Oil Shortage: Demand Down Supply Up

The United States seems to be weathering its short-term energy crisis. There are signs that Americans are responding to requests to conserve energy, and the Arab embargo has not severely cut our imports of petroleum. There is some interesting statistical evidence as well that, in spite of complaints about shortages, the overall petroleum supply-demand situation has been better this winter than last. It is possible, though difficult to prove, that hoarding may partly account for the apparent crunch.

The most accurate and timely gauge of energy demand is electricity; weekly consumption figures issued by the Edison Electric Institute show that demand has been running 1.5 percent below that of a year ago, an unprecedented drop that contrasts with a growth rate of about 8 percent earlier in 1973.

Similarly, consumption of natural gas is down. Paul E. Reichardt, president of the Washington (D.C.) Gas Light Company, states that use of gas diminished by 6 to 7 percent soon after President Nixon's televised appeal on 7 November. The decrease has been maintained. In New Jersey, Reichardt notes, another company has experienced a larger reduction. All these figures have been corrected for weather variations.

Because electricity and gas are used immediately after they come into the buyer's possession, behavior of consumers is easy to follow. This is not true of petroleum and its products. Customers can and do store hydrocarbons for a variety of reasons. Accordingly, figures on the total petroleum inventory are necessarily incomplete. It is not possible to get precise data on how much is being consumed and how much is being diverted to storage between the primary suppliers and the ultimate consumer. Nevertheless, major outlines of the situation can be seen.

Each week the American Petroleum Institute (API) releases data supplied by refiners on rates of production, imports, demand, and stockpiles of petroleum and its products. These figures show that incoming supplies and stockpiles are larger than they were 1 year ago.

A particularly interesting set of figures is the following. During the 4 weeks ending 24 August—nearly 6 weeks before the Arab embargo—the United States imported crude oil and refined products at an average daily rate of 5.9 million barrels. In the 4 weeks ending 23 November, imports were 6.5 million barrels a day. The latest figures, from the 4 weeks ending 28 December, are 5.9 million barrels a day, still above the figure at the same time last year.

In recent weeks imports have exceeded those of a year ago by 25 percent. Although some of this growth was offset by a 4 percent drop in domestic production, the net effect is that total supplies (U.S. production plus imports) are up 4 percent over a year ago. At the same time, the API statistics for the week ending 21 December show a 3 percent drop in demand for petroleum instead of the usual 9 percent annual rise in demand.

The API also has data on inventories held by the major suppliers, although these figures do not reflect quantities squirreled away by distributors and private individuals. Overall, these major inventories are greater than those of a year ago. For example, in the week ending 21 December 1972, stockpiles in million of barrels were: crude oil, 248; gasoline, 209; middle distillates (heating oil), 184; jet fuel, 25.2; and residual oil, 55.6. In the corresponding week in 1973, the figures were: crude oil, 249; gasoline, 203; middle distillates, 226; jet fuel, 28.9; and residual oil, 52.1.

The total of these five stockpile items as of 28 December 1973 was 759 million barrels, as compared to an inventory of 722 million barrels as of 24 August. Trends in imports and stocks are shown in Figure 1. The latest data for imports indicate that the embargo may finally be having some effect. However, the recent easing of the embargo should forestall a sharp drop in supplies.

The API data on consumption is somewhat ambiguous, covering only transfers from the major suppliers, not their actual ultimate use. Thus the data are not quickly responsive to changes in user behavior, and do not differentiate between consumption and hoarding. Nevertheless, the figures do indicate that the Nixon Administration has been able to curtail demand. Since some users were undoubtedly adding to their stocks, actual consumption was even lower than withdrawals from the major suppliers would indicate.

The relatively favorable performance of the past month, however, is no cause for relaxation of efforts to conserve energy or achieve energy independence. Producing and exporting nations have increased production, but prices have zoomed. At current rates our annual bill for imports is in the vicinity of $20 billion. Recent experience would indicate continued use of the "oil weapon" in the months ahead.—P.H.A. and R.G.

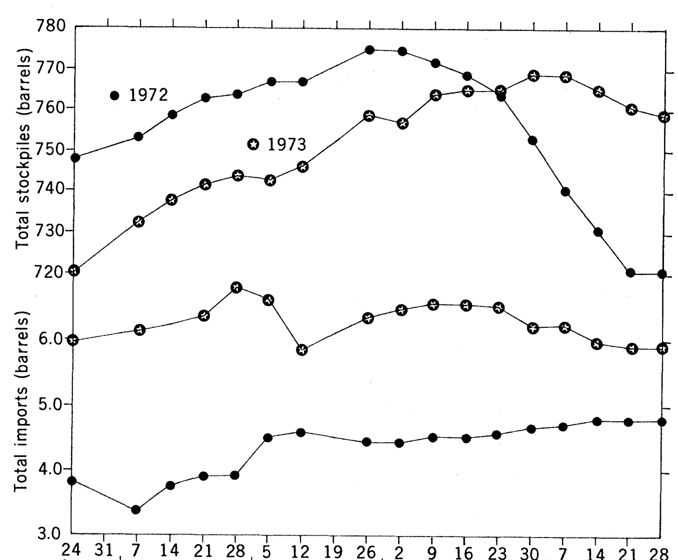

Fig. 1. The lower set of curves depicts U.S. imports in millions of barrels a day (one barrel contains 42 gallons or 159 liters). The values are averages for the 4 weeks ending on the day listed. The upper curves show total inventories held by major suppliers (millions of barrels). Values are for the date shown.