

## The Oceans of “Free Energy”

by Eugene F. Mallove, Sc.D.



We don't shirk from stirring up controversy. In that spirit, this reflection might offend some—especially those who consider that only one generic source of “free energy” may exist. Perhaps they believe it is their favorite certainty, such as low-energy nuclear reactions (LENR/cold fusion) or hydrino energy (“shrunken hydrogen,” a la the science and technology that BlackLight Power Corp. says it is pioneering). Fair enough. There is little doubt that either or both of these generic sources, which seem to stem from anomalous behavior of hydrogen with catalytic agents, could power an advanced Solar System-wide civilization for millions of years. These sources do have behind them the largest body of published, replicated scientific supporting evidence, but they may not be the only sources.

Let us expand our horizons a bit more. First, some definitions. The heretical concept of “free energy” needs some clarification. It bears some relationship to “free information,” which only a few decades ago might have been considered “impossible” or unlikely to emerge in the near term. Yet we find ourselves in what could rightly be called the “Free Information Age.”

Once upon a time, scribes created scrolls and later illuminated books. Information was precious, expensive, and the privilege of an elite. The fifteenth century saw the advent of the printing press and information became more widely disseminated, but it was still relatively expensive to obtain—except much later on trips to the public library. If you bought the *Encyclopedia Britannica* as recently as in the mid-1980s, you'd have to pay about \$1,500. Now you can get it virtually free from the Internet or on a CD.

Free energy will be that way. As many Web surfers know, information has become virtually free. If one had to pay the former cost of all the physical documents, images, videos, audio records, and much else that can be accessed today on the Internet for a nominal monthly fee, it would cost many millions of dollars. Some of this information would not have been obtainable at any price, and today's access speed would have been impossible. “Free energy” will be energy on demand with effectively zero recurring cost, *i.e.* no “fuel” cost, once the capital equipment has been purchased.

The free energy of advanced hydrogen catalysis—cold fusion/LENR/hydrinos—will be extracted from oceans of water. But there are at least two other “oceans” from which other forms of free energy might conceivably come. Ocean No. 1: “Empty” space itself and Ocean No. 2: The thermal energy of the environment, which is the kinetic energy of speeding and vibrating atoms and molecules. (For the purpose of this discussion, let's exclude such understood “free energy” sources as wind energy, solar energy, geothermal energy, and the like, which are not so “free,” as it turns out.)

Access to Ocean No. 1 by any mechanism, electromagnetic or otherwise, would require, according to today's establishment physics, creating a “Perpetual Motion Machine of the First Kind” (a PMM-1). Inventors of various claimed “over-

unity” electromagnetic machines and theorists who support the possibility of such devices would disagree. Whether Ocean No. 1 be called “space energy,” “zero point energy” (ZPE), or “aetheric energy,” the energy would have to come from somewhere, a radically new plenum—or an old plenum, the “aether,” which Einstein and his followers supposedly abolished with Special Relativity. The conservation of energy, though apparently violated by a PMM-1, would be rescued by postulating this new ocean of free energy. Mainstream cosmologists who blithely discuss cosmic “dark matter” and “quintessence” energy should actually be very comfortable, in a theoretical sense, with the possibility of a PMM-1.

Access to Ocean No. 2, environmental thermal energy, would require a Perpetual Motion Machine of the Second Kind (a PMM-2)—one that could extract useful work from an environment of essentially uniform temperature. (We exclude the known technologies of tapping small or large thermal differences in environmental reservoirs.) Far fewer investigators, less than a dozen known to us, have had the audacity to consider trying to create a PMM-2. The Second Law of Thermodynamics in several of its explicitly stated forms would be violated by a PMM-2. The Second Law is, indeed, a harsh taskmaster. Einstein himself once asserted:

A theory is the more impressive the greater the simplicity of its premises, the more different kinds of things it relates, and the more extended its area of applicability. Therefore the deep impression which classical thermodynamics made upon me. It is the only physical theory of universal content concerning which I am convinced that, within the framework of the applicability of its basic concepts, it will never be overthrown.<sup>1</sup>

Yet, some experimenters and theoreticians, have had apparent success in finding chinks in the Second Law's armor. We have not yet published the experimental results of several of those who have come to our attention, though we have mentioned the work being done at Entropy Systems in Ohio (see *IE*, No. 29, p. 49). Entropy Systems does not have anything like a self-running PMM-2. Others appear to have created extremely low-power demonstrations that are still astounding, in view of the sacrosanct principle they appear to violate. In one case, the evidence emerged from a highly credible source, not long before the cold fusion furor of March 1989; it thus seems to have disappeared from the radar screen. In future issues of *Infinite Energy*, perhaps as soon as our next issue (if arrangements can be made), we hope to present some of this evidence. Is that a prelude to more robust power systems? It is simply too early to tell.

The most important message in this enumeration of oceans is to remain open-minded about what the future may hold for the free energy scene. Recall that prior to 1989, almost no one could have imagined that something as radical as solid-state cold fusion would be discovered. Now that the data supporting cold fusion has been handed to establishment physicists on a silver platter, they continue to ignore this remarkable condensed matter phenomenon. Thus, we were amused by physicist N. David Mermin's list of ten questions he would

wish to ask a colleague from the year 2100, if he (Mermin) awoke from a one hundred year sleep. His Question No. 6 was (*Physics Today*, February 2001, p. 12): "Tell me about a collective state of matter, unimagined in the year 2000, that is as remarkable as, for example, superconductivity, superfluidity, or the fractionally quantized Hall effect seemed to be at the end of the twentieth century."

Mermin also wrote of this question No. 6, "I'll take my chances that the question will not elicit giggles." Unknown to Mermin, it already has! To my astonishment, his very next comment was: "One could ask a similar question for similar reasons about controlled nuclear fusion, even though that quest has only been with us for fifty years." Physicists in 2100 reading this will know for sure that late twentieth century physicists were, by and large, plodding dullards.

I'd like to ask the physicists of 2010, much closer to us temporally, which of the three free energy oceans have been tapped and reduced to practical devices? Let me be bold and make a prediction: all three. Of course, I'll settle for just one and be very happy when that comes about. Perhaps some creative reader will inform me of another generic "free energy" ocean that I may have omitted. I'd love to hear about it.

**Reference**

1. Lieb, E.H., and Yngvason, J. 2000. "A Fresh Look at Entropy and the Second Law of Thermodynamics," *Physics Today*, April, p. 32.

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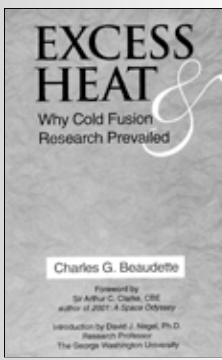
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