

BY THE U.S. GENERAL ACCOUNTING OFFICE

Report To The Chairman,  
Subcommittee On Fossil And Synthetic Fuels,  
Committee On Energy And Commerce,  
House Of Representatives

The Synthetic Fuels Corporation's Progress In  
Aiding Synthetic Fuels Development

It has been difficult for the Corporation to make progress toward the goals of the Energy Security Act of June 1980 because of the changing economic and energy conditions. Relative to the 1987 production goal of 500,000 barrels of crude oil equivalent per day, the Corporation had awarded contracts for two projects expected to have a total production equivalent of 9,500 barrels of crude oil per day. Including these two projects, the Corporation has said that it plans to award by early 1985 up to \$14.8 billion in financial assistance for about 12 projects representing a diverse range of technologies, which would have a combined total production of about 132,000 barrels of crude oil equivalent per day. These plans may be affected by a recent administration proposal to rescind \$9 billion of the Corporation's remaining unobligated funds.

Private industry officials said that synthetic fuels projects have been abandoned or postponed primarily because of an unfavorable economic climate, a world oil glut that has caused declines in crude oil prices, the uncertainty of future crude oil prices, and the large capital investment needed for project construction. These officials also said that 1982 tax legislation, by reducing the after-tax return on investment, has also caused industry to abandon or delay going forward with synthetic fuels projects.



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UNITED STATES GENERAL ACCOUNTING OFFICE  
WASHINGTON, D.C. 20548

RESOURCES COMMUNITY  
AND ECONOMIC DEVELOPMENT  
DIVISION

B-204290

The Honorable Philip R. Sharp  
Chairman, Subcommittee on  
Fossil and Synthetic Fuels  
Committee on Energy and Commerce  
House of Representatives

Dear Mr. Chairman:

Your letter of December 9, 1982, expressed concern about the progress the U.S. Synthetic Fuels Corporation (Corporation) has made in meeting its mandated objectives of the Energy Security Act (Public Law No. 96-294, June 30, 1980). Specifically, you asked that we determine (1) what progress the Corporation has made in meeting the objectives of the act, (2) the success the Corporation has had in encouraging private sponsor participation, (3) the reasons project sponsors have dropped specific projects, (4) whether other available financing options under the act other than those the Corporation used would have been more effective, (5) the effect of the 1982 Tax Equity and Fiscal Responsibility Act (TEFRA) (Public Law No. 97-248, Sept. 3, 1982) on the economic viability of synthetic fuels projects, and (6) what factors need to be considered by the Congress in any reevaluation of the Corporation's funding needs. In addition, in subsequent meetings with your office, you asked that we obtain industry's views on the potential effects of reductions in the Department of Energy's (DOE's) fossil fuels research and development budget on the Corporation's commercialization activities.

To answer these questions, we interviewed the Corporation's Vice Presidents for Projects and Finance and reviewed pertinent Corporation documents concerning the Corporation's past efforts and future plans to develop a synthetic fuels industry. We also reviewed a February 1983 Congressional Research Service report, Synthetic Fuels Corporation and National Synfuels Policy. In addition, we talked to officials and reviewed pertinent documents of private U.S. companies--oil companies, energy pipeline companies, construction/engineering firms, and investment banking firms--that have been actively involved in the design, construction, and financing of synthetic fuels projects. While the report expresses the views of these private sector officials, we did not perform an independent verification of their statements. Appendix I contains a more detailed discussion of the objectives, scope, and methodology. Appendix II provides a complete listing of the private sector companies and associations we contacted during the review.

OVERVIEW OF THE U.S. SYNTHETIC FUELS INDUSTRY

With the Iranian crisis in 1979, the United States was faced, for the second time in 6 years, with skyrocketing crude oil prices. Responding to the need to develop domestic sources of energy, the Congress passed the Energy Security Act in June 1980. The act created the Synthetic Fuels Corporation to provide financial assistance in such forms as price guarantees, loan guarantees, and purchase agreements<sup>1</sup> to undertake synthetic fuels projects. The act set 500,000 barrels of crude oil equivalent per day as the 1987 national production goal and 2 million barrels per day as the 1992 goal. The act also directed the Corporation to provide financial assistance to private industry to develop a technical diversity of processes, methods, and techniques for each domestic resource that offers significant potential for use as a synthetic fuels feedstock.<sup>2</sup>

In addition to the production and diversity goals, the act embodied other broader goals. These include (1) encouraging the flow of capital funds to the production of synthetic fuels, (2) encouraging private capital investment, (3) reducing the nation's economic vulnerability to disruption of imported energy supplies, and (4) giving special consideration to the production of synthetic fuels for national defense applications.

The Energy Security Act authorizes up to \$88 billion for alternative fuels development, of which \$20 billion in appropriations could have been requested as of June 30, 1980. Appropriations' requests for the remaining \$68 billion cannot be made until after Congress' approval of the Corporation's comprehensive strategy document, which must be developed and submitted to the

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<sup>1</sup>The act defines these terms as follows. In price guarantees, the Corporation will guarantee a certain price for the product that the project sponsor produced. For loan guarantees, the Corporation will guarantee debts that the sponsor incurred related to the project. In purchase agreements, the Corporation contracts to purchase all or part of the project's synthetic fuels production.

<sup>2</sup>The raw material (i.e., coal or oil shale) used in the synthetic fuels project.

Congress by June 30, 1984.<sup>3</sup> The act states that this document must provide the Corporation's strategy in achieving the national synthetic fuels production goals.

The Department of the Interior and Related Agencies Appropriations Act of 1980 (Public Law No. 96-126, Nov. 27, 1979) and the Supplemental Appropriations and Rescissions Act of 1980 (Public Law No. 96-304, July 8, 1980) appropriated \$19 billion of the \$20 billion authorization. Of these funds, the Congress directed that \$6 billion be available to the Corporation in July 1980 and an additional \$6.2 billion in June 1982. The Congress also directed that \$5.5 billion (\$300 million was rescinded in June 1981) be appropriated to DOE to finance an interim synthetic fuels program and an additional \$1.3 billion (about \$1 billion was rescinded in June 1981) be appropriated to DOE and the Department of Agriculture to finance an alternative fuels program using biomass (timber, animal waste, sewage, etc.) feedstock.

As of April 1984, six synthetic fuels projects had received financial assistance awards. The Corporation had made three awards--a \$120-million price guarantee for the Cool Water coal gasification project in California, a \$620-million price guarantee for the Dow Syngas coal gasification project in Louisiana,<sup>4</sup> and about \$820,000 in design assistance money for the First Colony peat-to-methanol project in North Carolina.<sup>5</sup> DOE made three awards under its synthetic fuels program. DOE awarded a \$2.02-billion loan guarantee for a coal gasification project, a \$400-million price guarantee for one oil shale project, and a \$1.2-billion loan guarantee for another. DOE also made grants

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<sup>3</sup>At its February 1984 meeting, the Corporation's Board voted to submit the comprehensive strategy document by June 30, 1984, rather than request up to a year's extension--as authorized by the act. However, the Board indicated that it intended to submit a supplement during the first quarter of 1985 to reflect further information and experience gained from its ongoing financial assistance negotiations with project sponsors.

<sup>4</sup>This award was approved at the April 26, 1984, Board meeting. We are reviewing the legality of this award, approval of letters of intent to the Northern Peat and Great Plains projects, and other Board actions that took place at this meeting at the request of Senators Proxmire and Metzenbaum and Congressman Wolpe.

<sup>5</sup>As of April 1984, the Corporation is no longer considering this project for the loan and price guarantees its sponsors had been requesting. Our report, Circumstances Surrounding the First Colony Peat-to-Methanol Project, GAO/RCED-84-32, Nov. 10, 1983, discusses this project.

totaling \$200 million to companies performing project design studies for synthetic fuels projects. The remaining unobligated funds and monitoring responsibility for the two oil shale projects<sup>6</sup> were transferred to the Corporation when the President declared it operational on February 9, 1982.<sup>7</sup> The Department of the Interior and Related Agencies Fiscal Year 1982 Appropriations Act (Public Law No. 97-100) directed the coal gasification project to remain under DOE's purview.

The synthetic fuels industry has faced changing economic and energy conditions since the June 1980 passage of the Energy Security Act. At the time the act was passed, past trends indicated that the prices of imported oil would continue to increase. However, a worldwide recession and oil conservation programs have reduced overall petroleum use, while domestic production has increased. In March 1983 domestic prices declined when the Organization of Petroleum Exporting Countries announced a crude oil price reduction from \$34 to \$29 a barrel.

In addition to changing economic and energy conditions, synthetic fuels development faces uncertainties with its technology, financing, and regulatory compliance. Regarding technical aspects, commercial experience with most of the key processes and technologies is virtually nonexistent in the United States. Financial uncertainties include not only the future prices of conventional energy sources but also the costs of plant construction and the marketability of the plant's products. Regulatory uncertainties relate to potential environmental, health and safety, and socioeconomic impacts.

Including the two coal gasification projects which the Corporation has awarded \$740 million in price guarantees, the Corporation has stated that it plans to award about \$14.8 million in financial assistance by early 1985. However, its ability to do so may be curtailed. On May 25, 1984, President Reagan transmitted to the Congress a request to rescind \$9 billion of the Corporation's remaining unobligated funds. The proposal has already been officially introduced in both houses of the Congress--H.R. 5772 on June 4, 1984 and S. 2735 on June 7, 1984. According to the National Council on Synthetic Fuels Production, while neither of these bills may be approved as stand-alone legislation in the short time remaining in this congressional session, it could take

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<sup>6</sup>One of the oil shale projects was terminated on June 22, 1982.

<sup>7</sup>The Corporation actually began operations in late 1980. Until becoming operational, the Corporation performed such functions as establishing administrative procedures and requesting and evaluating proposed synthetic fuels projects.

on the form of a floor amendment to an unrelated appropriations bill.

SUMMARY OF INFORMATION OBTAINED

It has been difficult for the Corporation to make progress toward the goals of the Energy Security Act due to the changing economic and energy conditions since the passage of the act. The level of private industry interest in synthetic fuels development has been effected by such factors as declining crude oil prices and the large capital investment needed for project construction. Information that the Corporation and private industry officials provided in response to your specific questions are provided below. Detailed information pertaining to each of the questions is included as appendix I to this report.

--What progress has the Synthetic Fuels Corporation made in meeting the objectives of the Energy Security Act?

Relative to the national synthetic fuels production goals, as of April 1984, the Corporation had awarded about \$740 million in price guarantees for two coal gasification projects, expected to produce the equivalent of about 9,500 barrels of crude oil per day.<sup>8</sup> Recognizing that achieving the production goals will be difficult, the Corporation has adopted an approach of working toward another major goal of the act--supporting projects of a diverse range of technologies. As of April 1984, the Corporation is considering 10 projects for financial assistance, which include 1 coal gasification,<sup>9</sup> 4 oil shale, 1 peat, 2 tar sands, and 2 heavy oil technologies. Among these projects and other proposals for projects it expects to receive from further solicitations, the Corporation has said that it plans to make financial assistance awards to about 12 projects by early 1985. By making only minimum progress toward its production goals, the Corporation will contribute only

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<sup>8</sup>The Corporation and sponsors of the First Colony peat-to-methanol project had a cost-sharing agreement of about \$820,000 to refine the project's design so as to improve the accuracy of the estimated costs. As of April 1984, the Corporation is no longer considering the project for the loan and price guarantees the sponsors had been requesting.

<sup>9</sup>This project is Great Plains which has already received a loan guarantee from DOE. In addition, Great Plains has received a letter of intent from the Corporation that states that the Corporation would award Great Plains \$790 million in price guarantee assistance.

marginally toward the act's other goals such as encouraging private capital investment, improving the nation's balance of payments, and fostering greater energy security.

--What success has the Synthetic Fuels Corporation had in encouraging private sponsor participation?

It has received proposals from the sponsors of 108 projects in response to its solicitations. Of these projects, the two financial assistance awards mentioned previously have resulted in private sponsors contributing \$389 million in equity. As of April 1984, the Corporation has 10 projects under consideration for financial assistance. The Corporation has signed letters of intent<sup>10</sup> for four projects in which the Corporation would award a total of about \$6 billion in price and loan guarantees and the project sponsors would commit a total of approximately \$4.3 billion in equity. The combined production of these four projects is expected to be about 81,000 barrels of oil equivalent a day. In addition, financial assistance negotiations are underway with the six other projects, with an estimated expected total production of 32,000 barrels of crude oil equivalent a day.

--Why have project sponsors dropped synthetic fuels projects?

Industry has abandoned or postponed synthetic fuels projects primarily due to changes in the world energy situation which result in many projects not being economically feasible. Industry officials pointed out that the energy situation today is much different from that existing when the Corporation was established. Specifically, (1) oil is plentiful with about 8 to 10 million barrels per day of excess capacity in the world market, (2) the trend in rising prices has been stopped with prices declining since early 1981, (3) demand is down because of energy conservation measures, and the world economy has been in a recessionary period, and (4) 1982 tax legislation would reduce a project sponsor's after-tax return on investment.

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<sup>10</sup>Letters of intent are not legally binding documents. The letters are intended to document the financial terms negotiated between the Corporation and the project sponsor. The letters also discuss the various conditions which the sponsor must meet before the Corporation's Board of Directors will consider approving the financial terms.

--Would other available financing options under the Energy Security Act have been more effective?

While the Energy Security Act authorizes the Corporation to also offer purchase agreements, loans, and joint ventures,<sup>11</sup> many private industry decisionmakers said that the Corporation offers the most effective financial tools authorized under the act--price guarantees, loan guarantees, or a combination of the two--to develop a synthetic fuels industry once the energy and economic climates improve. Some of these officials said, however, that under the current conditions, the only way major synthetic fuels projects will be built is if the federal government contracts for their construction and operation.

--What is the effect of the 1982 Tax Equity and Fiscal Responsibility Act (TEFRA) on synthetic fuels?

TEFRA, by repealing or modifying many of the provisions enacted by the Economic Recovery Tax Act of 1981 (ERTA), significantly reduces the after-tax return on major construction projects, including synthetic fuels projects. Industry officials we contacted involved in synthetic fuels projects, including energy companies, construction/engineering firms, investment banking firms, and trade associations, said that the effect of TEFRA, in combination with the December 31, 1982, expiration date for use of certain energy-tax credits, would reduce the after-tax rate of return to the sponsor. Although some officials could not provide the estimated reduction, for those that did, the estimates were in a wide range--10 percent to 50 percent. The officials said that most projects will not be able to attract sufficient equity capital unless the Corporation provides the additional amount of financial assistance necessary to compensate for the effects of these tax law changes.

--What factors need to be considered in any reevaluation by the Congress of the Synthetic Fuels Corporation's funding needs?

Any reevaluation of future funding needs is dependent upon what the Congress ultimately decides are acceptable levels of synthetic fuels production and diversity of technologies. A key short-term consideration is how the Corporation can maximize its contribution to the diversity of

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<sup>11</sup>An agreement under which the Corporation and one or more private sponsors share in the cost of constructing and operating a project.

technologies' goal from the \$14.8 billion<sup>12</sup> it intends to award by early 1985. Although the Corporation will not be able to achieve the production goals, it may achieve diversity in its synthetic fuels program if it makes awards to several of the projects it is considering for financial assistance. For example, in addition to the oil shale project that the Corporation received from DOE, the Corporation has funded two coal gasification projects. Projects that the Corporation is considering use various technologies to convert such resources as coal, oil shale, peat, tar sands, and heavy oil into liquid and gaseous fuels. The Corporation maintains it could fund an additional 5 to 6 projects with this \$14.8 billion if certain tax law changes, such as reinstating the benefits removed by TEFRA, were enacted. It also said that with additional tax benefits, the project sponsors will not likely seek as much Corporation support.

A key long-term consideration relates to how much emphasis the Congress wants to place on the act's production and diversity goals beyond what is accomplished with the \$14.8 billion. The Energy Security Act states that the Congress will decide its ultimate funding levels and thus, the future of the Corporation when the Congress assesses the Corporation's comprehensive strategy document.

--What are industry's views on the potential effects of reductions in DOE's fossil fuels research and development budget on the Synthetic Fuels Corporation's commercialization activities?

Officials representing both energy companies and construction/engineering firms gave mixed opinions on the effects of reductions in DOE's fossil fuels research and development budget on the Corporation's ability to develop the initial stages of a commercial synthetic fuels industry. Some officials said that enough mature technologies are currently available to construct commercial-scale projects. Other officials said that DOE should fund intermediate-scale projects of less mature technologies so that, eventually, a wider variety of proven technologies will be available.

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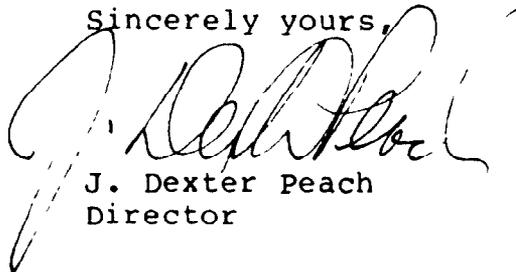
<sup>12</sup>On February 15, 1984, GAO's Office of General Counsel determined that \$1.1 billion of a \$1.2-billion loan guarantee commitment made for the Colony project, which was terminated, could be reused by the Corporation. This \$1.1 billion is not included in the \$14.8 billion. Also, as stated on page 4, legislation was introduced in June 1984 to rescind \$9 billion of the Corporation's remaining unobligated funds.

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We provided draft copies of the report to the Corporation for comment. The Corporation said that it found the report to be very thorough and had only a few comments which pertain entirely to minor inaccuracies. These comments have been incorporated where appropriate.

As arranged with your office, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of its issuance. At that time we will send copies to interested parties and make copies available to others upon request.

Sincerely yours,

A handwritten signature in cursive script, appearing to read "J. Dexter Peach". The signature is written in dark ink and is positioned above the typed name and title.

J. Dexter Peach  
Director



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ABBREVIATIONS

DOE	Department of Energy
ERTA	Economic Recovery Tax Act
TEFRA	Tax Equity and Fiscal Responsibility Act



THE SYNTHETIC FUELS CORPORATION'S  
PROGRESS IN AIDING SYNTHETIC FUELS  
DEVELOPMENT

OBJECTIVES, SCOPE, AND METHODOLOGY

The Chairman, Subcommittee on Fossil and Synthetic Fuels, House Committee on Energy and Commerce requested that we determine the status of the Corporation's progress in meeting the goals of the Energy Security Act. In addition, he asked that we address factors which have effected private industry participation in synthetic fuels development.

To answer these questions, we interviewed the Corporation's Vice Presidents for Projects and Finance concerning the Corporation's past efforts and future plans to develop a synthetic fuels industry. We reviewed Corporation data pertaining to the Corporation's progress and constraints in achieving the goals of the act. We also reviewed the February 1983 Congressional Research Service study, Synthetic Fuels Corporation and National Synfuels Policy, which discusses what may be accomplished by the Corporation in the development of a synthetic fuels industry.

To obtain some geographical dispersion, we talked to private companies who were affiliated with the synthetic fuels industry which are located in Cleveland, Ohio; Pittsburgh, Pennsylvania; Denver, Colorado; Memphis, Tennessee; Houston, Texas; New York, New York; and Washington, D.C., metropolitan areas. This effort included interviewing decisionmakers from private U.S. companies such as oil companies, energy pipeline companies, and construction/engineering firms who are either actively involved with synthetic fuels projects or who had terminated synthetic fuels production plans. We also interviewed officials from investment banking companies (First Boston; Kidder Peabody and Company; Lehman Brothers, Kuhn, and Loeb, Incorporated; and Salomon Brothers) who either are or were equity sponsors or financial advisors for specific synthetic fuels projects. In addition, we talked with trade association groups affiliated with the synthetic fuels industry such as the National Council on Synthetic Fuels Production, the American Petroleum Institute, and the American Gas Association. While the report expresses the views of these private sector individuals, we did not perform an independent verification of their statements. Appendix II contains a complete listing of the organizations we contacted during this study.

Our review was performed during the period January 1983 to April 1984 and was performed in accordance with generally accepted government auditing standards.

The following sections discuss the six specific issues contained in the Chairman's letter and a seventh issue subsequently raised by the Chairman's office.

WHAT PROGRESS HAS THE SYNTHETIC FUELS CORPORATION MADE IN MEETING THE OBJECTIVES OF THE ENERGY SECURITY ACT?

The Corporation has recognized that achieving the act's synthetic fuels production goals equivalent to at least 500,000 barrels of crude oil per day by 1987 and of at least 2 million barrels of crude oil per day by 1992 will be difficult. The Corporation has adopted an approach emphasizing the support of projects using a diverse range of technologies.

Relative to the production goals, as of April 1984, the Corporation has awarded \$740 million in price guarantees for two coal gasification projects (discussed further on pp. 4 and 5). The Corporation has also signed letters of intent for four projects, which are discussed in detail on pages 5 and 6.

The Corporation is considering a number of other project proposals, representing various technologies and resource bases. Including the two coal gasification projects, the Corporation's Chairman stated that the Corporation intends to award \$14.8 billion in project assistance by early 1985. With this \$14.8 billion, the Corporation anticipates funding about 12 projects. If these 12 projects would each produce 11,000 barrels of oil equivalent per day--the approximate average proposed size of the 10 projects that the Corporation is considering for financial assistance, as of April 1984--they would collectively produce about 132,000 barrels toward the 500,000-barrel-per-day production goal.

According to a Congressional Research Service report,<sup>1</sup> for those projects that receive financial assistance, another 5 to 7 years are likely to be required to reach full production and provide the information needed to expand the technology. The report points out that industry will probably not develop additional projects until this information is generated. The amount of time required to develop this information plus the time required to construct additional projects will limit the possible progress toward achieving the goal of 2 million barrels of crude oil per day equivalency by 1992.

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<sup>1</sup>Synthetic Fuels Corporation and National Synfuels Policy,  
Feb. 18, 1983.

The Corporation has decided to fund projects that it believes are designed to advance a wide diversity of synthetic fuels processes rather than concentrating on near-term production. The two projects receiving the price guarantees use coal as their feedstock. Of the 10 proposals being considered for financial assistance, letters of intent were signed on 2 oil shale projects, 1 coal gasification project, and 1 peat project. The Corporation's six additional proposals for financial assistance represent a range of technologies--two oil shale, two tar sands, and two heavy oil.

By making only minimum progress toward its production goals, the Corporation will contribute only marginally toward meeting the other goals embodied in the Energy Security Act. These include encouraging private capital investment, improving the nation's balance of payments, and fostering greater energy security.

WHAT SUCCESS HAS THE SYNTHETIC FUELS  
CORPORATION HAD IN ENCOURAGING PRIVATE  
SPONSOR PARTICIPATION?

The Corporation has received proposals from the sponsors of 108 projects in response to its solicitations requesting sponsors to submit proposals for financial assistance. These include four general solicitations<sup>2</sup> and six solicitations targeted at specific technologies, resources, and/or geographical locations. No proposals have yet been received for the fourth general solicitation or the last two targeted solicitations, all of which have June 1984 closing dates for submission of proposals. The Corporation has judged several of the projects whose sponsors responded to the solicitations as worthy of support and is negotiating with the sponsors on the terms of possible financial assistance.

Sixty-three proposals were submitted by the first general solicitation's March 1981 deadline. Of these, 19 proposals were for coal liquefaction projects, 1 was a peat liquefaction project, 16 were coal gasification projects, 14 were oil shale projects, 10 were tar sands and/or heavy oil projects, 1 was a coal-oil mixture project, 1 was a hydrogen from water project, and 1 project proposed to produce acetylene from calcium carbide derived from

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<sup>2</sup>These general solicitations invited the submission of competitive proposals for financial assistance from companies interested in building projects meeting the definition of a synthetic fuels project, as defined by the Energy Security Act.

coal. DOE awarded assistance under its interim synthetic fuels program to three project proposals--the Great Plains coal gasification project, the Union Phase I oil shale project, and the Colony oil shale project. Following the closeout of the DOE program, the sponsors of five additional projects that had applied to DOE requested that their proposals be transferred to the Corporation. These five projects, which included one oil shale project, one tar sands project, two coal-oil mixture projects, and one hydrogen from water project, were then included in the first general solicitation.

Only two projects, Hampshire Energy and Breckinridge, coal liquefaction projects proposed in Wyoming and Kentucky, respectively, advanced into negotiations for possible awards for financial assistance. However, the principal sponsors for these projects withdrew before the negotiations were completed due to economic conditions, increased project costs, coupled with increasing oil and natural gas supplies and decreasing prices in the energy market.

Thirty-five proposals were submitted to the Corporation by the second general solicitation's deadline of June 1982. Of the 35 proposals, 14 were new proposals and the remaining 21 were resubmittals from the first general solicitation. The 35 proposals include 9 coal liquefaction, 5 coal gasification, 7 oil shale, 1 coal-oil mixture, and 9 tar sands/heavy oil projects. Four additional proposals were received for production of synthetic fuels from coal by processes not easily classifiable. In addition, the Board of Directors subsequently moved three projects--one peat liquefaction, one coal gasification, and one heavy oil--from the first general solicitation into the second solicitation. As of April 1984 one of these second solicitation projects had received a price guarantee. This is:

--The Cool Water project in California, which is expected to convert coal into a synthetic gas to generate electricity equal to that produced from 4,300 barrels per day of crude oil. The Corporation awarded a \$120-million price guarantee. The project sponsors have committed \$284 million in equity.

Another project, the First Colony project in North Carolina, has received an award of about \$820,000 in design assistance money. However, at its April 1984 meeting, the Corporation's Board of Directors dropped the project from further consideration in the second solicitation.

The Corporation received 46 proposals for projects by the January 1983 deadline for the third general solicitation. Seventeen of the 46 proposals were new applicants; 29 were resubmittals

from the first and second solicitations. The 46 proposals include 10 coal liquefaction projects, 9 coal gasification projects, 13 oil shale projects, and 11 tar sands/heavy oil projects. In addition, three proposals<sup>3</sup> for other projects were submitted under this solicitation. The Board of Directors subsequently moved three additional projects--one tar sands, one heavy oil, and one coal gasification--from the second solicitation into the third solicitation. As of April 1984, one of the third solicitation projects had received a loan guarantee and three of the third solicitation projects had received letters of intent from the Corporation. These are:

- The Dow Syngas coal gasification project in Louisiana, which is expected to produce about 5,172 barrels of oil equivalent per day. The Corporation awarded a \$620-million price guarantee. The project sponsor contributed an estimated \$105 million in equity.
- The Cathedral Bluffs oil shale project in Colorado, which is expected to produce 15,160 barrels per day of shale oil. The letter of intent specifies a maximum Corporation obligation of \$2.19 billion in the form of loan and price guarantees and approximately a \$645-million project sponsor equity contribution.
- The Union Oil shale oil program, Phase II, in Colorado, which is expected to produce about 42,200 barrels per day of shale oil. The letter of intent specifies a price guarantee in the maximum amount of \$2.7 billion, with the estimated \$3.2 billion construction and startup costs being paid solely by the sponsor.
- The Northern Peat project in Maine, which is expected to produce about 2,745 barrels of oil equivalent per day of peat-derived solid fuel. The letter of intent specifies a maximum amount of \$365 million in loan and price guarantees and a \$52.4-million equity contribution.

Six projects are also under the third solicitation which have passed the Corporation's evaluation tests and, as of April 1984, are still being considered for financial assistance.

Six projects filed for assistance under the Corporation's targeted solicitation for western oil shale projects by the

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<sup>3</sup>One proposal was received for a calcium-carbide to acetylene project, one for a coal beneficiation (improving the properties of) project, and one for a project to produce a solid fuel from peat.

March 15, 1983, deadline. Five of the six projects had also applied under previous solicitations. However, none of the six proposals are currently being considered under this targeted solicitation since two proposals were eliminated for not having identified a site and resource base and three other proposals did not meet the solicitation's deadline for submitting technical proposals and competitive bids. The remaining proposal was deemed nonresponsive to the solicitation's requirements at the June 30, 1983, Board meeting.

The Corporation issued a targeted solicitation for Gulf Province (all or part of Alabama, Arkansas, Louisiana, Mississippi, and Texas) lignite projects with a July 25, 1983, closing date. Only one project sponsor--Arkansas Power and Light Company--responded, proposing a coal gasification project with expected production equivalent to about 11,400 barrels of oil a day. At its April 5, 1984, meeting, the Board of Directors dropped the project from further consideration for financial assistance.

On June 30, 1983, the Board approved a targeted solicitation for eastern bituminous coal projects. This solicitation was subsequently amended on October 22, 1983, to allow ammonia and ammonia gas to be eligible products under the solicitation. The Corporation received nine proposals; two dealing with projects that also submitted proposals under previous solicitations. At its April 5, 1984, meeting, the Board determined that the one remaining project being considered under this solicitation--Louisiana Synthetic Fuels--was nonresponsive to the solicitation's requirements. However, the Board encouraged the project sponsors to reapply to the Corporation because of its potential strength and its programmatic value as a gasification project using eastern or midwestern coal.

On January 5, 1984, the Board approved a solicitation for coal or lignite gasification projects capable of producing a minimum of 10,000 barrels a day of crude oil equivalent by 1990. Only the Great Plains project in North Dakota submitted an official request for price guarantees by the solicitation's February 2, 1984, closing date (Great Plains had previously received up to \$2.02 billion in loan guarantees from DOE). On April 26, 1984, the Corporation signed a letter of intent with Great Plains in which Great Plains would receive a maximum of \$790 million in price guarantees. The letter of intent states that as of April 2, 1984, the project sponsors have invested about \$452 million in equity capital.

Also on January 5, 1984, the Board approved a solicitation for coal-water fuel projects. The Corporation is contemplating at

least two awards under this solicitation; one to a project producing fuel for use in an industrial fuel burning facility and the other for a project producing fuel for use in an electric utility power plant. Interested project sponsors are required to submit qualification proposals by June 15, 1984.

On February 16, 1984, final Board approval was given to a solicitation for coal or lignite gasification or liquefaction projects proposing to retrofit existing chemical plants, refineries, or other industrial facilities. The solicitation states that use of existing plant infrastructure may offer easier siting, potentially less stringent environmental and socioeconomic requirements, and a shorter construction schedule than that required for new plant facilities. Qualification proposals must be submitted by June 21, 1984.

In an effort to provide an avenue for any previously rejected proposals to be reconsidered for financial assistance or other project proposals to apply for assistance, the Board, on February 16, 1984, approved a fourth general solicitation. The deadline for submission of qualification proposals for this solicitation is June 29, 1984.

#### WHY HAVE PROJECT SPONSORS DROPPED SYNTHETIC FUELS PROJECTS?

According to industry and trade group officials, synthetic fuels projects have been abandoned or postponed indefinitely primarily due to changes in the world energy situation, which resulted in many projects not being economically feasible. Many industry officials pointed out that 3 to 4 years ago, synthetic fuels were thought to be the wave of the future, but the energy situation today is much different from that existing when the Corporation was established. Oil is plentiful with some 8 to 10 million barrels per day of excess capacity in the world market. The trend in rising prices has been stopped with oil prices declining since early 1981. Demand is down, both because of energy conservation measures and because the world economy has been in a recessionary period.

An American Petroleum Institute official stated that the economic downturn and lower oil prices due to the world oil glut have forced energy companies to cut back investments across the board. Because their synthetic fuels efforts represent a very small percentage of the companies' investment, this across the board cut reduced funds available for synthetic fuels.

Another industry official stated that his company dropped its synthetic fuels project not only because the economic and energy

pictures changed, but also because company officials were uncertain as to if and when the Corporation would make a decision concerning its project. This official added that because his company was spending approximately \$2 million a month on design and engineering for its project--without any assurance the Corporation would ever approve the project for financial assistance--it had no alternative but to drop the project when the economic climate changed. He added that if the Corporation had been willing to award his company design assistance money (authorized by section 131(u) of the act), it might have caused his company to continue its commitment to the project for at least another year.

Ashland Synthetic Fuels, in announcing the suspension of its Breckinridge coal liquefaction project, cited the effects of recent tax law changes which have reduced the potential tax benefits associated with the project. The effects of recent tax law changes on synthetic fuels development are discussed in detail beginning on page 10.

Investment bankers, involved as equity sponsors or financial advisors for synthetic fuels projects, generally concurred with industry officials in stating that projects have been dropped or postponed because of the uncertainty of crude oil prices, the high cost of capital, and the current world crude oil surplus. One investment banker, who was assisting in putting together the financing for a project that has been postponed indefinitely, stated that interest in synthetic fuels investments will be uncertain until there is some indication of where oil prices will stabilize.

WOULD OTHER AVAILABLE FINANCING  
OPTIONS UNDER THE ENERGY SECURITY  
ACT HAVE BEEN MORE EFFECTIVE?

Private industry officials generally stated that the financial tools that the Corporation is offering--price guarantees, loan guarantees, or a combination of the two--are the most effective options under the act to develop a synthetic fuels industry. However, some of these officials believe that in order for synthetic fuels projects to be built, it may be necessary for the Corporation to contract for the construction and operation of the projects.

Within the framework of the act, the Corporation is empowered to provide financial assistance in the following order of priority: (1) purchase agreements, price guarantees, and loan guarantees, (2) loans, and (3) joint ventures. The act prescribes maximum limits for the amounts that may be awarded under purchase agreements, price and loan guarantees, loans, and joint ventures.

No more than \$3 billion can be awarded for any one project or to one corporation sponsoring several projects.

The act also authorizes the Corporation to own up to three synthetic fuels projects. The Corporation may contract for the construction and operation of such projects (referred to in the act as Corporation construction projects) only if, in the judgment of its Board of Directors, there will not be sufficient acceptable proposals to meet the purposes of the act and the projects would not otherwise be constructed with the other forms of financial assistance offered by the act.

In addition, the act empowers the Corporation to enter into cost-sharing agreements<sup>4</sup> with applicants for financial assistance to improve the accuracy of the preliminary total estimated costs upon which financial assistance will be based. These cost-sharing agreements are not to exceed 1 percent of the preliminary total estimated cost of the applicant's proposed project.

The Corporation can enter into multiple forms of financial assistance for projects. However, it must first determine that multiple forms of assistance are necessary for the viability of these projects and further, that these projects are necessary to achieve the purposes of the act.

Most industry decisionmakers stated that loan and price guarantees should be enough to develop a synthetic fuels industry once the energy and economic climates improve. A few stated that under the current economic conditions, the only way some companies might consider becoming involved in synthetic fuels is if the federal government contracts for it (i.e., joint ventures and Corporation construction projects). However, some industry decisionmakers expressed reservations about government oversight and reporting requirements under such arrangements.

Several industry officials stated that the \$3 billion dollar limit for one project or sponsor should be increased. One official stated that recent tax law changes (to be discussed in the next two questions) have substantially reduced the tax benefits which companies hoped to realize from sponsoring synthetic fuels projects; thus, more financial assistance would be needed--possibly in excess of \$3 billion--from the Corporation. Other officials stated that because of the current energy and economic climates, financing for proposed projects cannot be arranged unless assistance in excess of \$3 billion is authorized.

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<sup>4</sup>These agreements are often termed 131(u) money, referring to the section of the act by which they are authorized.

WHAT IS THE EFFECT OF THE 1982 TAX  
EQUITY AND FISCAL RESPONSIBILITY ACT  
(TEFRA) ON SYNTHETIC FUELS?

According to industry and Corporation officials, TEFRA by repealing or modifying many of the provisions enacted by the Economic Recovery Tax Act of 1981 (ERTA) (Public Law No. 97-34), significantly increases the after-tax cost of major construction projects, including synthetic fuels projects, and thereby reduces the after-tax return on such projects. In addition, these officials said they were equally concerned about the effects of not extending the December 31, 1982, date permitting the use of certain energy-tax credits. Sponsors became actively involved in the development of synthetic fuels projects, expecting the economic returns would justify the projected expenditures. However, according to an industry official, their projected economic returns were highly dependent on a consistent application of the then-applicable tax laws, which have since been changed. In addition to these tax incentives, which were designed to encourage investments in energy production facilities including synthetic fuels projects, the economic returns available to project sponsors are highly dependent on future energy prices. To compensate for these lower oil prices and tax legislation changes, proposed projects will require increased amounts of financial assistance from the Corporation.

Effects of TEFRA

In amending ERTA, TEFRA reduces the after-tax return of synthetic fuels investment in the following manner:

- Under ERTA, a project sponsor could depreciate the full cost of capital items including the part of the cost already decreased through the energy-investment tax credits. Section 205 of TEFRA requires that sponsors subtract half the value of the tax credit they have claimed from the total cost of the depreciable property before depreciating the remainder. For example, on a piece of equipment costing \$100,000 for which a \$10,000 tax credit had been claimed, the sponsor may now only depreciate \$95,000 rather than \$100,000. With the size and complexity of these projects and the amount and cost of the equipment involved, application of section 205 has a substantial effect on project sponsors.
- ERTA established a system for recovering capital costs that significantly accelerates the rate of cost recovery on equipment and structures. ERTA provides that for equipment placed in service after 1980 and before 1985, the recovery allowance would be based on a 150-percent declining balance

method, increasing to 175 percent in 1985, and 200 percent in 1986 and subsequent years. The importance of these provisions relates to faster write offs that would enhance cash flow, and therefore, enlarge the pool of capital from which project finances could be drawn. Section 206 of TEFRA repeals the 1985 and 1986 increases and freezes the cost recovery allowance at 150 percent.

- Previously, interest and property taxes attributed to the construction of real property could be deducted immediately, or "expensed," in the year incurred, rather than becoming a part of the depreciable basis of the property, as with other construction expenses. As with the above provision, cash flow would be enhanced and the pool of project capital would be enlarged. Section 207 of TEFRA requires that such items be capitalized and amortized (deducted in equal amounts), generally over a 10-year period.
- ERTA allows companies to transfer, or essentially sell, tax benefits generated by an asset to those companies that can take advantage of the tax benefits. This provision, referred to as the "safe-harbor leasing rules," can be used by synthetic fuels project sponsors who do not have enough tax liability to take advantage of their tax benefits to, nevertheless, receive some of the tax benefits by "selling" the tax reduction to another company. Section 209 of TEFRA imposes a number of limitations on this provision. For example, it places a 50-percent limitation on the tax liability that can be offset by "purchased" tax benefits. If a company had a \$100,000 tax liability, it would only be advantageous for that company to purchase \$50,000 or less in tax benefits. Also, section 209 reduced the maximum amount of qualified base property which a "seller" may claim pursuant to the safe harbor clause to 45 percent in 1982 and 1983. In any of these 2 years, if a company invested in property worth \$100,000, it would only be allowed to sell tax benefits of \$45,000. In addition, section 209 of TEFRA repealed safe harbor leasing after December 31, 1983.

Effects of not extending the December 31, 1982, date permitting the use of certain energy-tax credits

Not extending the December 31, 1982, date permitting the use of certain energy-tax credits also has effected companies proposing synthetic fuels projects. The majority of projects under review and negotiation by the Corporation have not met the criteria required to qualify for the tax credits by this date.

Under the Energy Tax Act of 1978 (Public Law No. 95-618) and the Crude Oil Windfall Profit Tax Act of 1980 (Public Law No. 96-223), energy-tax credits were created and expanded. These tax credits could be used to help finance the types of equipment that are generally applicable to the development and investment in synthetic fuels projects.

The 1978 tax act included provisions that provided a 10-percent energy-investment credit for investments on "qualifying energy property," which generally included equipment to convert alternative substances into synthetic fuels. These tax credits generally applied to qualifying expenditures made between October 1, 1978, and December 31, 1982. The 1980 tax act essentially extended the 1978 act energy-tax credits for projects having long construction periods such as synthetic fuels projects. Under the 1980 act, if certain conditions were met, such as if engineering studies were completed by January 1, 1983, and if the taxpayer had entered into binding construction contracts for at least 50 percent of the total project, then the energy-tax credit deadline was extended to December 31, 1990.

For a project having \$2 billion in qualifying energy equipment, the energy-tax credit would reduce a company's taxes by \$200 million; the equivalent of an additional \$200 million federal subsidy. However, because the majority of synthetic fuels projects have not progressed as anticipated and, consequently, have not met the December 31, 1982, deadline, less than half the projects that the Corporation is currently considering for financial assistance are eligible to receive this benefit.

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Industry officials stated that for a number of reasons, including recent reductions in tax benefits, the job of attracting sufficient private sector investment in synthetic fuels has become increasingly difficult. For example, one industry official commented that the incentives provided under the U.S. tax code prior to the passage of TEFRA were a far greater economic stimulus than additional amounts of loan and price guarantees from the Corporation. Another industry official added that the uncertainty of consistent tax treatment merely compounds the other technical and market uncertainties of a synthetic fuels project. A November 1982 memorandum, prepared for the Corporation's Vice President for Finance by one of his senior staff, stated that the effects of these tax changes could reduce the after-tax rate of return to sponsors by 11 percent to 51 percent, depending on the form of Corporation assistance provided and the economics of the project.

WHAT FACTORS NEED TO BE CONSIDERED  
BY THE CONGRESS IN ANY REEVALUATION  
OF THE SYNTHETIC FUELS CORPORATION'S  
FUNDING NEEDS?

Any reevaluation of future funding needs is dependent upon what the Congress ultimately decides are acceptable levels of synthetic fuels production and diversity of technologies. With the Corporation announcing that it will be trading off production in the short term to make more of a contribution to the diversity of technologies' goal, a key short-term consideration is how the Corporation can maximize diversity from the \$14.8 billion it intends to award by early 1985. A key long-term consideration is whether it is desirable for the Corporation to continue beyond this initial effort. If the Corporation's current program proceeds as planned, some diversity will be achieved, but it will fall far short of the act's 1987 production goal. The Energy Security Act states that the Congress will determine the Corporation's ultimate funding levels after assessing the Corporation's comprehensive strategy document, which it will receive in June 1984. The Congress must decide, therefore, whether the initial effort will be a sufficient contribution to future U.S. energy needs, or if it should grant more funding to the Corporation to provide financial assistance for additional projects to make further contributions toward the production and diversity goals.

The Corporation stated that the \$14.8 billion will support the construction of about 12 projects. Projects that the Corporation is considering use various technologies to convert such resources as coal, oil shale, peat, tar sands, and heavy oil into liquid and gaseous fuels. However, a Corporation official stated that if tax law changes were enacted, it would, in effect, provide the Corporation the equivalent of an additional \$8.6 billion to fund 5 to 6 more large synthetic fuels projects. He added that with additional tax benefits, the sponsors would likely not need or be given as much support from the Corporation. The Corporation's 1983 Annual Report states that one dollar of tax credit has the same impact on the rate of return on equity to sponsors as \$5 of the loan guarantees and price guarantees being offered by the Corporation.<sup>5</sup>

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<sup>5</sup>A dollar of energy-tax credit is a net bottom-line benefit to the sponsor realized in the first years of the project. In contrast, a dollar of loan guaranteed by the Corporation has to be repaid in the future with interest and, thus, has a lower net present value. As for price supports, they will be paid over a period of future years and will be taxed as ordinary income, so their net present value is also low.

At the request of the Chairman, Senate Committee on Energy and Natural Resources, the Corporation recommended certain tax law changes which would restore recently terminated benefits to synthetic fuels developers. These changes are:

- Reinstate benefits that could be applied to synthetic fuels projects which were removed by TEFRA. (These were discussed previously on pp. 10 and 11.) The Corporation estimated that this would free up \$4.7 billion of assistance since TEFRA significantly increases the after-tax cost of synthetic fuels plants and, in effect, forces sponsors to ask for more Corporation assistance to assure an acceptable return.
- Extend the deadline for certain engineering studies and other such work to be completed in order for a project to be potentially eligible for energy tax-credits, which expired December 31, 1982, for 3 years until December 31, 1985. The Corporation estimates that only a few projects under construction have met the December 31, 1982, deadline. It also estimates that half of its assistance will ultimately go to projects that failed to meet the deadline and that failure to extend the energy-tax credit date will probably require the Corporation to offer about \$2 billion of additional assistance to these projects.
- Broaden the energy-tax credit to cover ancillary synthetic fuels facilities (such as mines and pipelines) and tar sands and heavy oil projects. The Corporation estimates that 35 percent of the physical equipment and construction cost of a typical synthetic fuels plant is not covered by energy-tax credits. Extending coverage to this equipment would be equivalent to \$1.6 billion of incremental assistance by the Corporation. The Corporation also stated that broadening the energy-tax credit eligibility to tar sands and heavy oil projects would be equivalent to an additional \$0.3 billion in assistance.

The Senate, on April 13, 1984, passed an omnibus tax bill that included extending and expanding the energy-tax credit for synthetic fuels projects. The provisions (1) extend to December 1986, the date by which project sponsors must complete engineering studies and permit applications, (2) extend to December 1989, the date by which sponsors must have contracted for at least half of the project's specially designed equipment, (3) expand the coverage to include tar sands projects, and (4) make permanent the coverage for oil shale upgrading equipment--coverage that had expired in December 1982. A tax bill passed earlier by the House of Representatives does not include any energy-tax credit provisions, however.

As pointed out in the previous question, industry officials agree that recent tax law changes are a factor that makes it increasingly difficult to attract sufficient private sector investment in synthetic fuels production facilities. A January 1983 American Petroleum Institute Document, Financial Incentives Programs for Synthetic Fuels, stated that the economics of these huge capital investment projects can be improved and synthetic fuels production advanced by consistent federal tax policy that avoids creating disincentives to investment. One private industry official stated that it is an anomaly that on the one hand the federal government wants a synthetic fuels industry developed but at the same time tax laws are enacted which, in his opinion, serve as a penalty and disincentive to synthetic fuels development.

The Corporation will not be able to meet the production goals specified in the act with its current funding level. Because the synthetic fuels industry has faced changing economic and energy conditions since the passage of the Energy Security Act, the Corporation has decided to fund projects that represent a broad range of synthetic fuels technologies rather than stress near-term production. While the tax law changes recommended by the Corporation would decrease revenues to the federal government--a controversial action in these times of budget austerity--they could have the effect, as stated earlier, of increasing the number of projects the Corporation can provide funding assistance.

Ultimately, the Congress will have to decide whether the federal government should undertake the long-term commitment needed to achieve the production goals of the Energy Security Act of 500,000 barrels a day of crude oil equivalency by 1987 and 2 million barrels a day by 1992. According to Corporation officials, depending on whether the Congress enacts the tax law changes the Corporation requested, 12 to 18 projects can be supported from available funds. If the average project size was 11,000 barrels a day, this would provide no more than 198,000 barrels a day of production which is less than 10 percent of the 1992 production goal. However, Corporation officials point out that a wide variety of technologies and resources could be demonstrated.

The Corporation plans to submit to the Congress its comprehensive strategy by June 30, 1984, indicating its strategy to achieve the national synthetic fuels production goals of the act.<sup>6</sup> After receipt and review of the strategy, the Congress

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<sup>6</sup>At its February 1984 meeting, the Corporation's Board stated that it plans to supplement this submission during early 1985 to reflect information and experience gained from further project negotiations.

will need to decide if the Corporation's anticipated contribution to the production goals and also the act's diversity goal is sufficient or if additional funds must be appropriated.

WHAT ARE INDUSTRY'S VIEWS ON THE POTENTIAL EFFECTS OF REDUCTIONS IN DOE'S FOSSIL FUELS RESEARCH AND DEVELOPMENT BUDGET ON THE SYNTHETIC FUELS CORPORATION'S COMMERCIALIZATION ACTIVITIES?

Industry officials, regardless of the nature of their company or the type of project their company was associated with, expressed mixed opinions about the effects of the reduction in DOE's fossil fuels research and development budget on the Corporation's ability to develop the initial stages of a commercial synthetic fuels industry. However, our past report<sup>7</sup> pointed out that DOE's research cuts could have an effect because the administration may have overestimated private industry's willingness and ability to advance energy supply technologies such as synthetic fuels.

Past federal efforts in synthetic fuels ranged from basic research to working toward the introduction of new technologies in commercial enterprise. The following stages describe these efforts:

- Research, which establishes scientific feasibility.
- Development, which establishes engineering feasibility.
- Pilot and demonstration, which involve constructing and operating small and intermediate-sized plants to show that processes and systems function properly.
- Commercialization, which involves building commercial-size plants, verifying cost parameters, and providing that large-scale operations are economically feasible.

Previous administrations generally supported a steadily increasing level of funding for synthetic fuels research; however, funding has been reduced sharply by the present administration. The administration's view is that principal reliance should be placed on private market forces to promote advances in near-term energy supply technologies and that the government's appropriate role is in the area of long-term research and development. As the long-term efforts move closer to commercialization, the administration believes the federal role should be curtailed and private industry should assume responsibility for near-term activities,

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<sup>7</sup>Analysis of Federal Energy Roles and Structure (EMD-82-21, Jan. 20, 1982.)

such as construction and operation of pilot and demonstration plants. To carry out this policy, DOE funding was phased out for two coal liquefaction pilot plants and eliminated for construction of five demonstration plants. Since the Corporation is only considering commercial-size projects, industry officials are concerned about the potential gap developing between DOE and Corporation projects.

We discussed this issue with various industry officials including representatives of energy companies, construction/engineering firms, and investment banking firms (see app. II). These firms were associated with projects encompassing a wide diversity of synthetic fuels processes and resource bases. Some of these processes are more technologically mature than others. For example, while a commercial-scale oil shale project has, since the fall of 1983, been attempting to begin operations, some liquefaction processes have never been demonstrated beyond the pilot plant scale.

We received mixed opinions from these industry officials on this question. A narrow majority of the officials stated that DOE's budget cuts will not have a significant effect on the Corporation's ability to develop the initial stages of a commercial synthetic fuels industry. For example, officials of three companies, representing two major oil companies and an investment firm at one time or another heavily involved in synthetic fuels projects, stated that enough mature technologies already exist upon which to base a synthetic fuels industry. One official stated that it is not the status of the technology that is discouraging industry participation but the current low energy prices. Another official stated that he agreed with the administration's philosophy of the government only getting involved in the basic, long-term research that industry will not do.

Almost half of the industry officials stated that the budget cuts did have an effect. An official of a construction/engineering firm said that the Energy Security Act was written on the premise that DOE would continue to fund demonstration projects and, thus, the Corporation would eventually have a wider variety of proven technologies upon which to draw. He added that the loss of DOE's demonstration projects eliminated momentum in the synthetic fuels area. Other officials in energy companies and construction/engineering firms stated that synthetic fuels must be developed on a slower, phased approach which would include the intermediate steps of pilot and/or demonstration projects. They said that it is very difficult to correlate the data from very small-scale projects to those of a commercial size.

In our report cited earlier, we stated that there is no adequate distinction between long-term research and development

projects and other types of projects. Also, the willingness of private industry to undertake demonstration projects may have been overestimated because of the risks and costs associated with such projects. The changing economic conditions, declining oil prices, and the loss of significant tax incentives noted previously in this report contribute to industry's concern.

AGENCY COMMENTS AND OUR EVALUATION

We provided draft copies of the report to the Corporation for comment. The Corporation stated that it found the report to be very thorough and had only a few comments that pertain entirely to minor inaccuracies. These comments have been incorporated where appropriate.

PRIVATE SECTOR COMPANIES AND ASSOCIATIONS CONTACTED

Project sponsors (energy companies, construction/ engineering firms, <u>etc.</u> )	<u>Equity sponsors and/or financial advisors</u>	<u>Trade associations</u>
Ashland Synthetic Fuels	First Boston	American Gas Association
Bechtel Petroleum Inc.	Kidder Peabody & Co.	American Petroleum Institute
Consolidated Gas Supply Co.	Lehman Brothers, Kuhn, and Loeb, Inc.	National Council on Synthetic Fuels Production
Exxon	Salomon Brothers	
Gulf Mineral and Resources Co.		
Koppers Co., Inc.		
MAPCO		
Memphis Light, Gas and Water Co.		
Metropolitan Life Insurance Co.		
Occidental Petroleum		
Panhandle Eastern Pipeline Co.		
Phillips Petroleum Co.		
Rio Blanco Oil Shale Co.		
Standard Oil of Ohio		
Tenneco		
Tennessee Gas Transmission Co.		



# United States Synthetic Fuels Corporation

2121 K Street, N W Washington, District of Columbia 20586 Telephone: (202) 822-6600

April 12, 1984

Mr. J. Dexter Peach  
Director  
U. S. General Accounting Office  
Washington, D. C. 20548

Dear Mr. Peach:

Thank you for the opportunity to comment on your report to the Chairman, Subcommittee on Fossil and Synthetic Fuels of the Committee on Energy and Commerce, entitled "The Synthetic Fuels Corporation's Progress in Aiding Synthetic Fuels Development." We find it a very thorough report and have only the following few comments which pertain entirely to minor inaccuracies. It should be noted that, as the report is based on events through March 1984, we have used March 31 as a cutoff date for our comments related to those events.

1. Characterization of the status of the First Colony Project

The characterization of the status of the First Colony Farms Project (referred to in the report as the "First Colony Peat-to-Methanol Project") is inaccurate. The sponsors did not withdraw their application as stated on pages 3 and 5 of the report and on page 4 of Appendix I. Rather, the sponsors advised in February 1984 that they would not proceed with the project under the terms negotiated with the Corporation as contained in the letter of intent/term sheet signed by Chairman Noble on December 13, 1982. The Chairman wrote the project sponsors on March 20, 1984 and advised that he was withdrawing his concurrence in the term sheet.

It should also be noted that, because the First Colony Farms Project was still before the Corporation in March, the notations on pages 5 and 6 of the report as to the number of projects under consideration for financial assistance should be 18, not 17, and in the breakdown of projects on page 5 the number of peat projects should be changed to 2.

2. Number of projects to be supported

Reference is made in the cover summary and on page 5 of the report to the number of projects to be supported by the Corporation. The summary says "about 12 projects" and the report says "up to 12 projects." The former characterization is the accurate one, as there is a real possibility that more than 12 projects could be assisted. In particular, several strong small projects which could prove worthy of Corporation support may apply to the three outstanding solicitations.

See GAO note 1 on page 21.

Mr. J. Dexter Peach  
U. S. General Accounting Office  
Page 4

- j. The "energy tax credit date" referred to on page 12 of Appendix I is the deadline for certain engineering studies and other such work to be completed in order for a project to be potentially eligible for Energy Tax Credits.

Sincerely,



Edward E. Noble  
Chairman of the Board

Enclosures

- GAO notes:
1. Page references in this appendix have been changed to correspond to page numbers in this final report.
  2. The enclosures to this letter, which are not attached to final report, contained editorial changes for clarification which are incorporated in the report as appropriate.

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