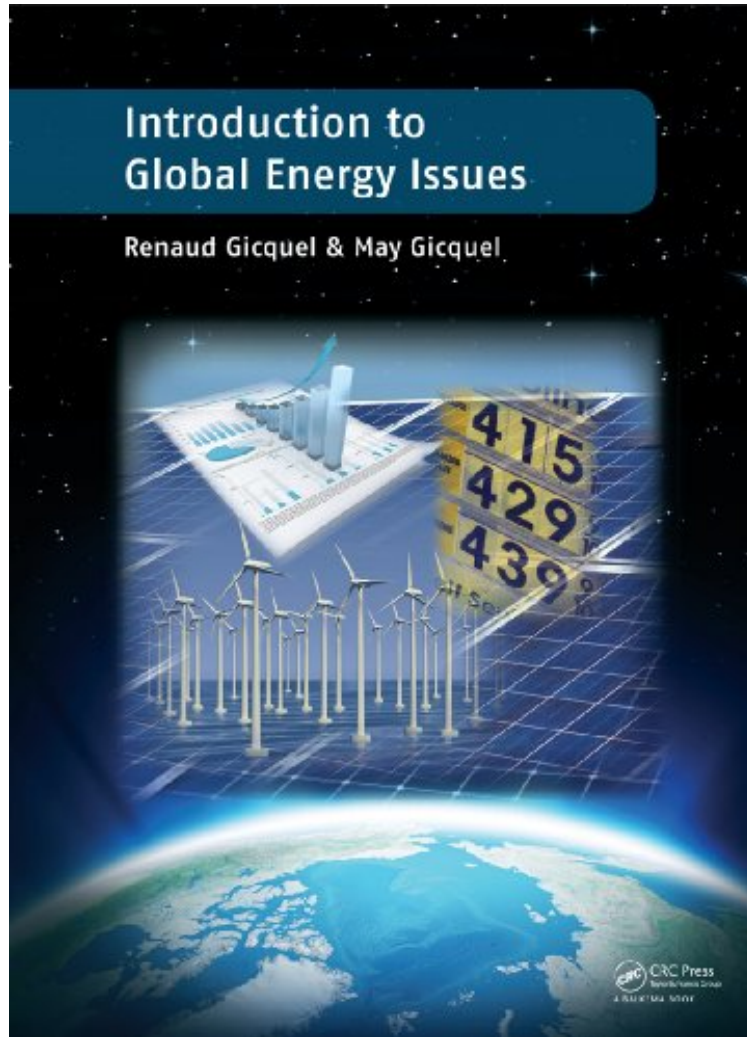


(Free) Introduction to Global Energy Issues

Introduction to Global Energy Issues

Renaud Gicquel, May Gicquel
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Renaud Gicquel, May Gicquel : Introduction to Global Energy Issues before purchasing it in order to gauge whether or not it would be worth my time, and all praised Introduction to Global Energy Issues:

From the discovery of fire to that of the atom, the development of human societies has largely been based on the conquest of energy. In all countries, energy has gradually become one of the key factors of social and economic development, as well as capital, labor and natural resources, and now no one can do without it. After decades of cheap energy flowing without any problem, over the last forty years crises have become the rule. This disruption of the energy landscape is of particular concern as the impact of energy crises on human societies became considerable. This book seeks to provide a basis for reflection on all global energy problems, offering an analysis of the main aspects to

consider: energy supply, resource-dependent industries and technology available, macroeconomic implications of energy demand, geopolitical issues, and specifics of the situation in developing countries. It does not thoroughly address environmental issues, which would require further study beyond the limits we set. This book is the second edition of a book published in 1992, at a time when obtaining energy and economic data was much more difficult than today, when many databases are freely accessible on the Internet. In this new context, we hope it will assist the reader in finding his/her way in the considerable amount of information available. Energy is a vast field that can be approached from multiple angles. The approach proposed here is to start by providing the reader with technical bases on energy, and thus energy supply, before considering the demand, that is to say, the socio- and macro-economic dimensions, then addressing global issues relating to energy, and finally complete the study of the main issues that arise in this area today. This book summarizes the main issues related to energy and requires no special knowledge beforehand, whether in economics, engineering or international relations. It consists of nine chapters, the first being the introduction. Chapter 2 introduces the main energy sectors (oil, natural gas, coal, synthetic hydrocarbons, nuclear power, renewable energy, thermal or pneumatic storage), i.e. how the main sources of energy can be exploited. Chapter 3 presents the main macroeconomic and energy indicators that are commonly used to assess the energy situation in a country. Concepts that are introduced being then used consistently in other chapters, it is essential to understand well their definitions and limitations. The fourth chapter analyzes the impacts of energy at the macro level, including the links between economic activity and energy consumption. The fifth chapter introduces the main principles generally accepted in the development of energy policy and planning, and then discusses the institutional aspects. The sixth chapter is devoted to geopolitics: current consumption of energy, energy reserves and resources worldwide, international energy trade, and specific problems faced by developing countries. The seventh chapter is devoted to the study of the energy situation in eleven different countries, showing the contrast between them, depending on their level of economic development, demography, natural resource endowments, etc. The list of countries includes high-income developed countries (France, United States, United Kingdom), the emerging group called the BRICS (Brazil, Russia, India, China, South Africa), a North African oil exporting country (Algeria), a west African country (Cote d'Ivoire), and an Asian exporter of coal and natural gas (Indonesia). The eighth chapter discusses emerging issues related to energy, in particular its relationship to the environment and the success of policies aiming at controlling demand. The ninth and final chapter begins with a prospective study of various scenarios for the medium and long term. The analyses presented in the book are then summarized by outlining the main pending issues. The book includes 22 tables, 150 figures and 3 mind maps, as well as links to...

This authoritative and highly pedagogical book provides a very complete and thorough analysis of global energy issues. By combining technological, economic, environmental and policy aspects of energy, which are all intrinsically interlinked, the authors provide the tools which allow the reader to fully understand the complexities of global energy issues. A must for any energy course.

Manfred Hafner, Professor, Johns Hopkins University (Bologna Center) / PSAIS (Sciences Po Paris), Skolkovo Moscow School of Management, Fondazione Eni Enrico Mattei

About the Author

The main part of Renaud Gicquel's curriculum has taken place at École des Mines de Paris (Mines ParisTech), at its Centre for Energy Studies which he headed from September 1987 to January 2003. Named full professor in July 1986, he teaches applied thermodynamics, an introduction to global energy issues and energy system modeling. He was formerly Special Assistant to the Secretary General of the United Nations Conference on New and Renewable Sources of Energy from April 1980 to October 1981 in New York and Chargé de mission for multilateral issues with the Service des Affaires Internationales of the Ministry for Research and Technology in Paris in 1982. From 1983 to 1985, he was Adviser for International Issues at the Centre National de la Recherche Scientifique (CNRS). In 1986, he was one of the two founders of the Observatoire Méditerranéen de l'énergie (OME). From May 1991 to May 1994, he was Deputy Director of the École des Mines de Nantes (EMN) in charge of Research, and head of its Energy Systems and Environment Department. He has published about 80 papers in the field of energy and two books:

- in 1992 "Introduction aux Problèmes Énergétiques Globaux" (Editor: Economica, Paris);
- in 2001 "Systèmes Énergétiques, Tome 1 et Tome 2" (Editor: Presses des Mines, Paris). A revised edition and a third volume were published in 2009. Revised versions of these books have been translated into English and published by CRC Press:
- "Energy Systems, a new approach to engineering thermodynamics" in 2012;
- "Introduction to Global Energy Issues" in 2013.

Renaud Gicquel created the Thermoptim-UNIT portal (www.thermoptim.org) dedicated to a new paradigm for teaching applied thermodynamics, as well as various software packages, in particular Thermoptim, which is used by over one hundred and twenty higher education institutions worldwide. Renaud Gicquel graduated from École Polytechnique – ParisTech as an engineer in 2007 and subsequently joined the Corps des Ponts, des Eaux et des Forêts to become a high-ranking civil servant in France. From 2008 to 2010, her work focused on emerging economies (mainly China and India). She first studied the impact of the arrival on the international scene of firms from these economies on the global automotive sector and on its industrial organization, in terms of innovation, partnerships, and business models. She also researched how these countries' extractive industries (coal, iron ore, aluminum, etc.) were

restructuring to enter the global competition. The following year, she was based in Beijing to survey the development of electric and hybrid vehicles in China, taking into account the public policies that were being implemented, the new technologies under R D, the growing number of industrial players, and the definition of Chinese standards and security tests. In 2010, she returned to Paris to work for the French Ministry of Finance's Directorate-General of the Treasury (DG Trésorerie), where she was in charge of supervising the AFD's strategy and finances for three years. AFD (the French Agency for Development) is the agency responsible for implementing most of the French bilateral official development assistance (ODA). In 2013, she joined the Treasury's Eurozone Task Force, focusing on the European Stability Mechanism.