

As exciting and revealing as these new technologies are, they still involve considerable uncertainties, which I believe probably conceal significant resources. Furthermore, as we and others go back into known oil fields, we continue to discover areas that were overlooked and horizons that were drilled through without noting significant accumulations of oil.

The larger question is, What production will be possible from these various sources at what oil price? At \$18 per barrel, U.S. production could continue to decrease at maybe 8% to 10% per year. At, say, \$35 per barrel, the United States could probably regain or surpass our early 1980s production and maintain it for decades. Eighteen dollars appears to be reality; \$35 does not appear likely.

Lovins makes a number of points; I will comment on two. First, he argues that continued improvements in efficient energy utilization are possible, desirable, and inadequately covered in my article. I totally agree. The DOE Energy Research Advisory Board (ERAB) has projected possible further U.S. energy efficiency gains of 20% to 30% by

the year 2000, and I believe such improvements are physically attainable. The original draft of my paper had a much longer section on conservation, quoting ERAB.

The answer to Lovins' questions about why "oil companies [aren't] spending more on exploration" is the same as to the question of why the drive for greater U.S. energy efficiency has stalled and even reversed [the 65 mile-per-hour speed limit, CAFE (Corporate Average Fuel Economy) relief, and so forth]. The problems are low oil prices and government policies.

Low oil prices severely limit the exploration that can be economically justified under the current U.S. tax structure. That tax structure was basically established during the high profit period of the late 1970s and early 1980s. It has not been revised to accommodate the new realities that followed the 1986 oil price collapse. Tax structure changes could lower effective costs and thereby stimulate a dramatic expansion of new U.S. exploration and production.

Low oil prices also severely dampen the economic driving force for additional energy conservation. The only possible counter

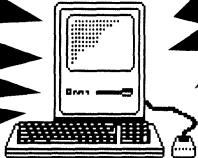
to that situation is government policy change, which could mandate continued energy efficiency improvements. When the stakes are as high as they are in energy, an either-or policy seems to me to be foolhardy. I believe that both increased U.S. exploration-production and increased energy efficiency are in the national interest, and I favor policies that would stimulate both.

ROBERT L. HIRSCH
ARCO Oil and Gas Company,
2300 West Plano Parkway,
Plano, TX 75075

Erratum: In Constance Holden's article "NIMH finds a case of 'serious misconduct'" (News & Comment, 27 Mar., p. 1566), the location of the Oakdale Regional Center for Developmental Disabilities was incorrectly given as Illinois. The center is in Oakdale, Michigan.

Erratum: In the 1 May AAAS News (p. 610), four paragraphs that should have appeared under the heading "Pacific Division meets in San Diego, 14-18 June," incorrectly appeared under the heading "SB&F focuses on science in the middle grades." The misplaced text (p. 611) begins, "In addition, several field trips are scheduled. . . ." and ends, "or call 415-752-1554."

Erratum: In Jean L. Marx's Research News article "Oxygen free radicals linked to many diseases" (30 Jan., p. 529), Benedict Lucchesi (whose name was misspelled) was incorrectly described as expecting to initiate clinical trials of superoxide dismutase and catalase in human heart attack patients who undergo reperfusion therapy.



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