warned of the serious harm to ecosystems and societies that would result from continued GHG emissions, hopes that the 2009 Copenhagen climate talks would lead to a meaningful international agreement were high. This optimism proved sadly misplaced. The resurfacing of national and regional tensions undermined any multilateral agreement. The so-called BRICS nations of Brazil, Russia, India, China, and South Africa emerged as key players in climate negotiations, staunchly emphasising their national economic interests, while the United States, once again hamstrung by domestic political division, failed to offer leadership (Clark and Berners-Lee, 2013).

The Copenhagen talks were also mired in the confected conspiracy of the so-called Climategate scandal, which questioned the