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Rosemary Lyster and Adrian Bradbrook
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Energy Law and the Environment

Unsustainable practices worldwide in energy production and consumption have led to a plethora of environmental problems. For a long time environmental law largely overlooked the relevance of energy production and consumption, and energy was not seen to be of much significance to the advancement of sustainable development. This has changed in recent years, with increasing global concern about climate change, and in particular with the publication by the United Nations of the *World Energy Assessment* report followed by the detailed consideration of this issue at the World Summit on Sustainable Development in Johannesburg in 2002. Australia has been seen to be lagging behind the other major industrialised nations in addressing sustainable energy issues.

Energy Law and the Environment shows the relevance of energy production and consumption to climate change and sustainable development. It discusses current national and international legal regimes and offers creative legal solutions for enhancing the role of the law in advancing sustainable development in the future.

This is compulsory reading for legal practitioners and academics interested in energy law and climate change, as well as for professionals in environmental consultancies and relevant government agencies across Australia. Students of environment law, energy law, environmental management and environmental science will find this book an invaluable resource, as will anyone with an interest in energy and sustainable development.

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To my parents, who gave me every opportunity, and to my partner Mark and children Kathryn and Matthew, to whom I am devoted. With thanks also to my environmental law colleagues around the world for their support and encouragement.

RL

To Richard L Ottinger, in appreciation and admiration for his lifelong commitment to furthering the cause of sustainable energy development.

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Preface

The current unsustainable practices worldwide in energy production and consumption have led to a plethora of environmental problems. Among the most important are the following:

- Climate change, for which energy production is 57% responsible;
- Acid rain, caused primarily by coal burning;
- Increased desertification, caused by unsustainable use of firewood for heating and cooking in developing countries;
- Ozone depletion, caused by the use of hydrofluorocarbons in refrigerators and air-conditioning units;
- Nuclear radiation;
- Soil pollution, caused by oil and geothermal exploration and production;
- Loss of habitat, caused by large-scale hydropower plants;
- Pollution of the sea, caused by oil spills from large ocean-going tankers; and
- Urban air pollution, caused by fossil-fuel burning.

All developed countries have conducted unsustainable policies in the past. Australia, with its large reserves of coal, has been one of the worst offenders, with its per capita greenhouse gas emissions being the highest in the world.

The modern watchword of environmental management is sustainable development. The origin of this principle is the 1986 *Report of the World Commission on Environment and Development* (the Brundtland Report). While this principle has been adopted with enthusiasm in later reports and international conventions in a variety of different environmental contexts, the one area where it has received little attention until recently is energy.

This omission is surprising in light of the importance attached by Chapter 7 of the Brundtland Report to energy issues. The report considered energy to be a major feature of sustainability, and identified the key elements as follows:

- Sufficient growth of energy supplies to meet the needs of humanity;
- Energy efficiency and conservation measures;
- Public health, recognising the safety risks posed by energy use and production; and
- Protection of the biosphere and elimination of local pollution problems.

The most important issues were considered to be the increase and improvement of energy efficiency, which the Report stated should be at the cutting edge of

national energy policies for sustainable development, and the need to shift the current energy mix towards renewable energy resources.

Despite this boost given to energy issues, for the remainder of the 1980s and the 1990s energy featured only marginally in environmental law. It became mired in intractable political issues, with too many vested interests at stake to allow for radical change. For example, the need to reduce the heavy reliance on fossil fuels was thwarted by many powerful oil-producing and oil-dependent nations, which feared economic detriment from any change to the status quo, and by powerful multinational oil corporations. These political factors led to the virtual exclusion of energy issues from the final text of Agenda 21. Chapter 9, which was originally designed to contain a variety of energy-related measures, was emasculated during the discussions leading to the drafting of the final text. The range of energy reforms and developments proposed in paragraph 9.11 of Agenda 21 are insignificant and wholly inadequate as a basis for promoting sustainable development in the energy sector.

Since the year 2000 the situation has changed dramatically. The catalyst has been the World Summit on Sustainable Development (WSSD), held in Johannesburg, South Africa, in 2002, which chose energy as one of its five key areas of focus. The preparations leading up to this summit spawned a range of research reports and documents emphasising the link between energy and sustainable development and showing how many political, legal and economic changes need to be adopted at both national and international level before energy policies can realistically be claimed to be sustainable. The most comprehensive and influential of these documents was the *World Energy Assessment*, a comprehensive report into all aspects of energy production and consumption undertaken jointly by the United Nations Development Programme (UNDP), the United Nations Department of Economic and Social Affairs (UN-DESA) and the World Energy Council.

While energy still proved controversial amongst the delegates to the WSSD, and targets for the adoption of renewable energy proposed by the European Union and others could not be agreed to, the Johannesburg Plan of Implementation contains a range of measures on energy which mark a significant step forward in the drive towards the adoption worldwide of sustainable development policies. The impetus has since been maintained by the decision of the Commission on Sustainable Development to focus on energy as one of its major themes during 2006 and 2007 and the publication of an update to the *World Energy Assessment* in 2004.

These and other developments are discussed in detail in this book. The book considers issues involving energy and sustainable development both from an international perspective and from an Australian perspective. Consequently the book treats energy both as an aspect of international law, particularly the rapidly evolving area of international environmental law, and domestic law. It discusses the current state of both areas of law and adopts a critical approach, particularly in the domestic context. As will be shown, although a number of initiatives

promoting sustainable development in the energy sector have emanated from the Commonwealth government and from some States and Territories in recent years, Australia has dragged its heels in this area in comparison with many other developed countries.

After an overview of energy production and use in Australia (Chapter 1) and a consideration of the available alternative renewable energy and energy conservation technologies (Chapter 2), the book examines systematically the relevant international law (Chapter 3), the role of the recently restructured electricity and gas industries in Australia (Chapter 4), and Commonwealth and State laws and policies (Chapters 5 and 6). It concludes in Chapter 7 with a consideration of future developments in domestic and international law that would be needed to make energy policies truly consistent with sustainable development. Even a cursory reading of this book should be enough to show that much remains to be done in the legal and policy area. The authors wish to make the point forcefully that energy is one of the most important sectors demanding legislative attention in environmental matters, for without reforms in this sector sustainable development cannot be achieved.

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