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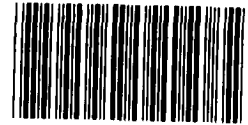
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INTERNATIONAL DIVISION

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DECEMBER 2, 1982

RELEASED



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The Honorable Gordon J. Humphrey
Chairman, Subcommittee on Preparedness
Committee on Armed Services
United States Senate

Subject: Foreign Governments' Stockpile
Policies - Actual and Proposed
(GAO/ID-83-16)

Dear Mr. Chairman:

This is our response to your request of June 28, 1982, that we review the methods used by other industrialized countries to finance stockpiles of critical materials. We reviewed the programs of countries which are presently stockpiling and the plans of countries which have considered stockpiling.

Enclosure I summarizes information on the countries' financing methods being implemented and/or planned and enclosures II and III present in tabular form other information concerning existing stockpiling programs and stockpiling plans in the discussion stage. Enclosure IV contains our objectives, scope, and methodology. Additional details concerning stockpiling programs and plans are included in a report recently completed by the Organization for Economic Cooperation and Development (OECD). That document, which we are supplying under separate cover, has been given a U.S. Government national security classification by the Department of State and should therefore be appropriately safeguarded.

Certain industrialized countries have long been stockpiling critical materials for economic as well as strategic reasons; e.g., Switzerland, following World War II, France since 1975, and Japan since 1976. Recent efforts to establish stockpiles in West Germany and Spain were not successful due to budgetary problems and lack of private sector support. Preliminary discussions concerning the development of a stockpiling plan in the United Kingdom have taken place.

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The stockpiling programs adopted and/or considered by all these countries, except Sweden and France, are joint government-private sector efforts. The stockpiles of Sweden and France are government-owned, with France's stockpile being financed by bonds and budget appropriations. The other countries' stockpiles are financed essentially by the private sectors, but governments provide financial assistance in the form of guaranteed loans, interest subsidies, loans at concessionary interest rates, tax incentives, and/or administrative expense subsidies.

The details of the financing methods discussed here and in the OECD report are the extent of the information available from Federal agencies, international organizations, and research groups in the Washington, D.C., area that would have had some involvement in the subject. Because of the limited availability of information from these organizations, we used information found in publicly available sources, such as trade journals.

As arranged with you, unless you publicly announce its contents earlier, we plan no further distribution of this report until 30 days from the date of its issuance. At that time, we will send copies to interested parties and make copies available to others upon request.

Sincerely yours,



Frank C. Conahan
Director

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ACTUAL AND PROPOSED
STOCKPILE FINANCING POLICIES
(note a)

FINANCING METHODS OF COUN-
TRIES THAT HAVE STOCKPILES

Sweden

The Government of Sweden maintains raw material stockpiles of a large number of minerals. These stockpiles are intended for use in the event of a war or a blockade or disruption of supply lines in peacetime. These government stockpiles reportedly are supplemented by private sector stockpiles. The financing of the government stockpiles is discussed in the classified report we are furnishing under separate cover. The private sector stockpiles, however, have accrued as a result of the treatment of inventories under Swedish tax law.

Some analysts have described Swedish tax law as having the effect of encouraging higher levels of raw material inventories than would normally be the case because of provisions that apply to inventories. Taxable income is reduced by the amount allowed for inventory write-down which, under Swedish law, is very generous. The lower taxable income results in lower tax payments to the government, which in effect reduces the cost of raw material inventories.

Inventory valuation system. For tax purposes, the value of inventories is the lower of the purchase or replacement value; purchase value is determined on a first-in-first-out basis (FIFO). This value can be written down by any of the methods described below.

Basic rule. The value may be written down by a maximum of 60 percent after deducting either unmarketable or obsolete merchandise or 5 percent of the value, whichever is greater. This basic rule is waived by two supplementary rules.

Supplementary rules

1. If the net inventory value (value less unmarketable or obsolete items) has fallen below the average value of the inventories for the two immediately preceding years, the writeoff allowed is 60 percent of this average value.

a/ We used the International Monetary Fund conversion rates to obtain U.S. dollar equivalents; the average exchange rate for the period covered was used in each case.

2. To account for the risk of price declines in raw materials and commodities included in inventories, the writeoff allowed is the difference between the FIFO value and 70 percent of the lowest market value in the past 10 years; no other writeoffs are permitted when this rule is applied.

The following example illustrates the effect of these inventory valuation rules.

Given

ABC Corporation raw materials inventory account

	<u>Swedish kronor</u>
At December 31, 1979	800,000
At December 31, 1980	600,000
At December 31, 1981	500,000
Inventory at lowest market value in past 10 years	400,000
Unmarketable or obsolete items	30,000

Then, total writeoffs as of December 31, 1981 would be

Under basic rule:

Unmarketable items		a/ 30,000
Plus 60% of net inventory value		
Value of inventory	500,000	
Less unmarketable items	- 30,000	
Net inventory value	<u>470,000</u>	
Writeoff	<u> X 60%</u>	<u>282,000</u>
Total writeoff		<u><u>312,000</u></u>

Under first supplementary rule:

Inventory at		
December 31, 1979	800,000	
Plus Inventory at		
December 31, 1980	<u>600,000</u>	
Average of 2 years	<u>1,400,000/2 =</u>	b/ 700,000
		<u> X 60%</u>
Writeoff (60% of average of 2		
past years' inventory)		<u><u>420,000</u></u>

Under second supplementary rule:

Inventory at December 31, 1981	500,000
Less 70% x 400,000 (10-year-low inventory)	<u>280,000</u>
Writeoff	<u><u>220,000</u></u>

a/ Greater than 5 percent of inventory value, which is 25,000.
b/ Higher than net inventory value, which is 470,000.

The full tax subsidy to inventories, however, may not be realized. In 1977, a Swedish embassy official indicated that more than 80 percent of Swedish companies do not fully use the inventory writeoffs because they need to give their shareholders yearly returns rather than using such funds for larger inventories.

We did not obtain any stockpiling cost figures for Sweden.

Switzerland

The system of strategic stockpiles in Switzerland has existed since after World War II on a compulsory and voluntary basis. Stockpiles are maintained by private firms and financed in part by Swiss Government funds. By September 1981, the stockpiles were valued at 10 to 12 billion Swiss francs (about \$5 billion to \$6 billion).

Compulsory stockpiling (i.e., stockpiling of critical goods which are essentially imported) is financed by means of a special import levy added to consumer prices. Voluntary stockpiling for essential raw materials, such as iron and steel, fuel rods, non-ferrous metals, etc., is encouraged by (1) providing bank credits at favorable rates, with government guarantees, for up to 90 percent of the purchase value, (2) giving strategic inventories preferential national and local tax treatment, and (3) allowing the holder to retain ownership of 50 percent of the voluntary stockpiles in an emergency allocation.

France

The French Government completely controls its stockpile program. When the program started in 1975, the government, for economic as well as strategic reasons, preferred to finance the stockpile by issuing government-guaranteed bonds rather than using government appropriations or bank loans. Despite this preference, the initial purchases for the stockpile were funded directly when the government budgeted 250 million French francs (\$55.4 million) to purchase raw materials in January 1975. An additional 169 million French francs (\$37.4 million) was included in the budget submission in late 1980 for a variety of primary materials and related expenditures.

In July 1980, the government established the Caisse Francaise de Matieres Premieres (CFMP), or French Fund for Raw Materials, under the jurisdiction of the Ministry of Industry for the purpose of issuing and managing government bonds. The details of the stockpile are not made public by the French Government; however, a report prepared for the U.S. Department of Commerce in September 1981 mentioned that the CFMP has raised 500 million French francs (\$89.8 million) since its establishment, by issuing 10-year bonds denominated at 5,000 francs (\$898) each which pay 14 percent interest a year. According to some reports, in addition to this financing and despite earlier objections, bank loans were also used in financing the stockpile.

Japan

Japan's stockpiling program, which began in 1976, was created with economic considerations as the determining factor; a strategic stockpile is under consideration. The program was set up by the Ministry of International Trade and Industry (MITI) in cooperation with Japanese private industry.

To help finance the program, the Government of Japan has guaranteed bank loans and provided interest subsidies. During fiscal years 1976-81 the interest subsidies and authorized bank guarantees amounted to 3.2 billion yen (\$14.4 million) and 178.2 billion yen (\$779.2 million), respectively, as shown in tables 1 and 2).

Table 1

Interest Subsidies

<u>Fiscal year</u>	<u>Yen</u> (millions)	<u>Dollars</u>
1976	369	\$ 1.3
1977	738	3.1
1978	876	4.5
1979	680	2.8
1980	476	2.3
1981(authorized)	75	0.3
	<u>3,214</u>	<u>\$ 14.4</u>

Table 2

Authorized Guarantees for
City Bank Loans for Copper, Lead, Zinc,
and Aluminum Stockpiles

<u>Fiscal year</u>	<u>Yen</u> (millions)	<u>Dollars</u>
1976	30,000	\$102.5
1977	30,000	125.0
1978	45,100	231.8
1979	44,700	186.5
1980	11,500	56.7
1981	16,900	76.9
	<u>178,200</u>	<u>\$779.2</u>

The Japanese Government provides its financial assistance to the program through the Metal Mining Agency of Japan (MMAJ), under the overall guidance of MITI. MMAJ and the private sector mining companies run the program jointly through three specially created stockpiling associations.

1. The Metallic Minerals Stockpiling Association (MMSA), formed by 26 firms in the copper, lead, and zinc industries. It is financed by nominal member subscriptions, direct loans

from private banks without interest subsidies, and 3-year loans from MMAJ at 6.5 percent interest (for MITI-authorized purchases only); the government guarantees both types of loans.

MMAJ loans are funded by the Industrial Bank of Japan and 22 commercial banks at the banks' most favorable long-term interest rates (quoted at 9 percent). MMAJ's administrative expenses and interest subsidies (2.5 percent, or the difference between the long-term bank rate and the rate at which MMAJ makes loans) come from the general national budget.

2. The Light Metal Stockpiling Association (LMSA), formed by 18 firms in the aluminum industry. It is financed in the same way as MMSA. MITI was reported to be considering allocating about 5 billion yen (\$19.4 million) in fiscal year 1982 to increase Japan's aluminum stockpile.

3. The Special Metals Stockpiling Association (SMSA), formed by about 30 companies, mostly in the steel industry. It has been financed by member subscriptions, initial contributions (\$170,000) from the government's fiscal year 1976 budget, and a private foundation. In addition, in 1981 SMSA was expected to borrow 11.5 billion yen (\$44.7 million), with government guarantees, from private and government banking agencies to finance the stockpiling program for nickel, cobalt, chromium, tungsten, and molybdenum. The government has also allocated 500 million yen (\$1.9 million) to pay for two-thirds of the loan's interest expense.

Metal users were hoping the government would establish its own large stockpile instead of relying on private companies to raise inventory levels. Such a stockpile is said to be under consideration.

Financing Methods Discussed by Countries Which Have Considered Stockpiling

West Germany

Determining that its economy would be seriously affected if certain non-fuel mineral supplies were curtailed or cut off, West Germany planned in 1979 to create a stockpile for economic purposes. Such a plan, however, was never implemented.

Two methods of financing the stockpile were considered.

1. A special quasi-government stockpiling company would be established by government and industry. The government would provide financial incentives and retain control of 50 percent of the stockpile during a supply crisis. The German Central Bank would provide a special line of credit

for 600 million German marks (DM) (\$346.5 million) to the Federal Credit Agency for Reconstruction which would, in turn, loan the money to the special company. The funds would be made available over 10 years in the form of 3-month revolving credits, with interest costs (estimated at about DM 300 million (\$173.3 million) over 8 years) to be paid by the government in full or in part (2/3) from the budget. The special company or the government would pay the stockpiling and maintenance costs, and imports destined for the stockpile would be free from tariffs. The government would guarantee against book losses caused by a decline in market prices below acquisition prices, and the special company would be exempt from local taxes as well as taxes on profits and capital gains. It was estimated that the tax exemption would provide the special company about DM 10 million to DM 12 million (\$5.8 million to \$6.9 million) a year in savings.

2. Government assistance would be restricted to tax incentives favoring accumulation of stocks, but the entire control of the stockpile would be given to the private sector.

The adoption of the first financing option was postponed indefinitely for budgetary and balance-of-payments reasons. There were reports that neither government nor industry favored it. The private sector opposed the introduction of a government role in the free market, with the possible disruption of market prices by sudden buying and selling from the stockpile. The government was concerned that the private sector would have control of as much as 50 percent of the stockpile during a crisis and would use stockpiling as a means for private speculation. On the other hand, although the industry favored the second financing option, the government did not, ostensibly because of private control over the stockpiles.

Spain

The Spanish Government's stockpiling plan of February 1979 assigned much of the responsibility to the private sector, with the government financing only the stocks of chrome, manganese, and nickel. (The project had also envisaged stockpiling aluminum, copper, tin, and titanium.) The government, however, decided it could not afford the \$300 million to \$350 million needed to finance the project, and the private sector showed little interest.

United Kingdom

Since May 1980, the government and industry of the United Kingdom have been exploring ways to establish a non-military stockpile of strategic materials, but no action has been taken to date. Financing was reported to be the major barrier, because the government and private sector disagreed on how much each should invest in the stockpile.

In line with Prime Minister Margaret Thatcher's general economic policies, the government initially preferred that the private sector fund the stockpiles. However, a September 1980 report mentioned that the government was planning cash subsidies (about 100 million British pounds or \$238.5 million) to the private sector to build up stockpiles of strategic raw materials from Southern and Central Africa as a buffer against a potential supply interruption which could result from political instability.

In July 1981, the government considered developing methods which would not create costly management and control systems. It favored the use of existing trading houses which deal daily in commodities to acquire the stockpiles, with the government providing some undetermined financial support. The traders would be assigned the authority to make decisions on buying and selling the materials and would be allowed the expected profits from well-managed stockpiles.

EXISTING STOCKPILE PROGRAMS (note a)

<u>Country</u>	<u>Date started</u>	<u>Goals</u>	<u>Administrative structure</u>	<u>Materials stockpiled</u>	<u>Value of stockpile</u>
Sweden	Not available	Prepare for war and blockade situations and disruption of normal trade.	<u>Strategic stockpile</u> - administered by National Board of Economic Defense. <u>Private stockpile</u> - no information available.	chrome ore, manganese ore, cobalt, vanadium, and large number of unspecified mineral raw materials. Not available	Not available
Switzerland	After World War II.	<u>Compulsory stocks</u> - for national security reasons. <u>Voluntary stocks</u> - to continue business and employment in a crisis situation.	<u>Compulsory stocks</u> - maintained by private firms which are grouped into "consortia" of economic sectors. <u>Voluntary stocks</u> - maintained by industry; 50% belong to holder and 50%, in emergencies, are to be used according to the situation. Administered according to Federal Office for Economic Defense measures.	Essential goods for which the country has a critical import dependence. iron, steel, and non-ferrous metals	Compulsory stocks maintained are equivalent to 9 months requirement; compulsory and voluntary stocks together valued at 10 to 12 billion in Swiss francs (about \$5 billion to \$6 billion).
France	1975	Ensure security of supply in event of disruption, contribute to diversification effort, and protect industry from adverse effects of sharp, temporary upswings in commodity prices, and thereby moderate inflation.	Management of program assigned to a semi-governmental agency-the Groupement d'Importation et de Repartition des Metaux (GIRM) on behalf of the Ministry of Industry. A committee which includes industry representatives advises GIRM. Purchasing centralized at GIRM. GIRM authorizes purchases at favorable market prices and sales when domestic buyers cannot obtain supplies at reasonable prices. A private brokerage group handles the actual transactions as well as storage.	Materials which France substantially consumes but does not produce and which are produced by few suppliers in politically unstable areas--copper, lead, tungsten, chrome, titanium, cobalt, aluminum, iron ore, manganese, nickel, phosphate rock, zinc, ferro-chrome, and zirconium.	Target for 1985 is to build up 2 months average supply or 4 to 5 billion francs (\$680.9 million to \$851.1 million). Per report of January 1982, stocks held were valued at 2 billion francs (\$340.4 million).

a/We used the International Monetary Fund conversion rates to obtain U.S. dollar equivalents; the average exchange rate for the period covered was used in each case.

<u>Country</u>	<u>Date started</u>	<u>Goals</u>	<u>Administrative structure</u>	<u>Materials stockpiled</u>	<u>Value of stockpile</u>
Japan	1976	Stabilize imports of raw materials for strategic metals and export earnings of Japan's major suppliers, preserve long-term contract which is preferred in securing supplies, maintain cushion to fall back on in negotiating for raw materials, and contribute to national security.	<p>Industry Bureau of the Ministry of International Trade and Industry (MITI) establishes annually the conditions of sales and purchases of stocks.</p> <p>Practical stockpiling operations handled by 3 associations of private firms which were set up jointly by MITI and private industry.</p> <ol style="list-style-type: none"> 1. Metallic Minerals Stockpiling Association (MMSA) for various forms of refined copper, zinc, and lead; 2. Light Metal Stockpiling Associations (LMSA) for primary aluminum; and the 3. Special Metals Stockpiling Association (SMSA) for nickel, chromium, tungsten, cobalt, and molybdenum. <p>Associations are under the joint direction of private sector and Metal Mining Agency of Japan (MMAJ), but overall control remains with MITI.</p> <p>MMAJ and the associations do not maintain warehouses; association members pledge some of their own stocks to MMAJ when they sell to their association. Pledge is released when they buy the metal back. Under original terms of agreement, the metals must be repurchased within 3 years, normally at original purchase price plus interest costs of stockpiling.</p>	<p>zinc</p> <p>copper</p> <p>aluminum</p> <p>nickel</p> <p>chromium</p>	<p>Market value not available, but as of March 31, 1981, stockpile held</p> <p>115,720 metric tons of zinc</p> <p>4,781 metric tons of copper</p> <p>no aluminum since end of fiscal year 1979</p> <p>2,000 metric tons of nickel</p> <p>3,000 metric tons of chromium</p>

STOCKPILING PROGRAMS PLANNED (note a)

<u>Country</u>	<u>Dates plan originated and cancelled and reasons for inaction</u>	<u>Goals</u>	<u>Administrative structure</u>	<u>Materials to be stockpiled</u>	<u>Amount to be stockpiled</u>
West Germany	Originated in 1979. Abandoned in Nov. 1980 for budgetary and balance of payment reasons, disputes on who should have operating control, political reasons, and absence of materials shortage.	Maintain operations for 8 to 12 months in event of supply availability problems.	<p>Two approaches discussed.</p> <p>1. Government, in consultation with industry, would determine national economic stockpile target for each metal. Each participating company (participation would be voluntary) would be bound to (a) determine quantities it would store based on its annual average consumption, production or trading amounts over some recent period and types and grades of the materials to be stockpiled and (b) report quarterly the quantity and price of its economic stockpile and its own normally maintained stockpile; normal stockpile should be a minimum of 3 months supply at all times. Sales between firms would be at market price and monitored by government.</p> <p>Government would decide when a state of emergency had arisen to justify allowing access to economic stockpiles. During such a situation, government would have control of 50% of stockpile.</p> <p>A consortium of participants and government would oversee policy, operations, and assessment of potential economic crises in other materials for stockpiling considerations.</p> <p>Each participating company would have an equal vote in decisions, but government would have right of veto on any matter.</p> <p>2. A scheme run entirely by the private sector.</p>	chrome, cobalt, manganese, asbestos, and vanadium	8 to 12 months of stocks over a 5-year period

a/We used the International Monetary Fund conversion rates to obtain U.S. dollar equivalents; the average exchange rate for the period covered was used in each case.

<u>Country</u>	<u>Dates plan originated and cancelled and reasons for inaction</u>	<u>Goals</u>	<u>Administrative structure</u>	<u>Materials to be stockpiled</u>	<u>Amount to be stockpiled</u>
Spain	Originated in Feb. 1979. Date canceled not available. Plan abandoned because government could not pay for program and private sector was not willing to contribute.	Provide protection from outside supply disturbances.	Not available	aluminum, copper, chrome, manganese, nickel, tin, and titanium	Not available
United Kingdom	Originated in May 1980. Discussions still going on; barrier to implementation has been disagreement on financial approaches due mainly to budgetary problems.	Ensure adequate availability of essential metals and minerals during emergencies, e.g., potential disruptions in supply of strategic metals that could result from political unrest in Southern Africa and underdeveloped nations.	Under consideration.	cobalt, ferrochromium, ferromanganese, ferrovandium, and base metals	one year supply

OBJECTIVES, SCOPE, AND METHODOLOGY

The objective of this report was to review and report on the different methods of stockpiling, including alternative financing techniques, used by other countries. We contacted all those organizations in Washington, D.C., which we believed would have had some involvement in the subject. These organizations were:

1. Bureau of Mines, Department of Interior
2. Central Intelligence Agency
3. Congressional Research Service
4. Department of Commerce
5. Department of Defense
6. Department of State
7. Department of the Treasury
8. European Economic Community
9. Federal Emergency and Management Agency
10. General Services Administration
11. Institute of International Economic Studies
12. International Monetary Fund
13. Office of Management and Budget
14. Office of Technology Assessment
15. Resources for the Future, Inc.
16. World Bank

Information from these organizations was very limited, however, so we used publicly available information, such as trade journals.

We made this review according to the "Standards for Audit of Governmental Organizations, Programs, Activities, and Functions".