Review: Solar Revolution: The Economic Transformation of the Global Energy Industry

By Travis Bradford

Reviewed by Umar Karim Mirza
Pakistan Institute of Engineering and Applied Sciences, Pakistan

Travis Bradford. *Solar Revolution: The Economic Transformation of the Global Energy Industry.* Cambridge, MA: MIT Press, 2006. 248 pp. ISBN: 978-0-262-02604-8, US $24.95, Hardcover, Alkaline paper.

Travis Bradford is the President of the Prometheus Institute for Sustainable Development which he himself founded in 2003. Before that, he was working in the financial field. He has also served as a board member and manager of dozens of public and private companies. He has been a speaker at various universities including Columbia, Harvard, and Duke, on topics related to finance and alternative energy economics.

Energy is essential to our survival and technological advancement. We have now entered an era where fossil fuels are becoming increasingly extinct. Moreover, too much reliance on fossil fuels during the last one and a half centuries has already pushed us toward the brink of environmental crises. Attention has now been diverted to developing environment-friendly clean energy resources which are renewable as well. Solar energy, one such resource, is the subject of this book.

The book comprises ten chapters divided into four parts. Part I, "The Inevitability of Solar Energy," contains one chapter in which the author talks about the present fossil-fuel based energy system, introduces solar energy with its merits and demerits, and provides an introduction to the coming parts.

There are four chapters in Part II, "Past to the Present." A brief history of energy is presented first. The author then moves on to discuss the present energy system and rightly terms it as unsustainable both environmentally and with respect to the magnitude of remaining fossil fuel reserves. The alternatives are discussed next with the author concluding that hydroelectric dams; nuclear power; wind energy and other renewable resources like biomass, geothermal, ocean power; fusion and hydrogen economy are not worthy alternatives for various reasons. The last chapter in this part is dedicated to solar energy. A short history of solar energy along with its transition into a commercial energy source, solar energy markets, solar industry expansion and cost economics are discussed. The author remarks that solar PV modules production cost has dropped 86 percent since the late 1970s and it will continue to drop further in coming years.

Part III, "Future Transformation," has three chapters. The first one discusses electric utility economics. It compares the costs of different electricity generation options. In the next chapter, the author talks about

distributed PV and the future of PV option. The last chapter presents the real world assessment of solar electricity.

The two chapters of Part IV, "A Promising Destination," concentrate on strategies for promoting solar energy and its ultimate recognition as a successor to fossil fuels. The following appendix briefly describes energy and electricity measurements. The Notes section is a very detailed one. A useful index marks the end of the book.

The main feature of this book is the assimilation of much recent yet scattered information. The subject matter is not technical. It is mostly theoretical and economics-oriented in nature. This is not surprising keeping in view the background of the author. *Solar Revolution* can prove a good reference for energy policy students but may not suffice as a stand-alone textbook as it is not written in textbook style. The other recommended audience would comprise policymakers, politicians, environmentalists, journalists, government officials and lawmakers.

Umar Karim Mirza <mmensan152@yahoo.com>, Ph.D. Scholar, Pakistan Institute of Engineering and Applied Sciences, P.O. Nilore, Islamabad 45650, Pakistan. TEL: 92-51-2207381, FAX: 92-51-9223727.