Introduction

By John O'Brien

This is an unashamedly optimistic book. It aims to serve as an antidote to the two contrasting types of mainstream coverage of climate change: the no-hope horror stories inciting paralysing terror, and the 'happy ever after thanks to science' approach offering an effortless solution.

The continual coverage of melting ice sheets, rising sea levels, droughts, severe storms and crop failures is essential in providing a context for debate on climate change. Such stories make climate change real to the general public and highlight the importance of tackling it. However, the tone is often so cataclysmic, so intent on relishing predictions of upcoming disasters, that many people are left with a defeatist attitude. In this light, the problem appears too big and too far advanced. It seems as if we have passed the tipping-point, rendering all action pointless.

Stories of wonderful inventions and developments that will 'solve' the climate-change problem are equally as damaging to the prospect of securing a better world. They allow their recipients to relax and dismiss cautionary news and opinion. To those accepting such stories, the problem appears insignificant in the face of mankind's scientific innovation. It seems that no additional action is required.

This book takes a very different approach to the issue. A world 'beyond carbon' is not a lost cause, nor is climate change something that can be solved by a scientific silver bullet. Progress will only be truly achieved once entire communities—local, national and global—change their behaviours and adopt different ways of living. All communities need to implement changes now that will ensure avoidance of the most dire predictions of scientists. This is the negative aspect of climate change: alter behaviours or perish. Surprisingly perhaps, there is also a positive side. Climate change presents a unique opportunity for the introduction of behaviours, systems and technologies able to improve all aspects of life on Earth.

Changes to atmospheric constituent proportions and the Earth's physical attributes are not the only problems we face. There are many other aspects of human life, in both richer and poorer nations, that are far from optimum. In rich countries, increased wealth does not appear to correlate with increased happiness, bringing instead a general desire for bigger houses, more cars and more gadgets. In poorer countries, particularly, the attraction of urban communities with their promise of riches has led to an exodus from country areas, although the transition often fails to result in a better life. As the world community is going to make changes to its fundamental way of operating in order to reduce emissions—changes that will impact every activity and every choice—it would be foolish to ignore the opportunity to improve other outcomes as well.

Representatives of all communities including governments, businesses, investor groups and industry networks should be asking themselves not simply, 'How do we reduce emissions?' but rather 'What changes might we make in our community to provide the greatest opportunities to improve both our physical and social environments?'

The advantages of this broader approach may be seen when considering a theoretical review of one city's vehicle emissions. When confronted with reducing such emissions, the relevant community faces change of some sort. A relatively quick and easy 'solution' would seem to be the creation of bus lanes throughout the city and its suburbs. Yet the need for change presents an ideal opportunity for the community and its leaders to question the whole structure of the

environment in which they live. Is it easy and pleasant to walk or bike ride within and between suburbs? If not, what can be done to make it so? Town-planning philosophies that design suburbs that exclude industrial areas force residents to travel long distances to work—is it possible to create jobs nearer housing or vice versa? How might the urban transport system as a whole be a positive influence in strengthening the community? It does not take much imagination to see how the implementation of projects answering each question may result in both optimum emissions reduction and a healthier, happier, stronger and more connected community.

Much benefit would be achieved if policy-makers created means of empowering their constituents, allowing innovation and the production of local solutions to local problems, and thereby enhancing social capital while protecting the environment.

Once mankind's contribution to climate change is accepted, the first step for many communities is a discussion on the means by which greenhouse-gas emissions can be discouraged. The main options are taxes, trading systems and regulations. Throughout the world this discussion has become a long, often hysterical, debate highlighting the complexity involved in introducing change to any community.

Vested interests abound. In Australia, Europe and the United States, emissions-intensive industries have threatened mass redundancies, relocation of activities to 'emissions friendly' countries and blackouts as a result of the closure of local coal-fired power stations. Yet there are some positive incentives that could be introduced to help companies make responsible decisions and to get positive publicity for doing 'the right thing'. For example, could emissions-intensive trade-exposed companies be awarded a Government or United Nations sponsored ERTEC (Environmentally Responsible Trade Exposed Company) tick?

Even if granted concessions, coal-fired power stations and other emissions-intensive operations are unlikely to be operational a few decades from today. Even so, their owners will understandably fight hard to retain profits for as long as possible. Those backing renewable energy counter, pushing hard for mandatory targets to enable earlier, larger profits for themselves. Looking back from 2100, all these claims will be seen for their exaggerated nature.

Many scientists have focused far ahead and are scared by what they have seen. It is, however, not their role to implement solutions that encompass environmental, social and economic benefits. It is the legislators who face the challenge of balancing short-term fears and frequent elections with long-term goals and exciting opportunities. All too often the general public's short-term fears, fuelled by those with vested interests in the status quo, necessitate the acceptance of slow progress. To those who wish to move forward at a faster rate, the legislators say that such gradual change is preferable to the only practicable alternative: no change at all.

Maybe it is possible for a government to have the courage to build a long-term vision of how a carbon-constrained economy will emerge. This could reframe the whole discussion over the transition to a lower carbon economy away from increased costs and job losses to one of green-collar job creation, economic development and more sustainable communities.

By building up a profile of what technologies will come to maturity at what stage over the next twenty to thirty years, it would be possible to target these technologies—and indeed specific global companies—and build a strategy for attracting them to Australia. If this vision were built up effectively, it could provide a foundation for the country's prosperity for decades. It might also be hailed as a world-leading strategy on how to build an economy of the future.

However, we have seen that the relatively simple task of pricing the externality of emissions has proved extremely problematic. Can we really hope that the broader approach to climate change, focusing on opportunity rather than fear, will be adopted by the global community? Despite being a relatively new concept, many groups throughout the world have recognised that alterations made inevitable by change are now creating opportunities to achieve multiple benefits.

It is only by taking a wider view that the best solution may be allowed to emerge. Allowing the solution to *emerge* is an important emphasis. A 'silver bullet' solution to the problem may appear in many forms, but is always nothing but a mirage. Carbon capture and storage is heralded as the complete answer by many (particularly those with investments in coal). Wind power is touted as the solution by turbine manufacturers. Some have even espoused that the growing

of genetically modified carbon-munching trees is the only alteration required to beat climate change. The total world system, combining global climate and human behaviour, is far more complex than allowed for by such approaches. A simple linear solution, one that encompasses only one dimension, will not provide *the* complete answer to environmental issues, let alone concurrently address social improvements.

In addition, the complexity involved means that it is impossible to design an optimum solution at any one point in time. We must therefore be prepared to observe and act on feedback and adopt an iterative approach to improving the world. This will frustrate those with a clear vision of what the world *should* or *must* look like, will be highly disconcerting to traditional leaders who have achieved their successes via 'set and forget' strategies, and may prove problematic for politicians with election promises to uphold.

So how do we approach this multi-faceted problem that requires the behavioural change of over six billion people? How do we approach climate change so that we secure opportunities to correct social defects as well as environmental ones?

The fact that the problem of mankind's contribution to climate change is even more complex, more global and more demanding of widespread change than any problem faced to date, is a wonderful chance to fundamentally alter the way in which we, individually, locally, nationally and globally, respond. It is not about assembling highly skilled task forces to 'knock over' the issue. Rather, it is about putting in place mechanisms that enable communities at all levels to deliver their own local benefits and systems. The bravest leaders will be those who inspire and enable change that allows millions of local heroes, all delivering a small part of the ever-evolving and improving response.

Simple changes in philosophy can produce multiple benefits. Utility infrastructure, for example, has traditionally been developed using economics as a guide. Pure economics dictates that it would be inefficient to have two power-distribution wires or water-distribution pipes running in the same street, and thus natural monopolies have emerged. However, greater system-wide benefits could be achieved if communities were encouraged to establish local energy and water hubs distributing through their own networks. Stormwater capture

and distribution as proposed in Adelaide, Australia, or distributed power generation as implemented in Woking, England, present examples of new, simple, local projects with multiple benefits. Each of these will threaten entrenched interests and are disruptive business models, so will meet with resistance. But each also presents an opportunity for improved community and environmental outcomes.

I believe that through the adoption of the broad approach advocated above, fears associated with climate change will be abated and many opportunities will be realised. In initiating this project, I wanted to assemble a collection of stories that sparked new ideas and discussion across a wide section of the community. Additionally I felt the need to create a general feeling of opportunity rather than the pervasive doom that appears to grow with each new scientific report. I was concerned that, without such optimism, 'climate fatigue' would be inevitable.

It is important to recognise that every generation perceives itself as facing the world's greatest challenge. In the past, those discovering continents, meeting new tribes, fighting wars or changing social mores have all believed that they have, in some way, saved mankind. Many in the climate debate would have us believe that never before have we faced such a crisis and that, further, they alone have the means to save us. There can be no doubt that climate change presents the world and its communities with many challenges, yet the apocalyptic future described by some inspires nothing but defeatism. This is no Armageddon between emissions-emitters and greenies! Neither is this a situation that can be adequately responded to by one line of attack alone. Communities around the world must be encouraged to develop an approach that allows for a new way forward, individually and as one.

Recognising the enormity and complexity of the changes required, this book sets forth a wide variety of wonderful and extremely important ideas and concepts, yet does not seek to specify any one 'solution'. By necessity, the response will be ever-emerging and evolving. It is hoped, however, that this book inspires thought about climate change and proves to be a step in the iterative process towards building a world where people can live sustainably.

My own thinking on the climate-change problem, on how we may best approach it and what opportunities it creates for the

communities, businesses, investors, nations and the entire world, has been aided by two analogies.

The analogy between climate change and the debate over cigarettes is being written about more frequently. I first encountered it in a column by Phillip Adams in the *Weekend Australian*. It gained much coverage in the fascinating and ground-breaking legal action being pursued by residents of the Alaskan town Kivalina, who have accused many emissions-intensive companies of conspiring to hide the truth behind the climate changes destroying their town. The legal team leading this case happens to be the one that successfully pursued certain cigarette companies over their alleged conspiracy to conceal the harmful effects of smoking.

The comparison between climate-change effects and diseases caused by cigarette smoking has been used by some to create powerful pictures of the 'evils' that may be engendered by big business. I, however, find it more useful to adopt the comparison when considering how scientific knowledge of the health impacts of smoking has been used to facilitate behavioural change. Tackling the problem of cigarette smoking required a range of inputs to achieve any level of success. A price signal was introduced, through increased taxes on cigarettes, together with comprehensive and targeted education campaigns. The positive outcomes achievable, such as living a longer and more enjoyable life, were stressed in addition to the negative consequences of inaction. Yet new approaches were required and more recently there have been regulations imposing bans on smoking in many places, further reinforcing the messages delivered earlier.

While the warnings against smoking were put in purely personal terms, communities too have benefited from a healthier population and reduced litter. Transitioning to a low-carbon economy is a far larger and more complex issue, but the multi-strand approach to the problems associated with cigarette smoking provides some clues as to the thinking required.

Another analogy that I find helpful is that of viewing the global community as the mind of the Earth. Much physical harm has been caused by its disturbed mental state and it is now necessary for the global community to undertake some self-reflection, explore its motivators and understand its true 'wants and needs'. Only then can it leave the past behind and move forward to a sustainable future. The

human mind is a complex beast that rarely reacts in a linear fashion, and the comparison may provide a powerful means of approaching the behavioural changes and altered mindsets needed to tackle the problem of climate change.

Indeed it does seem that the communities of the world must understand why they have behaved as they have done and must then envision what they want as a future. They must accept past mistakes as part of the journey, grieve for any losses, and provide themselves and others with the positive encouragement needed to create a different world. This book aims to enhance the process of encouraging communities to take bold steps and seize the opportunities that are emerging.

To be self-indulgent for a moment, I should like to add that this project forms part of my own personal journey. With a family background combining business entrepreneurship and social activism, and having been described by a university tutor as 'a charming underachiever', I have had a life to date of limited risk-taking and safe achievement. However, I have always been an optimist, albeit not always one who has demonstrated great courage.

A number of factors combined in recent years encouraging me to push my boundaries a bit further and some of these factors are, I feel, relevant to the topic at hand. An understanding of the beauty of simple things and happiness derived from an appreciation of my beautiful wife and vibrant sons, contrasted with lessons learnt from experiencing negative role models in both my professional and personal lives, has allowed me to establish my own personal goals. The implementation of these has not always been easy, requiring more introspection than I am comfortable with. The development of these goals coincided with a reading of Tim Flannery's *The Weather Makers* followed by Ron Penrick and Clint Wilder's *The Clean Tech Revolution*. The world's climate problem was obviously serious and opportunities were plentiful for those willing to move away from the past.

My own vision of catastrophe came to me one evening when watching the documentary *Shake Hands with the Devil* by Canadian General Romeo Dallaire, the commander of the UN troops in Rwanda at the time of the 1994 genocide. I had recently finished a fiction book titled *The First Century After Beatrice* by Amin Maalouf that told the

tale of riots and devastation in poorer countries following the discovery and widespread global use of an Egyptian bean that, when taken by a prospective mother, would ensure that her baby would be born a male. Both these sources showed that even if global devastation does not initially impact upon richer countries, genocide and mass population movements resulting from widespread, climate change–induced crop failures would ultimately affect everyone.

The optimist in me dismissed this horror as an option that could not be permitted to happen. I strengthened my resolve to tell tales inspiring visions of the opportunities that are emerging and the positive differences that can be made by mobilising global behaviour change. The telling of such stories will need to be done by many. However, the insightful writing produced by the authors in this book is, I believe, an important contribution.

The book is divided into six sections with a number of essays by different authors in each section. The order of the sections provides a widening circle of inclusion, but each focuses on the opportunities that exist for various groups. It starts with essays that set the scene: a look at the urgency of climate-change issues; a view of the courage and depth required to find the right solution; an overview of technological solutions and a discussion on how a positive vision may best be communicated. Section 2 explores opportunities for communities and looks at ways in which improvements may be made to their design and operation, enhancing the lives of their inhabitants. The book then proceeds by examining the opportunities that exist for businesses, investors, nations and for the world as a whole.

This book is not intended to provide the reader with a complete solution to the problems created by climate change. I hope, however, that it poses some useful questions and initiates further discussion. Read it with an open mind and use it to develop your own view on the ways in which a better world may be built.