

Research Department
Federal Reserve
Bank of
San Francisco

March 28, 1980

Synfuel Subsidy?

Early this month, House-Senate conferees approved legislation which would create an independent, Federally-owned corporation—the Synthetic Fuels Corporation—to foster the commercial production of synthetic fuels (synfuels) within the United States. These synfuels would include any liquid, gaseous or solid fuels produced from nonconventional materials—such as coal, shale, tar sands and biomass (vegetable matter)—for use as substitutes for petroleum and natural gas. Prospects appear favorable for passage of the legislation.

Under a two-stage program, the legislation is designed to give private industry the capability to produce synthetic fuels, by 1995, at a rate of 1.5 million barrels of oil equivalent per day. The Corporation would receive spending authority of \$20 billion immediately upon passage of the legislation, to foster the development of different technologies among a diverse group of industrial firms. Four years later, it would receive an additional \$68 billion in spending authority, to encourage commercialization of the most promising technologies. Both phases would be subject to the Congressional appropriation process.

The Corporation could provide industrial firms with several types of incentives, listed in order of priority: purchase agreements and price guarantees, loan guarantees, and direct loans. As a last resort, it also could enter into joint government-private ventures as a minority shareholder. The Administration originally proposed that the program be funded from the "windfall profits tax"—that is, from the extra revenues earned by oil companies under the program of gradual price decontrol—but those funds now appear to be earmarked for other purposes.

Arguments for subsidies

Supporters of the synfuel legislation base their case largely on grounds of national security.

They recognize that domestic production of synthetic fuels is not commercially feasible at current world oil prices. But they maintain that synthetic fuels are essential to reduce the nation's heavy dependence on foreign oil, and that government assistance to private industry is necessary to accelerate the commercialization process. The social benefits to be derived from reduced oil imports—namely, greater security of energy supply and a lower world oil price than might otherwise prevail—thus justify government intervention.

Most policymakers agree that the United States needs to reduce its heavy dependence on foreign oil. In 1979, the nation imported 8.1 million barrels of oil per day, equivalent to 42 percent of its total petroleum requirements. This degree of foreign dependence—which could rise further—exposes the United States to a high risk of serious supply interruption and economic dislocation, either because of a cutoff of imports or further OPEC price hikes.

Replacing the price system

Critics question, however, whether government subsidies are required to achieve the goal of increased energy security. Further, they question whether synthetic fuels provide the least-cost alternative for achieving a given reduction in imports.

In a free market, commercial production of synfuels would begin when the world price of oil had risen to the point where their production was economically justified. One major criticism of the proposed program centers around the difficulty of determining the relative efficiency of various alternatives, once the allocation process is transferred from the price system to government. For example, Congress has no way of knowing whether the magnitude of the proposed synfuel subsidy would be adequate enough, (or more than adequate) to close the gap between the cost of synfuel technologies and the world price of oil.

FRB
SE
Weekly
Letter

Research Department
Federal Reserve
Bank of
San Francisco

Opinions expressed in this newsletter do not necessarily reflect the views of the management of the Federal Reserve Bank of San Francisco, nor of the Board of Governors of the Federal Reserve System.

If the differentials between their cost and the world price widen over time, \$88 billion in subsidies may prove insufficient to bring forth significant synfuel production by 1995. In that case, more billions of tax dollars might have to be sunk into synfuel technologies to bring them to commercial production. On the other hand, if certain technologies were to become commercially feasible through the market process, there would have been no need for government assistance in the first place. The synfuel program thus may be seen as a means of transferring the risk with regard to the uncertain outlook for world oil prices from the private to the public sector.

But the legislation could lock the government into a costly subsidy program, when more cost-effective means are available of reaching the desired 1.5 million b/d reduction in imported oil.

Alternative approach?

Critics of the synfuel program tend to disapprove of any kind of government interference in the nation's energy markets. But they argue that if the government is to intervene at all to reduce imports or enhance energy security, there are more cost-effective means than synfuel subsidies for reaching the desired 1.5 million b/d reduction in imported oil. They point out that conservation is by far the most cost-effective way to "produce" energy, and therefore should have the top priority for government financial assistance. Aside from higher domestic petroleum prices, they favor, for example, programs to promote the installation of insulation in buildings, the development of solar hot-water and space-heating systems, and the production of more energy-efficient consumer goods and industrial technologies. Development of a strategic petroleum reserve also would be a cost-effective method of enhancing energy security.

In their view, rising oil imports result partly from existing government regulations. For years Federal price controls have held the average price for domestically-produced crude oil and natural gas below world market levels. This policy serves both to stimulate domestic consumption and to reduce domestic production of these fuels. In the case of crude oil, the entitlement program actually subsidizes foreign imports, by requiring refiners with access to lower-cost domestic crude to pay refiners using higher-cost imported oil an amount sufficient to equalize the effective acquisition cost of all available oil.

Critics claim that the most efficient means of reducing oil imports would involve an immediate decontrol of prices of domestically-produced crude oil and natural gas, rather

than the present policy of gradual decontrol coupled with a windfall-profits tax. By providing increased price incentives, immediate decontrol would both stimulate domestic production and reduce consumption of conventional fuels.

Immediate decontrol, however, would not speed up the commercialization of synthetic fuels, because the cost of most such fuels would still be much higher than the \$28/barrel average contract price of OPEC oil, with which synthetic fuels would have to compete. According to Department of Energy estimates, such costs would range from \$32 for shale oil (surface retorting) to \$38 for either coal liquids and fuels produced from biomass, in 1979 dollars per barrel of crude-oil equivalent.

A synfuel-subsidization program would aim to encourage the commercialization of those fuels at an earlier date than might be economically justified, by requiring taxpayers to finance the difference between synfuel production costs and the world oil price. Synfuel production under such circumstances would represent an inefficient use of society's scarce resources, and thus would require justification on national security or other grounds.

Critics see little merit to the argument that there are special risks associated with the commercialization of synfuel technologies that make government intervention a necessity to bring them to production. The technological and market risks ascribed as "special"—advanced technology, large capital requirements, long lead times, uncertain market prices—actually are characteristic of all emerging technologies which are not yet economic at current prices for competitive products. Thus, those obstacles would disappear in the present case as world oil prices continue rising.

The technical feasibility of synfuels has long been proven. Shale oil was first produced in Britain in the 1850's. Gaseous and liquid hydrocarbons were produced from coal in

Germany during World War II, and are being produced today in South Africa. The capital expenditures required for the development of an entire synfuel industry would be huge. The capital outlays required for individual commercial projects, although high—ranging from \$1.0 to \$1.5 billion for a small 50,000 b/d size plant—are dwarfed however by the costs of other privately-financed energy projects such as the \$9-billion Alaska oil pipeline. The private energy industry thus appears capable of bringing synfuel technologies into production, and perhaps at considerably less cost than would be incurred by the Synthetic Fuels Corporation.

Yvonne Levy

Research Department
Federal Reserve
Bank of
San Francisco
 Alaska • Nevada • Oregon • Utah • Washington
 Idaho • Arizona • California • Hawaii

BANKING DATA—TWELFTH FEDERAL RESERVE DISTRICT
 (Dollar amounts in millions)

Selected Assets and Liabilities Large Commercial Banks	Amount Outstanding 3/12/80	Change from 3/5/80	Change from year ago	
			Dollar	Percent
Loans (gross, adjusted) and investments*	138,612	+ 231	+ 16,812	+ 13.8
Loans (gross, adjusted) — total#	116,463	+ 193	+ 17,106	+ 17.2
Commercial and industrial	33,639	+ 74	+ 4,565	+ 15.7
Real estate	44,982	+ 165	+ 8,834	+ 24.4
Loans to individuals	24,496	- 25	+ 3,573	+ 17.1
Securities loans	1,290	- 165	- 210	- 14.0
U.S. Treasury securities*	6,736	+ 31	- 1,040	- 13.4
Other securities*	15,413	+ 7	+ 746	+ 5.1
Demand deposits — total#	43,994	- 663	+ 3,652	+ 9.1
Demand deposits — adjusted	32,015	+ 484	+ 2,354	+ 7.9
Savings deposits — total	27,611	- 266	- 2,121	- 7.1
Time deposits — total#	60,372	+ 526	+ 9,826	+ 19.4
Individuals, part. & corp.	51,756	+ 559	+ 10,704	+ 26.1
(Large negotiable CD's)	21,414	+ 85	+ 3,290	+ 18.2
Weekly Averages of Daily Figures	Week ended 3/12/80	Week ended 3/5/80	Comparable year-ago period	
Member Bank Reserve Position				
Excess Reserves (+)/Deficiency (-)	11	65		55
Borrowings	182	250		27
Net free reserves (+)/Net borrowed(-)	- 171	- 185		29
Federal Funds**				

* Excludes trading account securities.

Includes items not shown separately.

** The revised series on Federal Funds and Repurchase Agreement Borrowings (FR 2415) is available on request from the Statistical and Data Services Department of the Federal Reserve Bank of San Francisco. Editorial comments may be addressed to the editor (William Burke) or to the author . . . Free copies of this and other Federal Reserve publications can be obtained by calling or writing the Public Information Section, Federal Reserve Bank of San Francisco, P.O. Box 7702, San Francisco 94120. Phone (415) 544-2184.