Preface

This book is a compilation of studies analysing renewable energy initiatives in developing and emerging economy countries, setting forth the organization of such initiatives, the factors that contributed to their success or failure, the problems encountered and the means by which such problems were or are being addressed.

The book is designed to be of assistance to countries seeking to adopt renewable energy programs, to assist the organizers of such projects and to enable them to avoid having to re-invent the solutions to the problems of countries that have adopted them. It also should be helpful in determining the needs required to establish successful projects and the pitfalls to avoid, including assessment of the kinds of renewable energy projects that might be most suitable for them.

I have been engaged in promoting renewable energy as a clean source of energy to replace polluting fossil fuel energy resources from undependable sources for more than 55 years in many capacities: as a Peace Corps Director of Programs in Latin America from 1961-1964; an elected Member of the U.S. Congress from 1965–1970; candidate for U.S. Senate from New York in 1970; re-elected Member of Congress serving 1975–1985 (chairing the Energy, Conservation and Power Subcommittee, Energy & Commerce Committee); Professor of Environmental Law at Pace University Law School 1985–1994; Pace Law School Dean 1994-1999; Pace Law School Dean Emeritus 2000 to date; member of the Board of Directors and founder/former President of the Environmental and Energy Study Institute in Washington, DC that seeks to educate the Congress and public on environmental and energy issues, focusing in recent years on affordable clean energy and climate change remediation in developing countries; and Chair of the Environmental and Energy Specialty group of the International Union for the Conservation of Nature (IUCN).

During this time, renewable energy has gone from being a relatively small, mostly demonstration part of the energy arena to being the fastest growing energy resource. Its importance has accelerated as more efficient, reliable and less environmentally problematic technologies have been developed, off-shore wind has become feasible, thin-shelled solar photovoltaics have brought prices down sharply and the price of oil has
escalated with future supplies in doubt and the existence of increasing unreliability and unrest in many of the oil-producing countries.

The United States, which developed many of the renewable energy technologies, has fallen behind in utilization of these technologies, forfeiting the leadership in all the renewable energy media to China (though coal still is its dominant energy resource), and falling behind Denmark and Germany in wind utilization. The U.S. and China, however, have the dubious distinction of not having ratified or made a commitment to reduce greenhouse gas emissions under the Kyoto Protocol to the United Nations Framework Convention on Climate Change, while being the largest global emitters of greenhouse gasses.

One of the most interesting phenomena is the commencement of renewable energy and activities in some of the major oil-producing countries. Thus Abu Dhabi successfully bid to host the first international renewable energy agency devoted to advancement of renewable energy technologies, the International Renewable Energy Agency (IRENA), and established a renewable energy research and development facility with the U.S. Massachusetts Institute of Technology to work on technology advancements in its city of Masdar. Interestingly, Masdar was established as a pollution-free city powered entirely by solar photovoltaic panels and the Masdar Institute campus has very innovative outdoor air conditioning using an ancient tower circulating cold water obtained from geothermic wells and blowing cold air into the campus, thus reducing the outdoor temperature from an average of over 100 degrees Fahrenheit to just 85 degrees. Only all-electric cars are permitted in the city. And Abu Dhabi aspires to emulate the Masdar experience for the whole country. Similarly, the Arab Emirate of Qatar just hosted the most recent United Nations climate change negotiations in its city of Doha.

This study was performed with me in conjunction with the indispensable fine work of Pace Law School students and graduate Research Assistants who did the initial principal research and drafting of most of the chapters and parts of the book. Their names and academic backgrounds are detailed in the list of contributors above. At the end of each chapter and part of the book, I have tried to summarize the most important factor in the success or failure of each case study examined as 'lessons learned.' Most of the Research Assistants are natives of the countries on which they researched and wrote. Special thanks to my wife, June Ottinger, who was always encouraging and allowed me to spend most evenings for the last month working on this manuscript. Thanks, too, to Pace Law School graduate Patricia Yak, now a practitioner, who did an initial survey of renewable energy initiatives in China.

Great credit is attributable to the late Honorable Hermann Scheer,
Member of the German Bundestag from 1980 until his death in 2010. He also was President of Eurosolar (The European Association for Renewable Energy) and General Chairman of the World Council for Renewable Energy. He worked tirelessly promoting renewable energy and was instrumental in the establishment of the International Renewable Energy Agency (IRENA) in Abu Dhabi, where I was privileged to attend the initial International Assembly. He organized and conducted a ‘Renewables 2004’ international conference with attendance of 154 countries and more than 3,000 participants, myself included, followed by an International Conference on Renewable Energy that formally called for the formation of IRENA. His books, *The Energy Imperative: 100 Percent Renewable Now* and *Energy Autonomy: The Economic, Social and Technological Case for Renewable Energy*, laid the foundation of modern renewable energy law, making the case for the German ‘feed-in-tariff’ adopted by Germany and emulated around the world. This book is dedicated to his contributions, persistent efforts and vision.