

PREFACE

The industrially developed countries of the world have become rich and prosperous by the profligate use of fossil fuels: coal, oil and natural gas. Countries of the developing areas of the world, mainly in the Pacific Rim and Far East, are starting to use fossil fuels, especially oil, at increasing rates. But both oil and natural gas reserves are fast depleting and are non-renewable. Each source has only a few tens of years of stock remaining. How is future world energy demand to be met?

To address such a fundamental problem, it is vitally important that all of the various elements comprising the problem are well understood. In the case of world energy, the problem elements are the individual energy sources, both old and new.

At least ten distinct types of energy source exist:

- coal
- oil
- natural gas
- nuclear
- geothermal
- biological/chemical
- hydroelectric
- wind
- wave/tidal
- solar energy

Each of these sources is examined in *Energy Studies*, in an attempt to take stock of the development of each, towards either depletion or viable widespread utilisation. Environmental implications, economic assessments and industrial risks are also considered.

By doing this, the authors are able to conclude with an illustrative example of an energy strategy with which to address the world energy future, so encouraging readers to weigh for themselves the complex problem which now stares mankind in the face.

Chapter 1 is written mainly for students of the physical sciences and engineering. More general readers are advised to begin reading from Chapter 2.

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