The Mixed Blessing of Inexpensive Oil

Despite last week's OPEC agreement, petroleum prices are expected to remain low; consumers will benefit, but Persian Gulf suppliers will make faster gains in world oil markets

THROUGHOUT MUCH of the Reagan Administration, the expansion of the American economy has been aided by steadily declining oil prices. According to many experts, the Bush Administration may be equally fortunate. Oil has been selling below $15 a barrel and there is a general expectation that prices will remain low through the mid-1990s and possibly into the next century.

Will the late November decision by Organization of Petroleum Exporting Countries (OPEC) to adopt new country by country production quotas alter this outlook? OPEC aims to roll back oil production from about 22 million barrels per day to 18.5 million barrels per day. This is supposed to allow oil prices to rise to about $18 a barrel. But analysts such as Charles Ebinger of International Resource Group, Ltd., do not expect prices to climb much. "It is just a matter of time before countries in need of revenue start cheating again on their production quotas," says Ebinger. He predicts that the agreement will collapse and that prices will stay below OPEC's target price.

A continuation of cheap oil will be a mixed blessing, however. Although it could permit industrialized and developing nations to sustain moderate economic growth, U.S. oil producers are unlikely to be able to economically develop large numbers of new fields with oil at current prices. This will mean that the domestic oil industry will remain depressed and that U.S. dependence on foreign suppliers may grow more quickly.

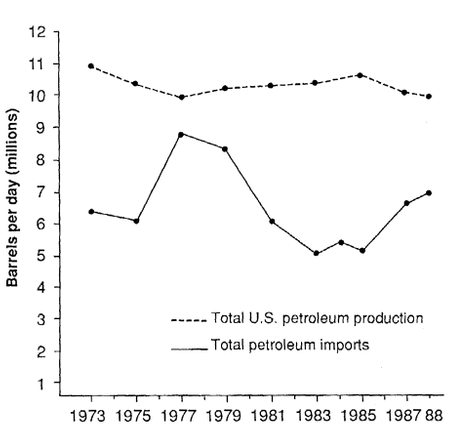
"We are going to have an accelerating oil import problem, if prices stay down around $15 a barrel," comments Adam Sieminski, a vice president of a Washington-based energy consulting firm, County NatWest/Washington Analysis. But, aside from a handful of oil-state legislators, there appears to be little interest in the problem in Congress. Says one aide on the House Energy and Commerce Committee, "It is not a high-priority issue."

Short of intervention by the federal government or some catastrophic event in the Middle East, there is "very little reason to believe that prices will average above $17 a barrel by 1993," says Ebinger. Oil prices after OPEC's meeting, in fact, were still below $15 a barrel compared to $20 a barrel a year ago.

The fall in prices is largely the result of decisions by Persian Gulf countries such as Saudi Arabia, Iraq, and the United Arab Emirates to increase production in order to retain or expand their respective shares of the world oil markets. A number of member countries also are exceeding the quotas. Most experts do not expect OPEC to be able to enforce this latest pact because of ongoing disagreements between Iran and Iraq over their rightful production quotas and because of the needs of non-Arab OPEC members to generate more income.

Sometime in the 1990s, OPEC could have an opportunity to raise prices if production capacity becomes strained. But an economist with one major American oil company, who asked not to be identified, says Persian Gulf suppliers probably will expand pumping before a bottleneck occurs. Ebinger agrees, noting that Iraq will open a new oil pipeline through Saudi Arabia this summer and that is likely to result in Iraq seeking to raise its production.

Forecasts of moderate oil prices for the remainder of the century are also bolstered by upward revisions in estimates of world oil reserves. Since last year, reserve estimates have grown from 699 billion barrels to 887 billion barrels. The increases have occurred primarily in the Persian Gulf, where Iraq's reserves have more than doubled to 100 billion barrels. Iran, Kuwait, and the United Arab Emirates have posted similar gains, bringing their respective holdings to 92 billion barrels each.



Import upswing. *The United States' reliance on imported oil is growing steadily and may soon exceed 1977 levels.*

"For those who are willing to depend on Middle East supplies, these reserve numbers do increase the comfort index," comments an executive with a major American company. Indeed, the prospect of another decade of low prices "is good news for consumers and bad news for our energy industry," says William Martin, a former deputy secretary of the Department of Energy (DOE), who has been advising President-elect George Bush on energy policy matters.

Crude oil production in the United States has, in fact, been falling for two decades and this trend is expected to continue. Production might be stabilized for a while with increased drilling, but this is not likely to happen as long as prices remain low. According to Richard Starling, an economist with the Independent Oil Producers Association, the industry needs prices above $18 a barrel to spark significant new drilling that could boost domestic oil production.

The outlook, therefore, is for imports to increase significantly in the years ahead. DOE expects that foreign producers will supply 50% of domestic needs by 1995, compared to 37% today. This could happen sooner, says Sieminski, because prices of $10 to $12 a barrel encourage consumption and slow conservation efforts. Already, imports are running at about 6.9 million barrels a day—more than in 1973 at the time of the first Arab oil embargo.

This will make it even more difficult to reduce the nation's total trade deficit. Oil imports cost the country $44 billion in 1987 and accounted for 26% of the nation's total trade deficit; DOE estimates imports could cost upwards of $100 billion a year by 2000.

There is, however, at least one encouraging feature of the oil import picture: even though imports are rising, the Western world may be less vulnerable to short-term supply disruptions today than it was in the 1970s. For one thing, the United States has diversified its sources of supply, cutting imports from Arab OPEC suppliers by almost half since 1979. And for another, the U.S. Strategic Petroleum Reserve and oil storage programs in other nations provide a substantial cushion.

Moreover, Marc Plotkin of Congress's Office of Technology Assessment observes that most of the large suppliers in the Middle East are running budget deficits or have other financial burdens and can ill-afford to

cut back production. Another change, says Sieminski of Washington Analysis, is that suppliers are refining and distributing more petroleum products in Europe and the United States. An embargo, would damage their own sales, he notes.

Nevertheless, there are growing calls for strong federal measures to reduce the impact of cheap imports on the trade deficit and on the domestic energy industry. The Reagan Administration and the Congress, however, have refrained from interfering in the marketplace—at least partly because purchases of Persian Gulf oil have been cut.

The options for controlling imports, Martin said recently at a conference on energy problems, include switching from oil to gas, greater reliance on coal, stockpiling more oil, stepped-up exploration, and, where possible, expanding the use of nuclear power. Bush also would provide the oil industry with new tax breaks to help lower domestic production costs and to increase petroleum exploration activities in the country.

Martin contends, and many economists agree, that a tariff on imported oil, while helpful to domestic producers, would penalize the overall U.S. economy by raising energy prices. A gas tax would not help either because it only raises the prices at the pump, not at the wellhead. Bush also is against imposing stricter mileage standards on automakers, even though almost half of the 9.75 million barrels of petroleum consumed each day in the U.S. transportation sector is used in cars.

Dependence on a volatile political area like the Persian Gulf, says Martin, "is not a happy situation." But there are few signs that this dependence will diminish.

■ MARK CRAWFORD

ADDITIONAL READING

Basic Petroleum Data Book, vol. VIII, no. 3 (American Petroleum Institute, Washington, DC, September 1988).

World Oil Trends (Arthur Anderson & Company, Chicago, IL; Cambridge Energy Research Associates, Cambridge, MA, 1988).

E. R. Fried and Nanette M. Blandin, *Oil and America's Security* (The Brookings Institution, Washington, DC, 1988).

U.S.–Soviet Weapons Journal Launched

"There's an interesting philosophical question," said Roald Sagdeev, the Soviet space research director, taking a cue from reporters who had come to lunch to hear about a new U.S.–Soviet journal on arms control. Sagdeev and Frank von Hippel of Princeton University will cochair the editorial board. Harold Feiveson of Princeton will be the editor. The reporters wanted to know who would underwrite it. "Taxpayers can support the arms race, no question about it," Sagdeev said. "But when it comes to arms control, maybe it's too expensive . . . "

The journal, to be called *Science & Global Security* will debut next spring backed entirely by private funds. Its aim is to provide a high-quality forum in which to discuss technical issues in the furtherance of arms control. The main backers at present are the U.S. company, Gordon and Breach Science Publishers, and Mir, the Soviet publisher of *Scientific American*.

Incorporating the project was an adventure in itself, says von Hippel. When it was conceived last year, there was no precedent for an independent, privately backed venture of this kind in the U.S.S.R. The founders insisted that it be private to remain entirely free of political coloration. They met with Soviet Premier Mikhail Gorbachev nearly a year ago, and with his endorsement, von Hippel says, "I thought the skids were greased." But the Soviet government, moving at glacial speed, did not grant an official license until this October. The journal received a precedent-setting permit to operate as a nongovernment publication and raise private funds within the Soviet Union. It will come out simultaneously in Russian and English, four times a year.

According to Feiveson, 4 years of planning lie behind the effort. The first two issues have already been put together in draft form. They will include articles on a cooperative U.S.–Soviet research program to monitor low-yield nuclear tests; a feasibility analysis of banning nuclear reactors from space; a technical discussion of cheat-proof methods for dismantling nuclear warheads; and a discussion of prospects for U.S.–Soviet cooperation in space.

The editorial board also includes Herbert L. Adams of Stanford University, Vitali Goldanskii of the Soviet Institute of Chemical Physics, John Holdren of the University of California at Berkeley, Col. Thomas Johnson of the U.S. Military Academy at West Point, Sergei P. Kapitza of the Vavilov Institute of Physical Problems in Moscow, Franklin Long of the University of California at Irvine, Milo D. Nordyke of the Lawrence Livermore National Laboratory, Theodore Postol of Stanford, George Rathjens of the Massachusetts Institute of Technology, Stanislav N. Rodionov of the Institute of Space Studies in Moscow, and Evgenii P. Velikhov of the Soviet Academy of Sciences.

■ ELIOT MARSHALL

SSC Report Attacked

A recent report by the Congressional Budget Office (CBO) on the promises and possible pitfalls of the Superconducting Super Collider (SSC) has not been well received by Robert O. Hunter, Jr., director of the Office of Energy Research. On 9 November, Hunter fired off a letter to James Blum, acting director of CBO, complaining that the report's cost projections for the SSC were "simplistic" and inaccurate.

The report, *Risks and Benefits of Building the Superconducting Super Collider* (see *Science*, 14 October, p. 186), used an average of cost escalations incurred by a series of accelerator projects to give Congress an idea of how SSC costs might grow. The report suggested that if an average increase of 46% were applied to the SSC, costs could reach $6.4 billion. Hunter says the "logic of this approach is essentially invalid" because it relies on a sample size of four. Furthermore, the magnet technology developed at Fermi National Accelerator Laboratory, he adds, means that the SSC "does not require major component development, and consequently can be costed with confidence."

Hunter also faults CBO's comparison of the SSC with other potential accelerator projects—Europe's Large Hadron Collider (LHC) and a new linear electron-positron collider. He says it is not accurate to portray the SSC as the most expensive of the near-term options when the full costs of the LHC are not known and when a conceptual design report for the linear electron-positron collider is years away from completion.

"The department continues to believe that all evidence demonstrates compellingly that the Super Collider can be built within our previously announced cost estimate of $4.4 billion [$5.3 billion with inflation]," says Hunter.

■ MARK CRAWFORD

Thomas to Leave EPA

Lee M. Thomas announced last week that he plans to leave his job as administrator of the Environmental Protection Agency on 20 January, the last day of the Reagan Administration. He has headed the agency since February 1985, when he succeeded William Ruckelshaus. He did not reveal his future plans. Thomas previously served as assistant administrator of EPA in charge of toxic wastes and the superfund program. He kept a low profile during his tenure as administrator, in sharp contrast to Ruckelshaus's predecessor, Ann (Gorsuch) Burford who resigned under fire in 1983.

■ COLIN NORMAN