

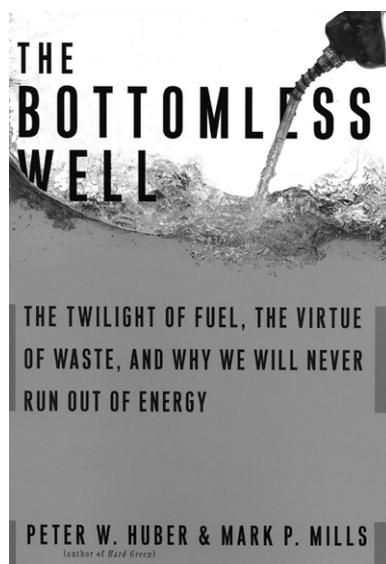
# Drinking from the bottomless well

Alan Moran reviews

*The Bottomless Well: The Twilight of Fuel, the Virtue of Waste, And why we will never run out of energy*

By Peter W. Huber & Mark P. Mills.

(Basic Books, 2005, 215 pages)



Writing in the style of Isaac Azimov, Peter Huber manages to take dry-as-dust economic issues and convert them into epic sagas based on solid research. He has done this with books that have examined telecommunications, the development of liability law, junk-science-based environmentalism and now energy.

It was almost two decades ago when Huber first came to prominence as an exponent of small government. His massive submission on behalf of the Department of Justice to the US review of AT&T divestiture was followed by a further polemic on deregulation, *Law and Disorder in Cyberspace: Abolish the FCC and Let Common Law Rule the Telecosm*.

In examining liability law, he dissected the explosive mixture of ambulance-chasing lawyers and leftist legal theorists (whom he referred to as The Founders) who had seized the commanding heights of the US legal system and were creating a changed form of liability law much loved by the 'trial lawyers' who used it to extort vast sums from businesses. For Huber, the real damage of this lies in creating

risk aversion on the part of businesses and less resilience in the economy. He is also concerned that US-based firms may fall behind those in jurisdictions offering greater legal certainty.

Looking at environmental politics in *Hard Green: Saving the Environment from the Environmentalists*, he distinguished the Hard Greens, concerned with wilderness, oceans, rivers, lakes and mountains from the Soft Greens. His Soft Greens were the modern ideologically bound campaigners for intangible matters such as global warming, chemical residues and resource depletion.

He was among the first to identify the bottomless pit of studies that would be required before an innovation would be able to pass the precautionary principle test advocated by the Soft Green cadre. And he pointed out the logical flaw embedded within their nostrums—for example, in wanting to ban new biotech products such as GM food while at the same time wanting to ban the pesticides that such innovations do so much to reduce.

In *The Bottomless Well*, written with physicist Mark P. Mills, Huber argues that energy efficiency gains result in

lower prices and that this *increases*, rather than decreases, the demand for energy.

The very nature of the energy demanded is changing. The more refined energy product, electricity, is demanded in increasing shares. But while comprising very little energy themselves, the production of highly refined energy such as beams of light and X-rays requires the use of vast amounts of less-refined energy.

He reproduces data from the Energy Information Administration which illustrates the cost of power, ranging from one third of a cent per kWh for raw coal through 10 cents for grid-based electricity, all the way up to \$3 per kWh for computer-grade power.

One of the gee-whiz facts about efficiency of electricity that he provides concerns the difference in energy usage of computing. The first application in 1946, called ENIAC—built to compute trajectories for artillery shells—used 10 watts per gate. A Pentium uses one-one-millionth of a watt and is twenty thousand times faster. Put more pedestrianly, they note, 'The... PlayStation II incorporates ten thousand times the computing power of the ENIAC, and requires two thousand times less power'.

But this greater efficiency notwithstanding, the growth in PlayStations means that the product actually uses more power than the ENIAC. Efficiency improvements from power plants to light bulbs have resulted in dramatically lower costs of energy. In the process, these improvements have vastly expanded demand. And over 90 per cent of the energy we use is in mining, refining, processing and converting the energy itself.

One aspect of his analysis has been severely criticised: the amount of to-

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tal electricity use which is attributable to computers, the Internet and other such micro-processor based technology. The authors argue that the packets of energy we call bits have risen massively in spite of—or because of—the improvement of their efficiency of use. Much rests on semantics about what constitutes computer usage, but the aggressively hostile response to the original Huber contentions has now moderated.

One measure popularly advocated to reduce energy use is to mandate more efficient light bulbs. The authors show that, notwithstanding the apparent savings from this lighting, consumers have only really adopted it when regulation required them to do so. The pace of innovation has meant that those who committed themselves to the wonderful financial savings promoted by the lighting efficiency analysts of the 1990s have wasted their money. Much more efficient fluorescent and LEDs have been developed since then.

The book also traverses the grand issues of power outages. With the highly politicised California blackouts, it correctly diagnoses the problem as having stemmed from the state's ban on new plant—a ban actuated by a combination of distaste for dirty industries and a politically correct belief that we are using too much electricity anyway. The Californian state government's mandating of a 10 per cent price reduction and forbidding long-term contracts led it to come scuttling back to a statement that it would 'never again ... allow out-of-state profiteers to hold Californians hostage'. Other outages are often caused by the increasingly interconnected system and its susceptibility to human error or natural causes; these outages could be significantly reduced by applying the correct incentives to allow better control.

Finally, the book draws the strong correlation between energy use and GDP, with the Western Europeans

achieving slightly higher GDPs than their energy usage would predict because of the high energy taxes and other restraints on energy use they impose.

He thoroughly skewers the eco-puritanism that advocates living simply and frugally as the key to environmental holiness, pointing out that human wants tend to grow to fill our means. If we manage, say, to make refrigerators more energy-efficient and thus cheaper, we just make a bigger, better fridge that uses the same, or even more, energy for the same or less expense. New ways to 'save energy' always lead to more energy being used—but that's all right, we have plenty.

As Huber explains so well, the kinds of energy that left/Soft Greens tend to fear the most, such as nuclear, are in fact the most Green—giving us the greatest amount of power for the least amount of disturbance of the earth and environment. Meanwhile, 'renewable' sources such as solar, wind, or burning wood leave enormous scars on the land or add pollution to the air. What we don't have plenty of, he stresses repeatedly, is untouched wilderness. This is the only scarcity we need be concerned with, Huber argues, and its preservation is what a right/Hard Green ought to be dedicated to.

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