

CHAPTER III ALTERNATIVES FOR COPING WITH FUTURE
DOMESTIC ENERGY SHORTAGES

As the United States approaches a point of decision regarding its long-term dependence upon foreign oil and the actions that can be taken domestically to reduce this reliance, there are certain basic choices to be made. The extent of government involvement in the development of new energy sources, in reducing the demand for energy, and in preparing for future emergency situations must be determined.

A. FREE-MARKET SOLUTIONS

Under the free-market approach, the level of supply and demand for oil (and other competing energy resources) would be set by the market clearing price. No projected energy future can be considered as a truly free-market situation, since some controls on energy production operations and the availability of many of the potential sources of energy are in government hands. There are, however, two very different situations under which a free-market might be allowed to operate:

1. Unlimited Imports

If there are no new government actions other than decontrol of old oil prices and deregulation of new natural gas, oil imports are expected to grow to over 10 million barrels per day (MM b/d), or more than 50 percent of oil consumption, by 1985. However, if the world oil price stabilizes at a high figure, demand would be reduced and domestic supply would increase to bring import levels below 5 MM b/d.

Not only will domestic oil be in short supply, but natural gas is expected to fall considerably short of demand. Even under optimistic assumptions of gas supply, shortfalls of 4-6 tcf may be expected. Such shortages would amount to about 20 percent of projected demand assuming that all interruptible uses of gas are curtailed and that all current Canadian imports (about 0.9 tcf) are discontinued. Without curtailments

of all interruptible uses of gas, 1985 gas import requirements could be as high as 10-12 tcf, or about one-third of an unconstrained demand of 32 tcf.

While there would be ample world supply sources for oil and sufficient natural gas supplies to meet unlimited free-market import demands, the impacts of such a large dependency would be severe. Unless very large new domestic supply sources were to be discovered and developed, most of the increased imports would have to come from insecure Arab sources, which would be subject to cutoffs, large price fluctuations, and could be used to influence our foreign policy. A cutoff of foreign oil or gas supplies if the nation was import dependent for 30 to 50 percent of its energy needs could result in disastrous economic and social impacts. At current prices (1975 dollars), the yearly outflow of dollars for 10 MM b/d of oil and 5 tcf of natural gas would be some \$55 billion.

2. Restricted Imports

As an alternative to unlimited imports, there have been a number of Congressional proposals to restrict the amount of imported oil allowed. Such restrictions could be either broad or selective (only restrict "insecure" sources), with unsatisfied demand being met by allowing prices to rise or allocating the shortages.

If imports were restricted to about 6 MM b/d, unsatisfied demand could be as much as 5 MM b/d. Using the price mechanism to meet the shortage could result in large price increases with significant inflationary effects. Such a situation would almost certainly lead to rationing. It is clear that a policy of import restrictions can only be accomplished if other actions are taken to increase supply and reduce demand. Taken alone, import quotas would have too severe an impact on the economy.

B. GOVERNMENT INTERVENTION SOLUTIONS

The use of the free-market, while desirable, is unlikely to result in acceptable levels of import dependency and domestic oil and gas production. The government is already closely involved in every aspect of energy production or consumption. It makes federal lands available for exploration and production, permits the siting of energy facilities, funds energy research and development efforts, sets energy conservation and environmental standards, and consumes large amounts of energy.

The Project Independence Report demonstrated that the United States could reduce the need for imported oil to less than 5 MM b/d by 1985 if the Federal Government had an active role in increasing supply or reducing demand. The President further indicated in his State-of-the-Union message that both supply and demand actions would be needed and that a program designed solely to increase supply or solely to reduce demand would not be successful. To increase supply, the President's Energy Program suggests that actions could be taken to:

- Explore, develop, and produce oil from the Navy Petroleum Reserves. In particular, NPR-1 (Elk Hills, California) could produce 400,000 barrels per day in 3-4 years, and NPR-4 (Alaska) could produce 2 MM b/d by 1985.
- Deregulate new natural gas prices.
- Accelerate development of the Outer Continental Shelf in the frontier areas of the Atlantic, Pacific, and Gulf of Alaska. This could add 1.5 MM b/d by 1985.
- Facilitate the licensing and siting of nuclear power plants to reduce the need for oil and gas in electric generation.
- Encourage and support the development of alternative energy sources, such as synthetic fuels, solar and geothermal power.
- Modify certain Clean Air Standards that go beyond the need to protect primary standards to enable greater use of coal-fired capacity.

These actions could combine to increase effective domestic supply by about 5 MM b/d by 1985. In the near-term, however, none of these actions will result in significant new production. To reduce the risk of failure and to further reduce imports, measures may be needed to restrain demand. These include:

- Increase the value of energy with respect to other goods, through higher taxes and decontrol. These actions could save over 2 MM b/d by 1985.
- Establish automobile efficiency standards. This could save 1.0 MM b/d by 1985.
- Provide a tax credit for insulating existing buildings to save 0.3 MM b/d.
- Set mandatory national thermal efficiency standards for buildings to save 0.3 MM b/d.
- Set appliance efficiency goals to reduce imports by 0.3 MM b/d.

For the period 1985-2000, additional possibilities exist both for supply enhancement and conservation. Given that it is reasonable to assume that total energy use will increase over this period, the importance of establishing the beginning of a synthetic fuel industry now lies not so much in its absolute contribution to our energy supplies in 1985; but rather, it is the fact that the U.S. will have established the basis for a significant synthetic fuels industry for the 1990s and beyond. As a large scale synthetic fuels capability requires not only the plants themselves but the up-stream industrial infrastructure, a significant lead-time is involved. By beginning on a definitive synthetic fuels program now of commercial magnitude, the U.S. will be creating an "infant" industry to meet demands in ensuing decades. Furthermore, by undertaking some level of synthetic fuels development,

the interest of the U.S. consumer in maintaining his standard of living may be enhanced in the long-term. If the commercialization program is successful, the U.S. consumer will be the beneficiary in terms of "cheaper" energy in the long-term with only minimal cost effects in the 1975-1985 time frame (see Appendix C for a more detailed discussion).