

# A Renewable World

Energy, Ecology, Equality

A Report for the World Future Council

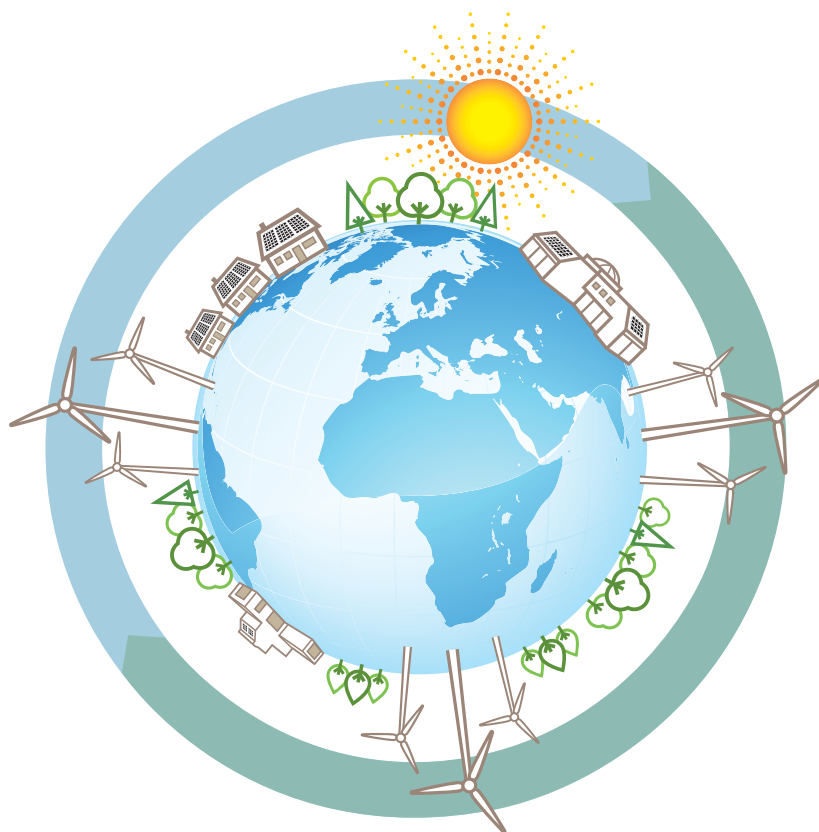




# A Renewable World

## Energy, Ecology, Equality

A Report for the World Future Council



Herbert Girardet & Miguel Mendonça



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# Contents

|  |            |
|--|------------|
| Dedication                                       | 7          |
| Acknowledgements                                 | 9          |
| Foreword by Ashok Khosla                         | 10         |
| Introduction and executive summary               | 12         |
| List of acronyms and abbreviations               | 22         |
| <br>   |            |
| <b>Chapter 1: Energy Change, Climate Change</b>  | <b>25</b>  |
| <b>Chapter 2: Carbon and the Biosphere</b>       | <b>49</b>  |
| <b>Chapter 3: Renewable Energy</b>               | <b>75</b>  |
| <b>Chapter 4: Towards Energy Equality</b>        | <b>101</b> |
| <b>Chapter 5: Energy Sufficiency</b>             | <b>121</b> |
| <b>Chapter 6: The Green-Collar Economy</b>       | <b>141</b> |
| <b>Chapter 7: Renewing the City</b>              | <b>161</b> |
| <b>Chapter 8: From Global to Local?</b>          | <b>183</b> |
| <b>Chapter 9: Problem Technologies</b>           | <b>203</b> |
| <b>Chapter 10: Going Deeper, Looking Further</b> | <b>223</b> |
| <br>   |            |
| References                                       | 238        |
| Index  | 249        |
| The World Future Council                         | 255        |
| About the Authors                                | 256        |





## Dedication

*To the children of the world, and those not as yet born:  
We have tried our best to speak up for you.*





## Acknowledgements

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# We can and we must

By ASHOK KHOSLA

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Co-President, The Club of Rome

Chairman, Development Alternatives

Councillor, World Future Council

A Sustainable World must, by definition, be a Renewable World. A renewable world is one in which materials and energy are used without being used up. It draws its sustenance freely from nature's resources, but without depleting them to a point where they are no longer available or affordable.

A Renewable World must, in practice, be a Fair World. Extremes of affluence and poverty are not compatible with the imperatives of a renewable or sustainable world. The very rich tend to over-utilize those resources (usually of ancient origin, such as minerals, fossil fuels, virgin forests and environmental sinks) that cannot be replaced; and the very poor have to survive by over-dependence on living resources (such as soils, waters and biomass) that can then no longer regenerate themselves. The limits of nature are inherently and inexorably transgressed by both these diseases – *affluenza* and *povertitis* – conditions that are now possibly terminal.

So, a sustainable world must be both renewable and fair. This means that we must make use of nature and the planet's resources in a manner that leaves them intact and fully productive for future generations; and that the peoples and economies of the world must all benefit from the positive changes we succeed in making through the use of these resources.

This timely book addresses the specific issues of our energy systems, and seeks to find ways by which the global economy can effectively and speedily make the transition from a heavy dependence on non-renewable energy sources to one predominantly based on renewable ones. Its focus is on achieving this in a manner that is good for all people and beneficial for our ecosystems.

The current model of social and economic development is no longer tenable. It is too mechanistic, narrowly conceived and short-sighted. It is too costly for human values and too destructive for nature. It leads to a 'civilization' that is uncaring, inequitable and highly unjust. And now, we find, it is also about to destroy the very life-support systems that make our existence possible. Giving up bad habits is not, however, easy. And the foot-dragging by the world's major economies on dealing with life-threatening matters like climate change and species extinction indicates that the transition advocated in this book is going to face major hurdles. In the past, only major wars and catastrophes have been able to inspire the activity needed to meet challenges of such magnitude.

But perhaps the developing countries and emerging economies have a chance to do something that has not happened before. Could they demonstrate that other models of development not only work but are even better and more fulfilling in human terms? Could they move more quickly to an energy system based on benign renewable energy, and remove the millstone of fuel imports from around their necks? Some poor nations spend almost as much on fossil fuels as they produce in GDP per annum; on top of the debts owed to the north, this is an unacceptable burden to carry. Totally new solutions are needed to deal

with these problems, and it is a matter of survival for not just the two-thirds who live in the global south but for all of humanity that we find them quickly.

It is easy for people in the developed world to take for granted basic services such as lighting, heating, cooling and running water; yet billions of their counterparts in poorer nations cannot meet even these basic needs on a daily basis. Rural and off-grid areas can benefit greatly from access to energy from technologies like solar, wind or small hydro. With battery back-up, they can provide lighting into the night, and allow education, work and health activities to continue. This can improve literacy, livelihoods and longevity.

Indeed, the biosphere is equally deserving of such investment. Many efforts are underway globally to restore the health of ecosystems, to retrieve productive land from desert areas, to replant forests and mangroves, to allow fish stocks to recover, and to restore people's livelihoods in a sustainable way. Those closest to the natural world understand the need for balance, as their lives depend on it. City dwellers, who from this year make up more than half of the world's population, are insulated from this knowledge. But they will soon have to master it when disaster strikes, when food prices skyrocket, when water becomes scarce and when rising tides flood coastal cities. It will not be long before we will be forced to relearn how to respect, and understand, our place within nature.

As my World Future Council colleague Tim Flannery has predicted, Perth, in Western Australia, may become the world's first ghost metropolis, due to water scarcity resulting from climate change. Perth's 1.6 million residents, looking for new homes, could join the millions of other climate refugees that may soon be displaced the world over. Bangladesh, with its low-lying flood plains, may well have 30 million or more. The next 40 years could see the numbers of eco-refugees increase globally to as many as a billion. Resettling and rehabilitating these people, providing food and water for them and creating green jobs will become the central concern of all economies; the alternative is alienation, violence and terrorism on a scale never before seen.

The only sane choice we have, as summarized in this book, is to take advantage of the positive economic opportunities that are offered by the industrial transformation which must occur to move to a low-carbon society. This will enable us to protect and restore the carbon-absorbing ecosystems which have been decimated over the centuries. And it will create meaningful jobs, substantial tax receipts, healthy economies and a sense of civilizational purpose. This is our burden in this most unique of centuries, but also the exciting challenge which can bring this divided world closer together, both among peoples, and between humanity and the natural world that is our home. As this important book outlines, it can be a renewable, and therefore a just and sustainable world, if we so choose.

