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SYNFUELS INVESTMENT IN THE '80's

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In a moment of weakness a few months ago, I agreed to present a paper to this conference entitled, "How Industry Views the Climate for Major Synfuels Investment in the '80's". I really knew better than to attempt such a thing. Of course, there is no single industry view and even if so, it likely would be perishable. Uncertainty abounds and apparent trends evaporate with political changes as well as with the slower shifts in supply/demand relationships as both consumers and producers adapt to significant changes in real energy costs. Despite this confusion, I believe certain "clusters of consensus" are emerging among various segments of the future synthetic fuels industry, and I'll attempt to identify and describe these clusters.

Something like 75-100 commercial sized synthetic fuel projects have been identified as conceptually active. Theoretically all are candidates for investment during the '80's. However, only a handful of these plants will be under construction by 1990. Current applicants to the Synthetic Fuels Corporation for direct Federal support are a fair and public cross section of the potential synthetic fuel industry. The sponsors of these projects can be grouped, with gross over-simplification, into four categories:

1. Major oil or gas producers.
2. Gas or electric utilities.
3. Major industrial companies not now producing significant quantities of energy.
4. Entrepreneurial or opportunistic organizations.

Although by my classification over half of the respondents to the SFC's initial RFP for commercial projects fall in the last category, I would be surprised to see as much as 5% of the investment of the '80's come from these projects.

The remainder of the proposals are of much higher quality both in sponsorship and commercial practicality. The project sponsors are distributed fairly evenly among categories 1, 2 and 3 but I anticipate very different execution percentages among the categories. I expect 65% of the production to come from category 1 sponsors, 20% from category 2 sponsors and 10% from category 3 sponsors. In other words, the synthetic fuel industry, government intervention notwithstanding, will be in the hands of the existing energy industry -- and in perhaps a more concentrated fashion. Only a few projects will be commercialized by companies now largely outside the energy production sector of the economy. Some hybrid companies may use synthetic fuel production opportunities as a means to edge more heavily into energy production.

I believe several of the conceptually active synthetic fuel projects are of high quality and have been proposed by companies or consortia of companies with the technical and managerial expertise required for successful commercialization. Life cycle economics of many of these projects, perhaps with a helping nudge from the Federal Government, are now, or very soon will be, sufficiently attractive to warrant multi-billion dollar investments. However, even with these favorable factors, I expect production of synthetic fuels ten years from today to be less than 1,000,000 barrels per day of oil equivalent. Depending upon inflationary trends this will represent some \$75-100 billion -- truly a major commitment of resources.

As measured by the rhetoric of the previous administration, such an achievement would represent failure of private industry to invest, and of government programs to encourage private investment. Measured against my naive expectations of seven years ago when I first became associated with synthetic fuel programs, it also represents failure. But, compared with my expectations of 1978-9, the first time I felt I really began to understand the complex interplay of political and economic factors on synthetic fuel production, it represents solid progress.

I can almost hear some of you in the audience muttering to yourselves about my continuing naivety and optimism -- and perhaps you are right. However; many barriers to an effective synthetic fuels program have been or are being eroded; the failure of many well intentioned but counter productive governmental initiatives is recognized; constructive government action is under way in the tax and environmental arenas; the path toward a sound synthetic fuels industry never has been so clear.

The course and pace of this development depends on four factors which I will discuss briefly today:

1. Price and corresponding consumption of energy.
2. Federal tax policy.
3. Direct Federal intervention through controls or the SFC.
4. Environmental, health and safety regulations.

Time permits me to do no more than to state my assumptions and conclusions on each point and to tell you how I expect each to shape the synfuels industry. I'll not try to defend my analysis. If you differ in your understanding of the situation you well may reach different conclusions. Recent history in this field proves that prophets richly deserve their low esteem.

#### Price and Corresponding Consumption of Energy

The twin fallacies of insignificant elasticities in both the consumption and production of energy have caused unimaginable mischief in the area of national energy policy. I am convinced that previous administrations deliberately concocted a brew of politics, ideology and mathematical economics in an attempt to centralize power in the hands of Washington politicians and bureaucrats. I cannot accept the explanation that we have suffered from erroneous but well

intentioned policies which flowed from innocent intellectual errors. In any event, we are now beginning to be liberated from these earlier errors through decontrol of oil and petroleum products. As prices seek market clearing levels in a series of swoops and dives we can see the shadow of a data base emerging which will permit industry to make rational predictions of price and demand for synthetic fuels ten and even twenty years from now.

There are, however, three major imperfections in this developing data base: political instability in the mid east and its affect on OPEC, the windfall profits tax on domestic petroleum production and price controls on domestic natural gas production. There is little if anything industry can do about the first problem except to hope our foreign policy does not worsen the present situation.

In short run there probably isn't much that industry can do about the Windfall Profits Tax except to try to compensate for the distortion in the supply/demand balance caused by the removal of some incentive to find new domestic petroleum reserves. However, the law requires, before January 1, 1983, that the President report to Congress on the effect of decontrol and the Windfall Profits Tax on domestic production, imports, oil industry profits, inflation, employment economic growth, Federal revenues and national security. The report is to include legislative recommendations. There should be an opportunity for the incipient synthetic fuels industry to provide input to the staff which will prepare the President's recommendations, documenting the inhibiting effect on decision making of known distortions in fundamental supply/demand relationships.

Probably the most significant arbitrary dislocation lies in the continuing wellhead price controls on natural gas. Technically, gas prices are in a period of phased decontrol with small amounts of gas nearly uncontrolled. However, much as price controlled domestic crude subsidized imported crude both allowing exporting nations to receive unnecessary premiums for their oil and shielding consumers from the proper price information, the current semi-controlled natural gas system permits producers of new deep gas to receive inappropriate wellhead premiums of 10% and more over No. 2 fuel oil prices. I am convinced that present deep gas prices are unstable on the high side and vulnerable to increasing deregulation much as crude oil prices have proved vulnerable to deregulation. Although the Saudi decision to continue to overproduce caused the very rapid rate of decline in crude prices we are now experiencing, the trend was inevitable given the increasing conservation response to higher prices.

Both coal and shale based synthetic fuel projects are affected by an overall conservation response to higher energy prices and a possible interfuel substitution rebalance when prices equilibrate. But coal based projects -- even direct liquefaction projects -- are more affected since they tend to produce substantial quantities of high or medium Btu gas and are directly affected by gas prices. Choice of gasifier technology for indirect liquefaction plants could be affected with higher gas values favoring fixed bed processes and lower gas values favoring entrained bed processes. All in all, the instability in gas pricing and usage which will continue until some time after price deregulation introduces significant uncertainty into coal processing projects which must sell gas as either a prime or significant by product on the unregulated market.

## Federal Tax Policy

A solid start toward providing powerful and neutral tax incentives (in the sense of not requiring project-specific approval) was made in 1978 and 1980 in the form of Energy Tax Credits granted to qualifying investments. As this paper is being written, additional help is on the way in the form of Capital Cost Recovery legislation. Legislative changes should be made to improve the effectiveness of the Energy Tax Credits, and the final provisions of the Capital Cost Recovery legislation are uncertain, but I will outline the useful provisions and shortcomings as best I can.

Present tax law provides for an additional 10% Energy Tax Credit for a qualified investment. IRS regulations to implement this law appear to exclude 40%, more or less, of a synthetic fuel plant leaving the effective credit at roughly 6%. Furthermore, the law requires completion of all engineering studies and application for all environmental and construction permits required before construction by January 1, 1983 PLUS binding commitments to purchase or construct at least 50% of the specially designed equipment for the project by January 1, 1986 as a precondition to receiving any credit for expenditures after January 1, 1983. If both these hurdles are cleared, expenditures prior to December 31, 1990 qualify for credit. These hurdles, or affirmative commitment rules, effectively eliminate many projects which could supply synthetic fuels late in the '80's or early in the '90's from a very effective and efficient incentive. They should be eliminated or, as a minimum, moved backwards in time about 3 years. Additional legislative action is desirable as a precursor to changes in IRS regulations which would increase the present effective Energy Tax Credit from about 6% to near 10%.

As this is being written, the Administration tax bill is being formulated and its composition is not known with certainty. Two features are of paramount importance: the new amortization period and whether the period can begin on some sort of "qualified progress expenditure" basis or must continue to await the "placed in service" date. Of the two features, the latter is more important to synthetic fuel producers even if the amortization period is reduced to as short a span as 5 years. The likely range of amortization periods is 5 to 7 years and there is hope for a "qualified progress expenditures" rule though its passage is by no means certain.

The cumulative effect of solidifying the Energy Tax Credit, reducing the plant amortization period and switching to a "qualified progress expenditure" rule would be an improvement in rate of return on investment of about 30 percent -- say from 15% DCF to 20% DCF. This is enough of a change to make many boards of directors take notice.

## DIRECT FEDERAL INTERVENTION

Most federal energy policies during the '70's involved direct intervention. Individual R & D projects were selected for substantial grants, individual power plants were ordered to burn certain fuels, oil and gas production was subject to a bewildering array of discriminatory price controls, subclasses of refineries were subsidized, distribution systems were frozen into historical patterns, end use controls were placed on major fuel burning installations and other strictures too numerous to mention were placed on industry and our market oriented economic system. Fortunately, even father eventually recognized that he did not know best and the early '80's have been marked by a gradual removal of some of the most onerous controls. The Reagan Administration seems inclined to continue and even accelerate this trend. I am enough of an optimist to believe that most inhibiting regulations installed in the '70's will become history during the '80's. If so, a less distorted decision data base can become a reality.

One particular form of direct intervention deserves special discussion. That is the United States Synthetic Fuel Corporation. Most of you are aware that the SFC was formed under the authorization of PL 96-294 a little over a year ago. You also are aware that the SFC did not have a confirmed board of directors during its first year of life although for a few months it functioned under a temporary board created by recess appointment. As one of the early acts of the new administration, that temporary board was dissolved and the SFC continued its existence for several months without a policy-making group. I'm sure you also know that the single substantive action taken by the SFC -- that of solicitation for proposals for SFC support of synthetic fuel projects -- has been questioned by the House Committee on Government Operations with a recommendation that the new Board of Directors consider withdrawing the solicitation and starting over in a few months after it makes several policy decisions. What none of us knows, however, is whether or not the SFC will ever get its act together and what effect its actions will have on the synthetic fuel industry. Many question whether or not the Reagan Administration wants the SFC to do anything at all.

My crystal ball is no better than yours, but I have the task of foretelling the future so here goes. I don't believe the Reagan Administration intends to sabotage the SFC. I do think the Administration intends for the SFC to be a minor rather than a major player in the overall industry. To the extent that the Administration can control future Congresses, I do not expect additional funds to be appropriated. The scope of the SFC will then be limited to awarding some \$12-13 billion in financial assistance and managing something less than \$20 billion including the Defense Production Act and Federal Non-Nuclear Act awards made by DOE. I doubt that 20% of the money spent during the '80's on Synthetic Fuels project will be pursuant to SFC awards. I am confident that no major awards will be made by the SFC during 1981, and I would be surprised if more than one major award were made in 1982.

The conditions of awards probably will be restrictive and only those sponsors who have a strong drive to produce synthetic fuel and very little ability to do so on their own will finally agree to terms. I don't view a SFC award as a bonanza or a give-away. I think sponsors will earn their awards. Probably this is as it should be. If my view of future price and demand is correct and if Congress passes the right kind of tax legislation, the industry can develop without the SFC although perhaps not in a way that would please some sections of the populace. Natural development will leave the synthetic fuel industry mostly in the hands of present major energy producers.

No one else has the financial, technical and managerial power to accomplish the rather formidable task of bringing a grassroots, multi-billion dollar first of a kind project to successful completion. After all, outside of Washington, a billion dollars is still real money.

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The main value of the SFC, and I do support the first phase of SFC actions in case they are undertaken. Ideas for 1) ...

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If my optimistic view of the future holds and my forecast is borne out I will be pleased. I believe most of the affected industry would accept the outcome as reasonable under the circumstances. It can happen here if we are patient for just a little while longer.

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