

Life Without Oil: Why We Must Shift To a New Energy Future

By Steve Hallett with John Wright. 2011. Prometheus Books, 59 John Glenn Drive, Amherst, New York 14228-2197 USA. 435 pages. 21.45 USD.

The world will run out of oil in the foreseeable future and steps need to be taken now to plan for the future of the human race as this disaster unfolds. Steve Hallett, a professor of botany at Purdue University with experience at McGill and the University of Queensland in Australia and John Wright a journalist currently with *Energy News* collaborate on the project of examining the future of energy in the world. There will not be one simple solution, but many different strategies, and change will not come about easily. Before the world self-destructs in a lack of energy or a struggle to maintain itself with a rapidly disappearing resource, societies have to pursue many different alternatives.

The book begins with a succession of studies of ancient civilizations which depended upon a specific energy source, in most cases burning wood. The Easter Island culture, the Mayan Culture and the Roman Empire are all examples of resource-based economies which began with abundant wood resources for a limited number of people. But as their forests were consumed, and the land occupied by the forests began to erode, wars broke out among different groups within the culture and with their neighbours. The last forests were consumed faster until there were no more nearby wood resources to be found, and no way for the society to continue to grow. A decline set in which eventually led to the destruction of the society and the end of the civilization. Years of poor rainfall and diseases which claimed crops often coincided with the end when it came. In the case of the Roman Empire, attacks from outside also hastened the end of the culture. Each culture illustrated a pattern where use of the resource within its boundaries was managed successfully, a peak where the resource was used to its maximum and finally a period of decline where exploitation accelerated the over-use and the resource was depleted until it finally became extinct, causing a rapid collapse of the culture.

From these historical examples, Hallett moves to the use of oil in our culture and the buildup of our present society as oil has fuelled our culture over the past 100 years. In the 1950's Marion King Hubbert published research conclusions which showed that the oil production of the United States was about to decline. Of course his thesis was anathema at the time but within decades was proven true. Hallett continues that we are reaching that peak period of oil extraction worldwide and the world production of oil is in decline even as our demand for oil is increasing on this continent and among the developing nations particularly India and China. New sources of oil have not been discovered and most of the untapped sources of oil in the world are

smaller sources which will be more difficult to extract with smaller returns than the large oil fields already under production. One insight he mentions is the contrast of the rhetoric of oil companies advertising optimism in sustaining our lifestyles in a world of ever-increasing production, but no new refineries have been built nor new oil tankers commissioned by the same oil companies who obviously anticipate no increase in production.

The book also examines alternative sources of energy: nuclear fuel, natural gas, and coal, as well as renewable sources like wind, solar, geothermal, hydro and tidal exploitation. Each is considered in its present use and possibilities for the future. In the same context the effects of carbon dioxide production from fossil fuel consumption is also examined and some predictions are made of the future of the planet with increasing levels of carbon dioxide, methane and other carbon by-product pollutants in the atmosphere. The picture he paints is not optimistic for the world with the current distribution of wealth, resources and expanding populations.

The book is a wake-up call from an ecologist, student of economics and of history. Hallett has good insights into the ways that we are using our energy resources now and how that energy consumption, particularly oil, will change and change us in the future. Our dependence upon cheap, foreign-made goods available at Walmart (he has a particular prejudice against Walmart) and other big-box stores are all dependent upon large freighters crossing the Pacific Ocean fuelled by oil in their tanks and the low prices we enjoy will not be possible as the price of a diminishing resource rises in response to fewer supplies and rising prices.

I was disturbed by the book even from my relatively informed position of teaching ecology, reading the news and reflecting upon climate change. The careful comment on each developing nation using the resource, the location and history of oil in each area of the world and the current distribution pattern is a panorama of a declining resource on which we are accelerating our dependence just as the Roman Empire searched for more and better forests to supply their heat, ore smelting, and construction materials, but were eventually overcome by a lack of resources. Our need is to broaden our energy base before it collapses around us and as Hallett and Wright have presented, the collapse of the oil resource is imminent in our world.

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