Critical Materials Imports Vulnerable, OTA Warns

A new study by the congressional Office of Technology Assessment (OTA)* indicates, without saying so explicitly, that the United States is likely to become more dependent on imports of critical materials from potentially insecure sources of supply. The study offers some suggestions to help develop alternative supplies or promote the use of substitutes, but few of these measures would have much impact in the near term and many would be anathema to the free-market philosophy of the Reagan Administration.

The report focuses on four materials, chromium, cobalt, manganese, and platinum group metals, production of which is concentrated in southern Africa and the Soviet Union. All four materials have critical industrial uses ranging from producing alloys to catalyzing chemical reactions.

The United States currently imports well over $1 billion worth of these materials per year, the study notes, and with the possible exception of manganese, their use is expected to increase substantially over the next few years. For example, U.S. demand for chromium and platinum group metals is likely to double by the end of the century.

These trends suggest that the United States could become increasingly dependent on one or two suppliers and thus be more and more vulnerable to a disruption of imports.

One possible way to reduce potential vulnerability would be to create an industrial stockpile of critical materials, but industry is skeptical that such a stockpile could be managed without disrupting the market. (A stockpile of strategic materials, first established in 1939, is maintained by the U.S. government to meet military and other critical needs in times of war or declared national emergency, but it cannot be used to meet industrial or civilian needs if supplies are disrupted by economic events or foreign political disturbances.)

A second approach would be to encourage diversification of supplies, substitution of alternative materials, and recycling of strategic metals from waste and scrap. The OTA study found that this approach is technologically feasible and could, in theory, help reduce future dependence on potentially insecure sources of supply.

The problem, however, is that market forces are currently pushing in the direction of increased imports from existing suppliers because materials from these sources are relatively cheap and abundant. The OTA study therefore suggests that some government action is needed if vulnerability to supply disruptions is to be reduced. It suggests measures ranging from better dissemination of information to direct financial assistance to industry for investments in new technologies.

Measures that entail substantial government involvement in steering private investments are, however, sure to be resisted by the Reagan Administration. Indeed, the OTA report notes that the Administration has not even carried out requirements of various pieces of legislation to produce reports on potential disruptions in supplies of critical materials. In general, the Administration prefers to rely on the workings of the market to deal with such matters.

There is some historical justification for such an approach. Four previous supply disruptions—a halt in chromium and manganese exports by the Soviet Union in 1949, a boycott of chromium ore from Southern Rhodesia in the 1960's, an interruption of nickel imports from Canada in 1969 because of a strike, and disruptions in cobalt exports from Zaire during recent political disturbances—all resulted in shifts in patterns of supply or new technological developments. The OTA study notes, however, that some of these disruptions had serious financial impacts, and it suggests that adjustments may be more difficult next time around.

One interesting footnote in the discussion of critical materials is the almost complete disappearance of ocean mining from the future resource picture. Just a few years ago, minerals from the ocean, particularly manganese nodules on the floor of the Pacific Ocean, were widely regarded as offering a potential abundance of several critical materials. However, the OTA study notes that a sharp escalation in estimated costs of ocean mining, coupled with depressed prices of conventional supplies and legal uncertainties caused by the United States' refusal to sign the Law of the Sea agreement, have placed these resources beyond reach, at least for the foreseeable future.

—COLIN NORMAN

*Summaries of the report, "Strategic Materials: Technologies to Reduce U.S. Import Vulnerability," are available from the Office of Technology Assessment, Washington, D.C. 20510; the full study will be published in March.

A New U.S.–Soviet Manned Space Mission?

The Reagan Administration appears ready to initiate formal discussions with the Soviet Union on the possibility of a joint U.S.–Soviet manned space mission. Such a mission would have clear symbolic value as a token of better relations between the two countries, especially now that they have agreed to include President Reagan's "Star Wars" strategic defense initiative in a new round of arms control negotiations. If all goes smoothly, the flight could take place before the end of 1985.

At this point it is still not clear whether the Soviets will agree to discuss a space mission. However, insiders at the National Aeronautics and Space Administration (NASA) say they have been led to believe that a joint space mission was one item on the agenda last week when Secretary of State George P. Shultz met with Soviet Foreign Minister Andrei A. Gromyko in Geneva. On 5 January, moreover, the magazine *Aviation Week and Space Technology* reported that the Administration planned to begin formal talks on a joint mission "as early as this week." And on 7 January, the day the Geneva talks began, White House deputy press secretary Larry M. Speakes called the NASA news office and told officials there that if anyone asked, the *Aviation Week* story "is substantially correct."

Meanwhile, NASA officials have been discussing what might be done on a joint mission. In one concept, the U.S. space shuttle would approach the Soviet Union's Salyut 7 space station, and an astronaut would use a manned maneuvering unit—the Buck Rogers backpack—to cross the gap. He or she could then work with the Soviet cosmonauts to demonstrate rescue techniques.