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BEFORE THE
SUBCOMMITTEE ON ECONOMIC STABILIZATION
HOUSE COMMITTEE ON BANKING, CURRENCY, AND HOUSING
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Mr. Chairman, I appreciate the opportunity to testify on the subject of loan guarantees for synthetic fuels.

Late in 1975, at the request of the Senate Budget Committee, the Congressional Budget Office (CBO) undertook an analysis of synthetic fuels commercialization. That analysis is reported in a CBO background paper entitled, "Commercialization of Synthetic Fuels: Alternative Loan Guarantee and Price Support Programs", which I would like to submit for the record, as much of my testimony is based on it.

Since the CBO is required to provide non-partisan analysis of policy options, our report contains no recommendations. I will make none today.

I am, however, pleased to be able to provide the committee with a perspective on the complex synthetic fuels issues, and, perhaps, to show how those issues--and H.R. 12112--relate to the context of larger energy policy, financing, and budget questions.

Synthetic Fuels

Perhaps I should begin with a description of what synthetic fuels are and what is known about producing them.

Synthetic fuels (synfuels) are so called because their production involves a basic transformation of the fuel from the way it is found in nature. Synfuels are usually considered to include gas and oil made from such sources as coal, oil shale, or urban or other waste. Production of such synthetic fuels would be eligible for support under H.R. 12112.

Each of the many processes for producing synthetic fuels can be thought of as having been developed to a specific point in the continuum of activities which range from basic research through development and demonstration to commercial acceptance. Several of the older processes have been demonstrated to work, but on a scale considerably smaller than that expected to be needed for commercial operation.

A commercial coal or shale-based synthetic fuel plant, for example, would involve a very large mine, a system to transport coal or shale to the gasifier or retort, perhaps six to ten of those processors which extract gas or oil, and facilities for transporting the product and disposing of waste.

Neither the mines nor the processors have been constructed in this country at such scales, nor has a commercial plant--which might cost a billion dollars--been assembled.

Yet such synthetic fuels would tap resources the Nation has in abundance--such as coal, oil shale, and urban waste--to produce gas and oil--which are scarce. Thus, it has been argued, synthetic fuels offer the potential of greatly increasing the long-term domestic supply of energy, and thus significantly reducing imports of oil and the costs and uncertainties associated with those imports.

The Issues

Given this situation, it is appropriate to ask several major questions:

- Should the development of a synthetic fuel industry be initiated now?
- Will that development take place in the absence of government action?
- What actions would be required to bring about the growth of a synthetic fuel industry?
- What would be the impacts and costs of those actions?

Adoption of H.R. 12112 would reflect one set of answers to those questions.

In discussing each of these questions in turn, I will be able to do little more than describe the context in which answers may be found. In some cases a great deal is known, in others we have little more than conjecture or informed judgment.

Perhaps subsequent days of these hearings will provide an opportunity to fill in some of the gaps in the currently available analysis.

Need for Synfuels

The first question, should the development of a synthetic fuel industry be initiated now, is perhaps the thorniest. Ideally, that question would be addressed in the context of an overall conception of energy policy. Such a policy might include measures for increasing domestic energy supply, for reducing demand, and for mitigating the impact of an oil embargo once it began.

If, in this context, the Congress decides that domestic energy production should be increased, and it is shown that synthetic fuels compare favorably with other potential sources of increased supply, then speedy development of a synthetic fuel industry would be appropriate.

In the absence of a comprehensive analysis of energy policy options, however, the decision on synthetic fuels may have to be based on more limited information. The approach used by an interagency task force in developing the program recommended by the President involved a study of the costs and benefits of synthetic fuel production. That study considered estimates of the costs of producing synthetic fuels, the cost of environmental damage done in producing synfuels, the value of the fuels themselves to consumers, and the value of embargo protection provided by substituting domestic for imported energy.

Their best single estimate was that costs of synfuel production would exceed benefits. The estimate was based on a program with a 1985 target of 350,000 barrels-per-day, and including representatives of the major candidate processes. The conclusion was, of course, quite uncertain. It was based, for example, on an even chance that the cartel of oil producing countries (OPEC) would hold together and continue to raise prices. If the odds on OPEC holding together increased to four to one, the benefits would be expected to exceed costs.

Other judgments not easily quantified could affect the need for synthetic fuels. Synfuels could be viewed as a form of insurance against the consequences of possible embargoes or future price increases by OPEC. An aggressive program to find alternative sources of energy might convince OPEC to moderate its prices in order to avoid losing the U.S. market.

Finally, there is small chance that synthetic fuels would be less expensive than other sources of new energy supplies, and it may only be possible to determine those costs with certainty by actual experience with commercial production. Initiating such production could require federal action, a subject to which I now turn.

Will Federal Action be Required?

It appears all but certain that private industry will not produce substantial quantities of synthetic fuels before 1985. Examination of risks and expected returns led private investors to conclude that investment in synthetic fuels would be unattractive.

Differences of opinion emerge in determining what makes such investment unattractive. Three related but conceptually distinct factors have been identified.

One we might call "unprofitability". A potential investor might estimate that the cost of producing synfuels would exceed the price at which the product could be sold.

Even if expected prices were to exceed expected costs, resulting profits might not be sufficient to attract investment in light of the risks involved. Such risks are of two types.

Since each facility would be the first of its kind, there is a risk of technical failure or unexpected costs during construction and start-up.

Investors also look beyond start-up to risks associated with changes in world energy prices. Even if a plant were completed on schedule and under budget, a sudden drop in world oil prices could make it impossible to sell synthetic fuels at a profit.

What Federal Action is Needed?

If Congress decides that development of a synthetic fuel industry should begin now, and that federal action will be required to make that happen, two questions arise:

- How much production should the government try to bring about?
- What incentives or other measures would be appropriate?

A program to support commercial-size synfuels facilities could be designed principally to acquire information on production technology, costs, and environmental impact. It could be designed to result in production of synthetic fuels in quantities which would significantly reduce dependence on foreign oil. Or it could be designed to serve both objectives.

The information objective could be pursued effectively if a target production of 350,000 barrels per day by 1985 were chosen. Substantial information might also be generated by a smaller program. One with a target of 125,000 barrels per day would allow construction of one plant to produce each type of fuel included in the larger program.

The President has proposed a target of 1,000,000 barrels per day, as part of an energy independence strategy. This target might be compared to current oil imports of 6 million barrels per day.

Once a production goal has been selected, the question of how to achieve it remains. The government could build and own the facilities required to meet the goal. Alternatively, it could act to alter the circumstances which make synfuel investment unattractive to the private sector.

Non-recourse loan guarantees, price supports, and direct grants have been proposed as incentives to private development.

Non-recourse loan guarantees, as provided in H.R. 12112, directly address risks of technical failure. The guarantees clearly protect lenders; the non-recourse feature limits the liability of equity owners to the investment they have made in the synfuels project itself. By making it possible to obtain capital at lower cost, loan guarantees can to some extent improve the expected profitability of synfuels ventures. By reducing the loss any producer would incur by abandoning a plant, they may also reduce risks due to price variations. Whether they would do so sufficiently to induce the desired investment is not entirely clear.

In one case loan guarantees alone probably would suffice. Regulated utilities and gas pipelines would be assisted in raising capital by those guarantees. If regulatory commissions allowed them to pass through to consumers the full costs of constructing and operating synfuel plants, whether or not they worked, a price guarantee would in a sense be provided already.

Price supports would serve two purposes: to subsidize the production of fuels for which market prices are expected to be too low to cover costs and provide an adequate profit, and to shift the risks of changes in the fuels market from private industry to the government.

Construction grants would provide capital to regulated utilities that they might not be able to obtain at any price from private lenders.

H.R. 12112 provides neither price supports nor construction grants.

Any incentive offered by the federal government may have undesirable side-effects, as well as a cost to the federal budget. For example, there is some concern about the effect of loan guarantees on capital markets. Those side-effects, if unavoidable by choice of other incentives, might be weighed against the desirability of synthetic fuel production.

H.R. 12112

H.R. 12112 would authorize \$4 billion in non-recourse loan guarantees, up to 80 percent of which could be applied to coal and shale-based synthetics. Some see these loan guarantees as a program that would stand alone, meeting what they believe the major need insurance against technical failure. Others view the \$4 billion in loan guarantees as authorization of part of a larger program which would cover other of the needs I have mentioned. For example, ERDA could return, possibly on

a project by project basis, to request authority for price supports or construction grants. In any case, even if the loan guarantees are all that is needed achieving a 350,000 barrel per day target could require an additional \$2 billion in loan guarantee authority.

Budget Impacts

The budget impacts of these loan guarantees are both complex and uncertain. They are described in some detail in the report I have submitted. The authorized \$4 billion is very unlikely to result in outlays of \$4 billion. Nor does that authorization count as budget authority. However, the bill provides that guarantees may not be issued until budget authority is provided through an appropriation. That budget authority probably would count on the budget. Outlays, however, would occur only in the event and in the amount of a default.

Summary

To sum up, I will suggest what answers to the questions I have outlined would appear to be implied by passage of H.R. 12112 in its present form.

Passage would reflect the belief that production of about 200,000 barrels per day of synthetic fuels by 1985 is needed.

Offering federal assistance would imply a conclusion that private industry will not achieve the goal without assistance.

Providing loan guarantees alone would reflect a determination that the over-riding obstacle to private investment is uncertainty about the cost and performance of synfuel technology.

Passage of the bill would reflect an overall decision that any undesirable consequences of the loan guarantees would be outweighed by the value of having synthetic fuels.

This completes my formal statement. The other representatives of CBO and I will be happy to elaborate on the subjects I have been able to discuss only briefly in this statement.