

Power Hungry, The Myths of “Green” Energy and the Real Fuels of the Future by Robert Bryce



Review by: JP Kloninger

Power Hungry by Robert Bryce really provides a great education about the current state of global energy, how it has evolved from mankind’s changing/increasing demand for and use of energy, and what the future of energy might realistically look like when one takes a hard look at the facts and statistics available (more natural gas and nuclear in the medium term, most likely). This book corrected many misconceptions I had -- which I believe many people still have -- about the true viability of alternative energy sources such as Wind and Solar power versus the efficiency and power-density of more “traditional” fuels such as Oil, Coal, and Natural Gas.

Bryce builds his book’s framework with four “Imperatives” as his cornerstones: **Power Density, Energy Density, Scale, and Cost**. These are the main drivers to where the greatest demand for energy resources exist. Thus we have been evolving from low density, high cost resources such as wood in earlier days of civilization, coal and oil in more current times, onward to higher power/energy-dense, larger-scale, and lower-cost sources such as natural gas and nuclear energy (“N2N” as Bryce calls them). While not without their large environmental and financial costs, to this day controversial energy sources such as coal and oil remain our primary sources of energy because they are still among the most power/energy-dense and lower-cost alternatives. Further they are more transportable, unlike otherwise good sources such as hydroelectric and geothermal.

In order to illustrate how new energy alternatives such as wind and solar are still a LONG way from entirely replacing (if ever) fossil fuels, the author tells us how much energy is required by humans on a daily basis: We consume 7 Billion horsepower per day, or approximately the equivalent of 226 million barrels of oil, equal to the total daily production of 27 Saudi Arabias. Wind and solar are still too unreliable, with power-density that is too low, and with backup power requirements that use, yes, fossil fuels, such that they really cannot yet be considered “alternate” energy sources.

Bryce concludes that our quest must continue to be for **cheap** energy, quoting William Stanley Jevons in 1865 as saying that energy is “the universal aid – the factor in everything we do” and “almost any feat is possible or easy [with sufficient energy resources]... without it, we are thrown back into the laborious poverty of early times.” In order to continue to obtain the cheap, plentiful energy that we need to continue to progress, we need to look at ALL sources of energy and optimize the use of each one by using criteria such as Bryce’s four imperatives... which explain why today’s scenario is exactly where it is and how tomorrow’s resource allocation will play out.