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Out of the Energy Crunch by 1976

At the moment, the chief hope for an amelioration of the energy crisis lies in an easing of the oil embargo, but valves that can be opened can be closed. Solemn agreements with the oil producing and exporting countries, ostensibly valid for decades, have been scrapped in weeks. The public and the economy cannot long tolerate the uncertainties of being a Yo-Yo in the hands of others.

Prior to the embargo, we were importing 35 percent of our consumption. If we were to lower that to 20 percent, consumers would pay less for hydrocarbons, foreign exchange problems would ease, and we would no longer need to obtain oil from the Arabs. Such a major step to energy independence could and should be taken by 1976.

The quickest path toward balancing supply and demand is conservation combined with the replacement of use of hydrocarbons by coal. Thus far, the main burden of conservation has been carried by the public, which consumes directly only a minor fraction of the energy. The major potential for quick savings of hydrocarbons lies with industry. It is the largest consumer of energy; it has substantial technical resources; and, with costs soaring, it has incentives to seek economies. Like the public, industry generally has governed its behavior on the assumption of cheap energy. Thus it has much room for improvement.

All of industry has not been asleep. Two good examples of organizations with foresight and ingenuity are DuPont and Dow. Both companies have emphasized conservation of energy in their plant designs and operation. During the past decade, DuPont increased its volume of products 100 percent, while energy used rose only 50 percent. DuPont has advised other large consumers about conservation through a consultant service. Broad experience has shown that significant conservation at an industrial plant will, on the average, result in a 15 percent reduction in the plant's total energy consumption, and about half the saving can be achieved without new investment.*

At Dow Chemical during 1972, the company achieved a 10 percent reduction in energy used while increasing yield. The company had as its goal a like reduction in 1973.†

Another way of conserving hydrocarbons is to avoid burning them merely to produce heat. "One of the quickest and most effective ways to reduce short-falls in gas and oil is to substitute coal for them under electric utility and industrial boilers. Approximately 65 percent of the natural gas used goes to the electric and industrial sectors. Some 30 percent of the oil used goes to the same sectors. . . ."

Thus far, the Administration has not been even-handed in its efforts to meet the energy crisis. The consumer has been the target of exhortations, shortages, and higher costs. Industry, and especially the utilities, which usually can pass on higher prices, have been largely protected from shortages.

By concentrating more attention on industry and the utilities, by invoking some of the can-do attitudes of World War II, by setting up a priority system to expedite procurement of scarce items, by unleashing coal as a primary energy source, and by making its use mandatory in some applications, an effective government could get us out of the energy crisis within 2 years. It could free us from any need to use oil from undependable sources, and our example and reduced imports would contribute to loosening the worldwide grip of the oil cartel.

—PHILIP H. ABELSON

* D. H. Dawson, *Context* 2, 17 (1973). † J. C. Robertson, *Chem. Eng.* 81, 104 (21 January 1974). ‡ *Report of the Cornell Workshops on the Major Issues of a National Energy Research and Development Program* (College of Engineering, Cornell University, Ithaca, N.Y., rev. ed., 1973), p. 24. The report of the Cornell workshops provides an excellent summary of many aspects of the energy problem. It was prepared for the Atomic Energy Commission. Copies can be obtained from the U.S. Atomic Energy Commission, Technical Information Center, P.O. Box 62, Oak Ridge, Tenn. 37830.