

Preface

The problems of energy and climate change have finally ended up where they belong: at the heart of public attention. Yet the connection between energy use and global warming is something we have been aware of for decades. In the late 1980s the German federal government proclaimed climate protection to be one of its main targets. At the time numerous experts were already calling for a speedy restructuring of the entire energy supply. Despite the government's declaration, the official response was, at best, half-hearted. But the climate problem can no longer remain on the back burner. There is a growing awareness that climate change has already begun. The prognosis of the researchers studying what is happening to our climate is horrendous. If we do not pull the emergency cord soon, the catastrophic consequences of climate change will far exceed even our powers of imagination. The awarding of the Nobel Peace Prize to Al Gore, the US climate activist, and the Intergovernmental Panel on Climate Change, which has been urgently warning of the consequences for years, could be seen as a sign of helplessness rather than optimism about solving the problem.

At the same time as climate change is threatening our environment, new records for rising oil and natural gas prices show that the supplies still available will not be enough to cover our requirements for much longer and that other alternatives must be exploited as soon as possible.

And yet the solution is a simple one: renewable energy. Renewable energy could completely cover all our energy supply needs within a few decades. This is the only way to end our dependence on energy sources like oil and uranium, which are so costly both in financial terms and in the havoc they wreak on our environment, and satisfy our hunger for energy in a way that is sustainable and compatible with the climate.

However, the path we need to take to get to that point is still unclear to many. Many people still do not believe renewable energy offers a viable option. Some underestimate the alternative possibilities offered to such an extent that they predict a return to the Stone Age once oil and coal supplies have been fully depleted.

The aim of this book is to eliminate these prejudices. It describes, clearly and simply, the different technologies that exist and the potential for using renewable energy.

The focus is always on the interaction between the different technologies. The example of Germany shows the forms that sustainable energy supply can take and how it can be implemented. But the book is designed to show all readers, wherever they live, how they themselves can make a contribution towards building a climate-compatible energy economy. In addition to explaining different energy measures that individuals themselves can undertake, the book provides concrete planning aids for implementing renewable energy systems.

This book has been specifically written so that it offers essential information to a broad spectrum of readers. It introduces the different technologies to readers who are new to the subject but at the same time provides interesting background information to those who already have some knowledge about the field.

This book has been translated from the German version. It is an important supplement to the technical book 'Renewable Energy Systems' written by me and published by Hanser Verlag publishers. It is clear from the high level of interest generated by this technical book, which is now in its fifth edition in German and has been translated into English and Arabic, that a real need exists for literature on the subject of renewable energy. The feedback I have received from the book and from many of my lectures indicates that readers want something that offers an overview of the subject that is easy to understand but still comprehensive. This book should fill this gap and provide support in the development of sustainable energy supply.

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