COMMITTEE FOR ECONOMIC DEVELOPMENT, 1000 Connecticut Avenue, N. W., Washington, D. C. 20036 • 202 296-5860

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The enclosed material compares the major recommendations of the CED statement Achieving Energy Independence with those contained in two other studies -- Federal Energy Administration's Project Independence and the Ford Foundation's A Time to Choose. In general, these two studies do not propose any specific set of actions but lay out broad strategic options. For the purpose of comparison, one scenario is chosen from each study that appears to be most favored by the authors.

## The CED Study Compared to the Ford Foundation and FEA Report

The American public has received three important energy studies this fall: the Ford Foundation's "A Time to Choose" in October, the Federal Energy Administration's "Project Independence" in November, and CED's statement "Achieving Energy Independence" at this time.

Unlike the two earlier studies, the CED believes that the country no longer can afford the luxury of choosing among many options, but must move forward vigorously on a number of fronts. The Committee also emphasizes the need for an international solution to the problem.

The FEA study lists three strategic options: increasing domestic production, conserving and managing energy demand, and establishing standby emergency programs. We believe all these objectives must be pursued simultaneously and independence achieved as soon as possible.

The Ford study contains several alternatives. We make our comparison on the basis of their Technical Fix scenario with environmental protection rather than Zero Energy Growth. The CED recommends that energy imports be limited to ten percent of demand by 1985 with provisions for doing without that ten percent. Oil imports would be less than 4 million barrels per day, down from nearly 7 MBD. In contrast, the Ford projection has imports over fifteen percent in an economy in which all spare energy use has been eliminated. The primary reason for this difference is CED's emphasis on the indigenous fuels that are not in short supply: coal, uranium, and oil shale. Taken together these fuels provide 35 quads of energy in 1985 in the CED projection, almost twice the 19 quads provided by these fuels in the Ford scenario.

A greater emphasis on developing a synthetic fuel industry also distinguishes the CED statement from the FEA report. Other than that our numbers are relatively similar to their base case with oil at $11 a barrel (in constant 1973 prices). However, we do not believe that independence should depend on uncertain forecasts of world oil prices. The $11 price is about one-third greater than the current U.S. price that results from a mix of controlled old oil and uncontrolled domestic and imported oil. Moreover, translated to 1985, a price of $11 in 1973 dollars is likely to exceed $20 in prices of that year. The CED view is that we must conserve energy use and increase domestic energy production capacity as if the price of all oil was and would remain at $11 a barrel, irrespective of what OPEC does until the U.S. becomes independent. At that point we can reconsider our options. The CED statement, although it emphasizes conservation and increased domestic production, recommends that flexibility be achieved by allowing imports and maintaining standby provisions in case of an interruption.

A more detailed comparison of the three studies is given on the following pages.

## Energy Demand and Conservation

(1) While all three studies recommend restraining the growth in energy consumption through 1985 to about half of the historical growth rate (4.3 percent in the last decade), the projected levels of total consumption and growth rates differ somewhat.

Comparison of Total Energy Demand

| | 1972 Actual (Quads) | 1985 Projected (Quads) | Growth Rate 1972-1985 (% per year) |
|---|---|---|---|
| CED: | 72.0 | 105.0 | 2.9 |
| FEA: Base Case | | | |
| at $7 oil | 72.1 | 109.6 | 3.2 |
| at $11 oil | 72.1 | 102.9 | 2.7 |
| Ford: Technical Fix | 72.1 | 92.0 | 1.9 |
| Zero Energy Growth* | 72.1 | 88.1 | 1.5 |

* The zero energy growth rate occurs after 1995.

(2) The CED scenario allows about ten percent (or 10 quads) of energy demand to be supplied by imported oil and gas in 1985. This margin of imports allows flexibility in managing energy demand in cases of emergencies. If another embargo is imposed, oil consumption could be cut back by five quads -- chiefly from gasoline consumption, and the additional five quads of supply could come from stockpile programs recommended in the statement.

(3) Among the three studies compared, the Ford study stresses the desirability of energy conservation more explicitly than other studies. Their low energy growth rate is related to this emphasis on energy conservation. The Ford Foundation report suggests that the nation should set

a target for the long-term energy growth rate at two percent per year and the target should be reviewed annually by Congress.

(4) The CED statement is more explicit in pointing out the urgency for achieving an energy independence. The statement points out that the U.S. must act immediately to minimize its vulnerability to the threat of another oil embargo.

(5) All three studies suggest similar specific conservation measures aimed at restraining energy consumption. The differences are in emphasis and specificity. (See Table).

## Price Assumptions

(1) The FEA's base case scenario is based on two levels of assumed oil prices -- at $7 and $11 a barrel. The analysis then contrasts the U.S. energy picture at the two price levels.

(2) The CED statement does not make any specific price assumption. Implicit in the study, however, is that the nation should be prepared for a situation where a decline in world oil prices disrupts the development of domestic substitutes.

(3) The Ford Foundation report does not specify its price assumption either. But the report indicates that the long-term energy price will remain at a level high enough to encourage greater efficiency.

## COMPARISON OF CONSERVATION MEASURES SUGGESTED

| Demand Sector | CED |
|---|---|
| Transportation | Tax high energy-consumption motor vehicles. Modify ICC regulations. Review standards of engine design and automobile emission control. Shift to more energy-effective forms of transportation and subsidies for public transportation facilities. |
| Industrial | Review natural gas and electricity rate structure. Promote recycling of energy-intensive materials. |
| Residential/ Commercial | Label energy efficiency of appliances. Individual meters for residential-commercial uses of utilities. Revise building codes and encourage insulation. |

| | FEA* |
|---|---|
| Transportation | Establish a mandatory 20 mpg auto efficiency standard. Encourage shifts from automobile to public transit use through incentives and penalties. |
| Industrial | Mandatory submission of energy conservation plans by the largest firms in the major energy consuming industries. Federal demonstration programs for developing energy conservation technology. |
| Residential/ Commercial | A 25 percent tax credit for refurbishing existing homes.<br>A 15 percent investment credit for energy reduction investments in existing commercial buildings.<br>National thermal efficiency standards for new homes and commercial buildings.<br>Mandatory lighting standards for commercial buildings.<br>Appliance efficiency standards. |
| Utilities | Energy conservation standards for electric utility companies. |

| | FORD FOUNDATION |
|---|---|
| Transportation | Improve fuel economy to 20 mpg by 1985.<br>Increase passenger load factor in air transportation, shift intercity freight traffic to rail. |
| Industrial | Promote combined on-site production of steam/ electricity. Encourage metal recycling. Eliminate promotional rates by utilities. |
| Residential/ Commercial | Label major appliances with energy requirements and operating cost. Replace promotional rates. Revise and upgrade building codes. Use heat pumps instead of resistance heat in space heating. Insulate against heat loss. |

*(Note: The FEA's base case scenario does not recommend any specific set of conservation measures. But the following illustrates potential conservation measures under a scenario of "accelerated conservation strategy")

## SUPPLY STRATEGIES

(1) On supply strategy, all three studies stress the importance of accelerating domestic energy production. But major differences are found in the projected levels of coal production and nuclear power and the relative importance attached to them in the composition of total energy supply. While the CED and FEA scenarios project significant increases in coal production (almost double between 1972 and 1985) and nuclear supply (more than ten times increase), the Ford Foundation scenario suggests much slower growth in these sources of energy. Coal supply in the Ford Foundation scenario is about two-thirds of the CED's projected 1985 production; and nuclear power is about half of the CED's projected supply. For synthetic fuels, only the CED scenario has a substantial amount of production in the 1985 supply. Neither the FEA nor the Ford scenario contemplates the production of synthetics before 1985. (See Table)

(2) On imports: All three studies agree that the basic objective with regard to oil imports is to free the U.S. from the dependence on "insecure" foreign sources by 1985. While a reduction in the dependence on imported oil is stipulated, complete self-sufficiency (a zero import policy) is rejected by all three studies.

(3) With regard to total domestic production of oil and gas, all three studies project about the same levels of production in 1985.

(4) The following are the important policy recommendations offered for increasing domestic production of individual fuels.

PROJECTED ENERGY SUPPLY BY SOURCE, 1985
(in quads)

| | 1972 Actual | CED | FEA Base Case at $7 oil | FEA Base Case at $11 oil | Ford Foundation Techn, Fix w/ Environ. Protec. |
|---|---|---|---|---|---|
| Oil | 23.0 | 28.5 | 23.1 | 31.3 | 29 |
| Gas | 22.5 | 26.5 | 22.9 | 24.8 | 26 |
| Coal | 12.0 | 21.5 | 19.9 | 22.9 | 14 |
| Nuclear | 0.5 | 10.0 | 12.5 | 12.5 | 5 |
| Hydro | 3.0 | 5.0 | 4.8 | 4.8 | 4 |
| Synthetics | 0 | 3.5 | 0 | 0 | 0 |
| Total Domestic | 61.0 | 95.0 | 84.3 | 96.4 | 78 |
| Imports | 11.0 | 10.0 | 24.8 | 6.5 | 14 |
| Total Supply | 72.0 | 105.0 | 109.1 | 102.9 | 92 |
| Addendum | | | | | |
| Import Share | 16.2% | 9.5 | 22.7 | 6.3 | 15.2 |

## COMPARISON OF SUPPLY STRATEGIES

| Fuel Source | CED |
|---|---|
| Oil | Rapid leasing, more efficient environmental controls. Phased decontrol of the price of "old oil" |
| Natural Gas | Deregulation of gas except for existing contracts |
| Coal | R and D on mining techniques, sulphur removal and land reclamation |
| Nuclear Energy | R and D on breeders, reduce licencing delays |
| Synthetics | R and D on pilot plants, price protection |
| | **FEA-Base Case** |
| Oil | Moderate OCS (outer continental shelf) leasing program |
| Natural Gas | Phased deregulation of new gas |
| Coal | Phased implementation of Celan Air Act; Federal coal land leasing |
| Nuclear Energy | Expand enrichment and reprocessing capacity |
| Synthetics | No change from current policy |
| | **Ford Foundation** |
| Oil | Rely on new supplies from Alaska and other presently developed offshore sources. Competitive leasing of offshore oil and gas lands |
| Natural Gas | Rely on new supplies from Alaska and other presently developed offshore sources. Competitive leasing of offshore oil and gas lands |
| Coal | Limit production to the areas where reclamation is feasible |
| Nuclear Energy | Go slow on developing this source of energy until environmental and safety matters are resolved |
| Synthetics | Research and development; no commercial production before 1985 |