DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

CONSEIL DE L'ATLANTIQUE NORD
NORTH ATLANTIC COUNCIL

CHRONOCENTRE DOCUMENT EN PRÊT A L'EXTÉRIEUR BUREAU 1.13

C.C.

EXEMPLAIRE / COPY N° 220

N A T O R E S T R I C T E D

ORIGINAL: FRENCH
25th March, 1974

WORKING PAPER
AC/127-WP/385

ECONOMIC COMMITTEE

STRATEGIC IMPORTANCE OF COMMODITY SUPPLIES

Tentative study by the Economic Directorate

A. BACKGROUND

One of the effects of the oil crisis has been to highlight the vulnerability of the industrialized countries to any break in the flow of the commodities which are essential to their economic expansion. Over the past twenty-five years, this expansion has rested on an exponential rate of consumption of natural resources generated by a cheap and abundant supply of energy which the industrialized countries have used with lavish extravagance.

2. Perhaps the most outstanding example of this state of affairs is provided by aluminium, the monthly consumption of which is currently greater than yearly consumption before the last world war. World output, in the form of primary aluminium has doubled every eight-and-a-half years since the end of the war, rising from 1.5 million metric tons in 1950 to 11.5 million in 1972. The extraction of bauxite has obviously increased in roughly the same proportions (from 8.5 million tons to 68.8 million tons over the same period). Consumption of most raw materials and commodities of mineral or synthetic origin has grown at an exponential rate far in excess of the average economic growth rates of most countries. At the rate recorded over the past decade(1) output doubles every:

- eight years for synthetic rubber;
- nine-and-a-half years for electricity;
- ten years for crude oil;

This document includes: 1 Annex

(1) See Table 1 attached.

- twelve years for nickel and cement;

- thirteen years for pig iron and steel.

On the other hand, world output of vegetable substances (foodstuffs, wool, cotton, rubber, wood pulp, and so on) has grown more slowly and this is also the case for certain "older" metals such as tin and lead. In agriculture, the high yields have been largely the consequence of an intensive use of chemical fertilizers (nitrogen, phosphate and potassium), production of which has grown particularly fast (yearly growth rate: 11.4%, 8.2% and 7.7% respectively) and accounted for the consumption of large quantities of energy.

3. This being the case, it is hardly surprising that after having drawn on the richest and most readily accessible resources on their own territories, at the risk of exhausting some of them, most of the industrialized countries, urged on by the pressure of demand, should gradually have turned to less industrialized areas and countries for their supplies of raw materials and basic products. Nonetheless, there are significant differences in this respect between the four major groups of industrialized countries.

(i) Eastern Europe and the USSR

4. Of the industrialized countries of Eastern Europe, the Soviet Union, which towers above the others, can find a large variety of mineral and forestry resources on its own territory. However, the exhaustion of the more easily tapped resources means that sources of supply have now shifted to less hospitable and less known regions where cost effectiveness calls for investment on an ever increasing scale. In addition, while the Soviet Union continues to be more than self-sufficient with regard to minerals and timber, it has, on at least two occasions in the past decade and despite its small population increase (1.1% per annum), had to import massive quantities of grain. It also has to rely on the outside world for certain basic (sulphur, natural rubber) or tropical (coffee, cocoa) commodities.

5. The other East European countries (Bulgaria, Hungary, Poland, the German Democratic Republic, Czechoslovakia, Rumania) have neither the raw materials nor, as far as the industrialized countries are concerned, sufficient agricultural output to meet their own needs. These are covered for the greater part by the USSR.

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

6. The "Eastern Europe and USSR" group remains partly dependent on the rest of the world, although to no critical extent, for a wide range of metals (aluminium, nickel, lead, zinc, copper and cobalt). A point to be noted is that this group of countries, with a population representing about 9.5% of the world total, accounts for some 18% of world income.

(ii) North America

7. The United States and Canada, with 6% of the world's population, form a largely self-sufficient geo-economic unit which produces big exportable surpluses of certain raw materials and foodstuffs. Their dependence on the rest of the world for supplies is as yet confined, and then only to a small extent, to oil, certain specific minerals and tropical products. It is worth noting, however, that the United States is beginning to rely, though so far in a small way which is nonetheless increasing, on imports of various ores. This reliance is already on a par, for most raw materials, with its reliance, before the recent crisis, on oil.

8. The bulk of United States domestic requirements can be met from national output although that country consumes almost 30% of world mineral output. The United States has for many years inported the commodities which it lacks, such as nickel, bauxite, tin, antimony, manganese, chronium and cobalt. Canada can make good some of the major deficiencies, particularly nickel. The Canada-United States group is nonetheless dependent on the outside world for the other metals referred to, as well as for tropical products (natural rubber, coffee, cocoa and so on).

9. If the trends which have appeared over the past decades should continue, the dependence of the North American countries on imports from the rest of the world could obviously increase rapidly. In this case, the situation might well become akin to what it now is in Western Europe. It is significant that the metals for which demand is increasing at the greatest rate (aluminium, ferro-alloys, and special steels) are precisely those which involve the use of most of the items on the import list. At the present rate of growth of iron consumption and given the present economic and technical situation, imports of iron ore from the outside world may, within fifteen years or so, account for half of United States requirements. As for substitute products (plastics), they have so far been derived mainly from oil and other organic materials such as cellulose, the natural production of which (from forests) is subject to major time lags.

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

10. In most cases the problem is less one of shortage than of cost effectiveness. There is in fact an abundance of most of the required raw materials in the sub-soil of the American continent and of its continental shelves. So far, prospection has been restricted to relatively low depths and the evaluation of reserves, i.e. identified deposits of exploitable minerals, is being continuously revised in the light of technical progress and the rise in the price of these substances. Nonetheless, the conversion of potential resources into reserves and the harnessing of the latter will call for new techniques and steadily increasing investments. In addition, concern for the environment may complicate and delay the working of many deposits. Consequently, over the next few decades, resources outside the country will provide the most accessible and economic means of meeting the growing mineral requirements of the United States. Some forecasts for 1985 show that by that date all United States requirements for tin and manganese will be covered by imports. Requirements for other minerals will be covered by imports in the following proportions:

- in the case of aluminium over 95%;
- nickel and tungsten over 85%;
- zinc 70%;
- lead 60%;
- iron 50%;
- copper 35%;
- sulphur 27%.

(iii) Western Europe(1)

11. Western Europe, the birth-place of the first industrial revolution, is in a far less favourable position than the two preceding groups. It is dependent on the outside world not only for oil and other energy products but also for most raw materials and basic products and even, to a lesser extent, for its food-stuffs. Despite its dearth of natural resources it consumes, with a population accounting for 10% of total world population, between one quarter and one third of the world's raw materials.

12. As far as minerals are concerned, the few natural resources are located in Turkey (chromium and antimony), Norway (titanium and magnesium), Finland (cobalt), France (iron ore,

(1) The Common Market Nine, plus Sweden, Norway, Switzerland, Austria, Greece, Turkey, Portugal, Spain, Yugoslavia, Iceland and Finland

bauxite, uranium oxide), Greece (bauxite), Italy (mercury) and Spain (mercury), but output is only sufficient to meet a fraction of the requirements of this group as a whole. The part played by these countries cannot be compared in any way with the part played by Canada in relation to the United States. In point of fact, Western Europe relies almost entirely on the outside world(1) for its supplies of: copper, tin, nickel, phosphates, manganese, molydenum and tantalum. Sixty per cent of lead, zinc, antimony, tungsten and uranium oxide must also be imported. Even in the case of such plentiful raw materials as bauxite and iron ore, Western Europe is heavily dependent on outside resources (50% and 35% respectively). Of all the minerals mentioned here, only mercury provides an exportable surplus.

13. The outlook, likewise, seems less favourable for Western Europe than for the preceding groups. Europe will probably have to resign itself to the fact that it must continue to import three quarters of its raw material requirements. Additional sources of supply can only come from the peripheral areas (Norway, Sweden, Finland, Greenland, Portugal, Spain and Turkey) and from the exploration of submarine resources on the continental shelves. There is a possibility that the ocean beds may yield large amounts of nickel, cobalt and manganese and be rich in iron, copper and lead. However, the harnessing of these resources cannot produce any tangible results until after 1980. Efforts to reduce the dependence of the European countries on imports may therefore be directed towards the recovery and recycling of metals such as iron, copper and lead. Substitute raw materials of synthetic origin have so far been derived mainly from oil used as a raw material. The rise in oil prices could well influence future developments. Research on substitute products derived from sources other than oil may also contribute to reducing this dependence but here, too, the solutions are long-term.

(iv) Japan and the other industrialized countries

14. Japan is even less well endowed than Western Europe as regards supplies of both raw materials and foodstuffs of all kinds. Almost 90% of Japan's raw material requirements must be obtained abroad. Japan has no iron, bauxite, tin, uranium, nickel, cobalt or phosphate, to name but the minerals most commonly used and its output of copper, lead and zinc is sufficient to meet one third of its requirements at best. Thus, the Japanese iron and steel industry is totally dependent on outside supplies; almost 98% of the iron ore and 84% of the coke

(1) See Table II at Annex

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

used are currently imported. The only resources available are iron and steel scrap recovered locally and even assuming a significant downturn in the rate of development in this industry, there seems little likelihood that this dependence will decrease in the future. All in all, raw materials accounted for 70% of total Japanese imports value-wise in mid-1973.

15. Japanese imports of agricultural produce rose rapidly between 1960 and 1966 but the rate of increase has fallen off somewhat since then: the requirement for grain for human consumption is rising only slightly and rice imports are practically at a standstill. In contrast, the growth in the consumption of animal protein generated an extremely rapid increase in imports of cattle feed (over 18% per annum) between 1960 and 1972. Fish imports rose astronomically (over 33% per annum in value terms) between 1968 and 1972 as a result of over-fishing in local waters and sugar imports have doubled in just over 10 years. Fruit and vegetables are also being imported in increasing quantities to meet the increase in the level and the quality of Japanese consumption.

16. Conscious of its scant mineral resources, Japan has sent out commercial scouts world-wide to find what it needs for continued economic expansion. It has concentrated in particular on direct investment in the producer countries. It is attempting to diversify these investments, geographically speaking, to enter into association with local partners and to help the producer countries to set up ore processing plant in situ. The long-term contracts it offers for the purchase of the processed metals provide assured outlets for the foundries and refineries which, generally speaking, meet the desires of the developing countries for increased industrial capacity.

17. This very heavy reliance on outside resources can only be lessened through a re-grouping with Australasia. Australia itself is already exporting a vast range of mineral raw materials such as iron, bauxite, manganese, lead, zinc, nickel, titanium and so on. The continent very probably also contains major resources, barely scratched at so far.

B. STRATEGICALLY IMPORTANT RAW MATERIALS

18. The identification of the raw materials, basic products and essential foodstuffs which are essential to military security, raises other problems to which only the interested countries can reply. The definition of priority requirements is a matter for the national authorities alone. A study to establish how far the necessary resources could be found within the NATO member countries would call for co-operative action.

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

Should these considerations be regarded as worth going into, the possibility of useful exchanges of information on this subject could be examined by the NATO Civil Emergency Planning Committee. It should be noted however that the problem at issue is not emergency and war-time supplies, but an evaluation of vital military requirements in the present international situation.

19. In contrast, the identification of the resources required to keep the economies of the NATO countries running is a far more general problem, closely bound up with the questions of economic growth on which the continuing rise in the standard of living hinges to a large extent. Heightened awareness of the extent of reliance of the European countries, Japan and even the United States on outside supplies of raw materials or basic products may sharpen the competition for access to the essential natural resources and be reflected in increasing compliance with the demands of suppliers. It should be recalled, given the prospects of fierce competition between the industrialized countires, that the member nations of the Alliance have pledged themselves to try "to eliminate conflict in their international economic policies" and "to encourage economic collaboration between any or all of them"(1).

20. So far, only the United States have started to list and build up reserves of strategic and critical materials as a protection, at least for one year, against costly and dangerous dependence on outside sources of supply. The procedure introduced provides for the plotting of technological advances and of new domestic resources which can influence the type and volume of materials needed to meet urgent requirements. In his message of 16th April, 1973, the President of the United States reported that over the years and as a consequence of economic and technical progress, there had been a considerable increase in the capacity for using substitute materials for products only available in limited quantities. This development had allowed for a reduction in the volume of stocks but the Authorities were now looking into a greater diversification of the different forms and qualities of raw materials. The number of commodities stocked was now 91 as compared with 71 at the end of December 1972.

21. The main raw materials on the United States list of strategic stocks currently include: aluminium, antimony, asbestos silver, beryllium, bismuth, cadmium, chromium, cobalt, columbium, copper, industrial diamonds, tin, manganese, mercury, mica molybdenum, platinum, lead, tantalum, tungsten and zinc(2).

(1) Article 2 of the North Atlantic Treaty
(2) The full list is attached at Annex, Table 3.

The inventory of United States strategic stocks also includes a number of vegetables substances such as: castor oil, sisal and abaca fibres, quinine, natural rubber and tannin.

22. Given the extent of Europe's reliance on outside supplies of minerals, raw materials and foodstuffs, it seems out of the question for the European countries to build up significant stocks of these various basic items. The national authorities may wish, however, to draw up a selective list of certain rare or essential products, a breakdown in the supply of which could have particularly harmful effects on their economies.

23. It is worth noting in this connection that the idea of stockpiling different foodstuffs and raw materials has been mooted, in some cases to meet the essential requirements of certain developing countries (FAO), but also as a means of guarding against the uncertainties of the international monetary situation. Member countries might wish to consider what attitude they should adopt in this connection to safeguard their own interests.

C. POSSIBLE FORMATION OF CARTELS BY RAW MATERIAL AND COMMODITY PRODUCERS

24. The reductions in output and the price increases enforced by the countries producing 50% of the world's oil has led to speculation that this idea may catch on and the practice be extended to other raw materials or basic products. An assessment of the possibility of cartels established by producing countries must, however, take a number of factors into account.

25. This assessment must be applied to each raw material and each basic product separately, and must establish in particular:

(A) As regards the exporting countries

- whether the known reserves of the particular product are concentrated, geographically speaking, in a limited number of producer countries;

- the degree of politico-economic cohesion needed for those countries to consider the establishment of a cartel;

- the degree to which the exporting countries depend on the financial resources obtained from their sales of commodities to meet their industrial requirements and

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

economic development goals, and the capacity of those countries to make effective use of the funds at their disposal;

- the extent to which the governments of the exporting countries can cantrol the production and sale of these raw materials.

(B) As regards the importing countries

- the degree of dependence of each industrial country on imports of the raw materials concerned;

- the degree of politicc-economic cohesion between the importing countries, in order to gauge their capacity to adopt a common front towards any measures which might be taken by the exporting countries;

- the elasticity of demand for these natural resources in the importing countries;

- the possibility of substitutes for a given product;

- the possibility of obtaining these same products from other resources;

- the expansion of the capacity for recovering these materials through the recycling of products which have already been used once.

26. In the first instance, it would appear that known mineral reserves are spread far more evenly throughout the world than is the case for oil. The present pattern of distribution is obviously based on the results of exploration and prospection so far seen against the background of current prices and cost effectiveness. The largest of the less familiar areas are in remote northern regions (Canada, Greenland, Siberia and Alaska), in the tropical belt (Brazil and black Africa) or in mountainous terrain (Himalayas, Tibet). In this connection, the sub-soil of certain regions in the Antarctic, Australia and China has still not been fully mapped out. It has, however, been established that the submarine continental shelves are rich in diverse mineral resources but their exploration must be seen as a long-term project.

27. As regards the choice of raw materials might might be taken into consideration by the Economic Committee, some preliminary data has been assembled in an Annex to the present note. The list of 18 basic products which are briefly reviewed therein is obviously not exhaustive. It does not cover any

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

essential foodstuff (wheat, rice, meat) or the raw materials for the textile industry (cotton, wool) or forestry products (timber, wood pulp) or certain precious metals (silver, gold, platinum, industrial diamonds and so on). The delegations most concerned may wish to amplify this brief list by adding certain products which are of particular importance to their economies and which could not be included in the very succinct and general survey made here.

28. Be that as it may, a classification of the 18 products under review according to their degree of sensitivity to pressures from the producing countries could produce the following results:

(1) Sensitive products

bauxite, copper, tin, cobalt, tungsten, uranium, natural phosphates, cocoa;

(2) Less sensitive products

nickel, lead, iron ore, natural rubber, chromium;

(3) Least sensitive products

zinc, manganese, antimony, coffee, tea.

D. PRICE TRENDS

29. Although there has been an upward trend in the price of basic products (foodstuffs, vegetable raw materials and mineral raw materials) since December 1971, by the end of 1973, the scale of the increase had far outstripped all the forecasts made at the beginning of the year. Between January and December 1973, the average percentage increases of foodstuffs and raw materials were comparable only to the increases recorded between 1950 and 1951, during the Korean War.

PRICE INCREASES (%)

	January-end December 1973	December 1971-December 1973
Moody index (based on basic foodstuffs and products in the United States)	44.5	85
Reuter index (based on the United Kingdom markets)	85.6	154
HWWA-Hamburg index (covering a broader range of products)	76.3	111

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

30. The explanation for these steep increases lies in the coincidence of a number of factors, viz:

- rising demand stemming from the favourable economic situation in the industrialized countries;
- reconstitution of stocks in the manufacturing industries and by consumers prompted by anxiety over shortages;
- massive purchases of agricultural produce by the Soviet Union and China;
- falling volume of supply due to production difficulties, poor harvests, social unrest in certain producer countries and the deliberate curtailment of production and exports;
- speculative dealing in commodities caused by uncertainty about the international monetary situation.

31. It must be remembered however that the present rate of inflation which is world-wide has had obvious repercussions on the extent of these increases. The fall in the value of the dollar and of the pound sterling which are the currencies normally used to express commodity market rates have accentuated this increase. If price increases were expressed in Deutschmarks, the percentage increases for 1973 could be almost halved and if prices were linked to gold, it would be seen that the price of basic products had not kept pace with the increase in the price of that metal.

32. Generally speaking, minerals have risen more sharply than raw materials of vegetable origin. The most spectacular increases in 1973 were in zinc, natural rubber, cotton, wheat, copper, lead, cocoa, soya oil and maize. At the bottom of the scale, coffee, sugar, wool, hides and skins rose less steeply during the period under review.

33. The impact of the oil crisis on commodity prices does not appear to have been critical so far. The deliberate cutback in output applied by the oil producing countries seems to have had some influence on the principal exporting countries of copper (Zaire, Zambia, Chile, Peru), and bauxite (Jamaica, Surinam, Guyana and Australia). The Moroccan Government for its part has decided unilaterally to put up the price of natural phosphates to $45 a ton in 1974 as compared with the previous price of $12 a ton. Certain Arab leaders have also suggested that the main African exporting countries of uranium and cocoa should form a cartel.

34. International commodity agreements (which currently cover coffee, sugar, cocoa, wheat, olive oil and tin) were designed primarily to ensure that the producer countries obtained a minimum price through the adjustment of supply, which was generally in excess of requirements, to demand (by the constitution of buffer stock, deliberate limitation of output, establishment of export quotas). The situation in which these agreements were reached had been reversed by the end of 1973. During the course of that year, the discussions relating to the coffee and sugar agreements had led, in practice, to the dismantling of the protective system and a return to the law of supply and demand. The renewal of the cocoa agreement in 1973 was followed immediately by an extremely tense situation. The high level of prices in the second half of 1973 and insufficient output which made it impossible to constitute buffer stocks made the agreement virtually inapplicable.

35. The continuing high level of demand and of industrial activity up to the end of 1973, combined with the threat of possible shortages of raw materials and basic products, pushed the latter up to new heights. In the short-term, the situation is extremely fluid and uncertain. However, this situation cannot last for too long, and must be followed either by an increase in supply to meet demand or by a fall in demand following a downturn in economic activity aggravated by the oil crisis and even by the shortage of other raw materials. Nonetheless, a return to the extremely low price levels which were a feature of earlier periods of recession seems unlikely. In any case, the problem of world inflation and its corollary, namely the international monetary situation, have yet to be solved.

36. The Economic Committee might wish to look more closely at the prospects in the sectors which they regard as most vulnerable. It might then wish to have an exchange of views on the positions which governments could adopt to cope with the situation now confronting them.

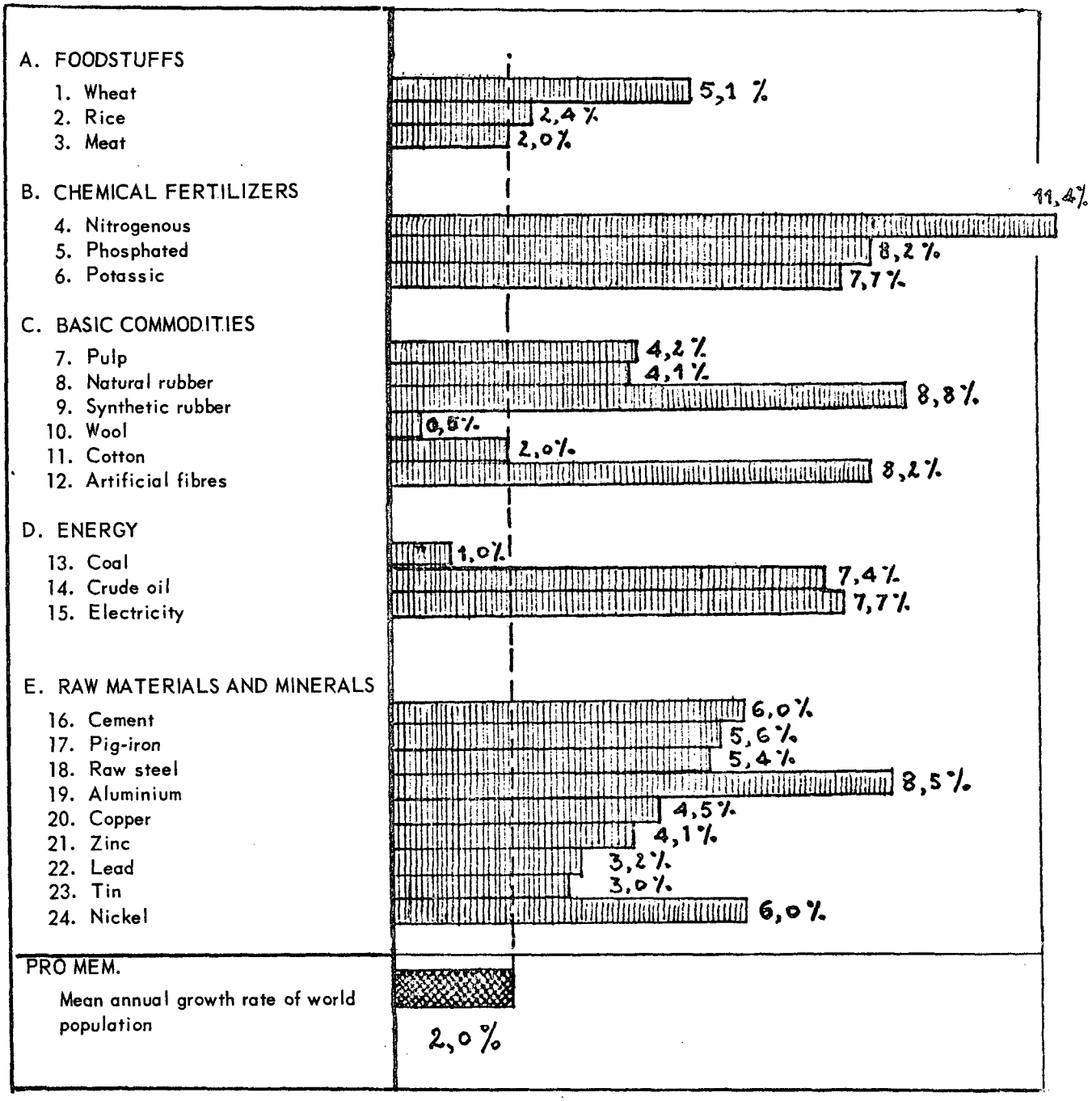
DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

TABLE 1

MEAN ANNUAL GROWTH RATE OF WORLD OUTPUT OF CERTAIN RAW MATERIALS AND BASIC COMMODITIES

(1963 - 1972)



Sources : United Nations Statistics,
FAO,
Metal statistics 1962-1972
Metallgesellschaft Aktiengesellschaft

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

TABLE 2

WEST EUROPEAN SHARE

in: 1 - world consumption
2 - production of the main minerals together with a list of the chief ore-producing countries

(1971-1972)

Metal	World consumption = 100	World output = 100	Output as a percentage of consumption	Main ore-producing countries - percentage of world output
1. Raw steel output Iron ore output (metal content)	26.1%	17.5%	(67%)	USSR(26.7), United States(11.4), France(7.4), Canada(5.9), China(5.8)
2. Alluminium consumption Bauxite output (1972)	25.1	12.6%	(50%)	Australia(20.9), Jamaica(18.6), Surinam(13.0), USSR(8.4), Guyana(5.3), France(4.7), Greece(3.9)
3. Copper consumption Ore output (1972)	31.7%	4.1%	(13%)	United States(21.2), USSR(14.9), Zambia(10.2), Chile(10.2), Canada(10.1), Zaire(6.2), Peru(3.3)
4. Zinc consumption Ore output (1972)	30.6%	13.9%	(45%)	Canada(20.8), USSR(11.3), Oceania(9.2), United States(8.0), Peru(6.5), Japan(5.1), Mexico(4.9), Poland(4.0)
5. Lead consumption Ore output (1972)	33.2%	13.4%	(40%)	United States(17.6), USSR(14.3), Canada(10.2), Peru(5.4), Mexico(4.6), Yugoslavia(3.7), China(3.6)
6. Tin consumption Ore output (1972)	31.6%	1.9%	(6%)	Malaysia(33.2), Bolivia(13.1), China(9.9), Thailand(9.6), Indonesia(9.4), Australia(5.2), USSR(5.2)
7. Nickel consumption Ore output (1972)	29.3%	2.6%	(9%)	Canada(37.2), USSR(19.2), New Caledonia(17.1), Australia(5.7), Cuba(5.7)
8. Magnesium consumption Ore output	28.5%	22.7%	(80%)	United States(47.5), USSR(21.7), Norway(15.8)
9. Antimony Foundry output Output from mines (1972)	28.5%	10.1%	(35%)	South Africa(20.9), China(20.2), Bolivia(18.9), USSR(10.8), Thailand(6.5), Mexico(4.3), Turkey(3.9)
10. Manganese ore output	(1)	0.4%		USSR(33.8), South Africa(15.7), other African countries(14.6), Brazil(12.6), India(8.6), China(4.8)
11. Chrome iron ore output (1971)	(1)	12.2%		USSR(28.6), South Africa(26.1), Turkey(9.5), Albania(8.5), Philippines(6.9)
12. Titanium ore output	(1)	23.9%		Oceania(31.5), Canada(20.7), Norway(17.1), United States(16.5), (as a percentage of the non-Communist world)
13. Silver Ore output (1971)	(1)	6.4%		Peru(16.1), Canada(15.7), USSR(13.5), United States(12.5), Mexico(11.6)
14. Tungsten ore (1971)	(1)	6.0%		China(21.9), USSR(19.2), Thailand(13.7), United States(8.5), Communist Asia(5.8), Bolivia(5.2), Canada(4.9)
15. Cobalt Ore output (1971)	(1)	5.5%		Zaire(57.0), Canada(9.8), Zambia(8.9), USSR(6.8)
16. Bismuth (1971)	(1)	5.0%		United States(18.3), Japan(15.0), Bolivia(14.9), Peru(14.9), Mexico(13.1), China(5.7)
17. Molybdenum (1971)	(1)	0.5%		United States(63.5), Canada(16.3), USSR(10.0), Chile(8.0)
18. Platinum (1971)	(1)	-		USSR(56.4), South Africa(30.7), Canada(11.5)
19. Gold (1971)	(1)	0.6%		South Africa(67.5), USSR(14.4), Canada(4.8)
20. Uranium oxide Ore output	(1)	8.1% of non-Communist world		United States(52.5), South Africa(17.0), Canada(16.1), France(6.7) (percentage of non-Communist world)
21. Mercury Output	(1)	42.0%		Spain(19.5), USSR(18.0), Italy(15.1), China(9.4), Mexico(9.0)
22. Tantalum and columbium (1971)	(1)	1.0%		Brazil(60.1), Canada(23.2), Africa(15.4), (as a percentage of the non-Communist world)
23. Selenium (1971)	(1)	12.1%		Canada(31), United States(29), Japan(24) (as a percentage of the non-Communist world)
24. Beryllium (1971)	(1)	0%		Brazil(46), USSR(26), Africa(22)
25. Tellurium (1971)	(1)	0%		United States(51.6), Japan(24.8), Peru(16.7) (as a percentage of the non-Communist world)
26. Vanadium ore (1971)	(1)	11.1%		South Africa(43.4), United States(25.4), USSR(16.9)
27. Cadmium Output linked with zinc processing (1972)	37.2%	23.9%		United States(22.7), Japan(18.3), USSR(14.5), Belgium-Luxembourg(7.0), Canada(6.2)

(1) West European consumption of these metals is probably between 25% and 33% of world consumption

Source: Metallgesellschaft Aktiengesellschaft - Frankfurt-am-Main
Metal Statistics 1962-72 - 60th Edition

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

TABLE 3

SUMMARY OF GOVERNMENT INVENTORIES, OBJECTIVES, EXCESSES AND BALANCE OF DISPOSAL AUTHORIZATIONS

Basic Stockpile Materials
June 30, 1973

(Market Value - $ Millions)

Commodity	Unit	Objective	Total Inventory[1]	Market Value[2]	Uncommitted Excess[3]	Market Value[2]	Balance of Disposal Authorization
1. Aluminum	ST	0	965,140	$ 482.6	965,140	$ 482.6	757,646[4]
2. Aluminum Oxide, Abrasive Grain	ST	17,200	50,905	15.8	33,705	10.4	0
3. Aluminum Oxide, Fused, Crude	ST	0	352,332	47.6	352,332	47.6	103,237
4. Antimony	ST	0	43,421	62.1	43,421	62.1	2,721
5. Asbestos, Amosite	ST	0	58,045	10.0	58,045	10.0	39,645
6. Asbestos, Chrysotile	ST	1,100	11,739	5.9	10,639	5.3	783
7. Bauxite, Metal Grade, Jamaica	LDT	4,638,000	8,858,881	88.6	4,220,881	42.2	1,370,077
8. Bauxite, Metal Grade, Surinam	LDT	0	5,300,000	58.3	5,300,000	58.3	0
9. Bauxite, Refractory	LCT	0	173,000	10.6	173,000	10.6	0
10. Beryl Ore	ST	0	17,988	6.4	17,988	6.4	0
11. Beryllium Copper Master Alloy	LB	0	14,773,731	39.9	14,773,731	39.9	0
12. Beryllium Metal	ST	88	229	32.1	141	19.7	0
13. Bismuth	LB	95,900	2,100,061	10.2	2,004,161	9.8	1,061
14. Cadmium	LB	4,446,500	8,535,053	32.0	4,088,553	15.3	2,535,053
15. Castor Oil							
a. Castor Oil	LB	0	0	0	0	0	0
b. Sebacic Acid	LB	0	5,009,697	7.9	5,009,697	7.9	0
16. Chromite, Chemical Grade	SDT	8,400	568,834	17.0	560,434	16.8	318,834
17. Chromite, Metallurgical	SDT	444,710	3,438,832	114.5	2,994,122	92.6	930,539
18. Chromium, Ferro, High Carbon	ST	11,476	402,694	185.2	391,218	180.0	0
19. Chromium, Ferro, Low Carbon	ST	0	318,893	223.2	318,893	223.2	0
20. Chromium, Ferro, Silicon	ST	0	58,356	21.8	58,356	21.8	0
21. Chromium, Metal	ST	0	7,380	20.4	7,380	20.4	3,605
22. Chromite, Refractory	SDT	54,000	1,111,201	34.2	1,057,201	32.5	711,241
23. Cobalt	LB	11,945,000	63,916,014	191.1	51,971,014	155.3	25,716,013
24. Columbium Concentrates	LB	0	5,208,734	9.7	5,208,734	9.7	3,420,198
25. Columbium Carbide Powder	LB	16,000	21,372	0.4	5,372	0.1	1,372
26. Columbium, Ferro	LB	748,000	930,000	2.7	182,000	0.5	0
27. Columbium, Metal	LB	36,000	44,851	0.5	8,851	0.1	0
28. Copper							
a. Copper Oxygen Free, High Conductivity	ST	0	60,112	76.9	60,112	76.9	0
b. Other	ST	0	191,480	229.8	191.480	229.8	0
29. Cordage Fibers, Abaca	LB	0	25,000,000	6.7	25,000,000	6.7	25,000,000
30. Cordage Fibers, Sisal	LB	0	103,797,797	22.3	103,797,797	22.3	103,797,797
31. Diamond Dies, Small	PC	7,900	25,473	1.0	17,573	0.7	0
32. Diamond, Industrial, Crushing Bort	KT	0	40,217,479	85.3	40,217,479	85.3	16,517,479

Source: Stockpile Report to the Congress - January-June 1973

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

SUMMARY OF GOVERNMENT INVENTORIES, OBJECTIVES
EXCESSES AND BALANCE OF DISPOSAL AUTHORIZATIONS (Continued)

Basic Stockpile Materials
June 30, 1973

(Market Value - $ Millions)

Commodity	Unit	Objective	Total Inventory[1]	Market Value[2]	Uncommitted Excess[3]	Market Value[2]	Balance of Disposal Authorization
33. Diamond, Industrial, Stones	KT	0	23,161,632	$ 174.2	23,161,632	$ 174.2	3,161,634
34 Feathers and Down	LB	1,938,000	2,411,380	9.7	473,380	1.9	2,411,380[5]
35. Fluorspar, Acid Grade	SDT	0	890,000	73.2	890,000	73.2	0
36. Fluorspar, Metallurgical Grade	SDT	159,000	411,788	28.2	252,788	17.3	0
37. Graphite, Natural, Ceylon	ST	3,100	5,499	1.2	2,399	0.5	0
38. Graphite, Natural, Malagasy	ST	8,200	17,939	4.4	9,739	2.4	83
39. Graphite, Natural, Other than C&M Crystalline	ST	0	2,802	0.4	2,802	0.4	0
40. Iodine	LB	0	8,011,814	17.4	8,011,814	17.4	0
41. Jewel Bearings	PC	62,740,000	61,319,811	20.0	0	0	0
42. Lead	ST	65,100	1,007,666	332.5	942,566	311.0	477,666
43. Manganese, Battery Grade, Natural Ore	SDT	10,700	308,350	23.8	297,650	22.9	173,350
44. Manganese, Battery Grade, Synthetic Dioxide	SDT	0	15,421	7.2	15,421	7.2	13,521
45. Manganese Ore, Chemical Grade, Type A	SDT	12,800	146,586	11.7	133,786	10.7	111,914
46. Manganese Ore, Chemical Grade, Type B	SDT	12,800	100,238	8.0	87,438	7.0	65,238
47 Manganese Ore, Metallurgical	SDT	750,500	6,447,584	158.0	5,697,084	134.8	3,841,984
48. Manganese, Ferro, High Carbon	ST	200,000	1,153,661	206.5	953,661	170.7	553,661
49. Manganese, Ferro, Low Carbon	ST	0	0	0	0	0	0
50. Manganese, Ferro, Medium Carbon	ST	10,500	28,921	11.6	18,421	7.4	0
51. Manganese, Silicon	ST	15,900	23,574	5.3	7,674	1.7	0
52. Manganese Metal, Electrolytic	ST	4,750	20,083	13.0	15,333	9.6	5,783
53. Mercury	FL	42,700	200,105	51.2	157,405	40.3	0
54. Mica, Muscovite Block, Stained and Better	LB	1,600,000	10,817,815	41.5	9,217,815	31.1	5,632,415
55. Mica, Muscovite Film, First and Second Qualities	LB	413,000	1,469,166	16.5	1,056,166	11.5	103,321
56. Mica, Muscovite Splittings	LB	2,200,000	34,013,340	39.1	31,813,340	36.4	15,013,340
57. Mica, Phlogopite Block	LB	51,000	153,519	0.05	102,519	0.02	102,519
58. Mica, Phlogopite Splittings	LB	200,000	4,160,546	5.0	3,960,546	4.8	3,210,546
59. Molybdenum							
a. Molybdenum Disulphide	LB	0	23,250,426	40.0	23,250,426	40.0	6,135,426
b. Molybdenum, Ferro	LB	0	7,000,978	15.5	7,000,978	15.5	0
c. Molybdenum Oxide	LB	0	11,050,177	21.2	11,050,177	21.2	450,177

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

SUMMARY OF GOVERNMENT INVENTORIES, OBJECTIVES, EXCESSES AND BALANCE OF DISPOSAL AUTHORIZATIONS (Continued)

Basic Stockpile Materials
June 30, 1973

(Market Value - $ Millions)

Commodity	Unit	Objective	Total Inventory[1]	Market Value[2]	Uncommitted Excess[3]	Market Value[2]	Balance of Disposal Authorization
60. Nickel	ST	0	0	$ 0	0	$ 0	0
61. Opium							
a. Opium, Gum	LB	0	102,088	13.4	102,088	13.4	0
b. Opium, Salt	LB	0	39,514	8.3	39,514	8.3	0
62. Platinum Group Metals, Iridium	TrOz	1,800	17,172	3.8	15,372	3.4	184
63. Platinum Group Metals, Palladium	TrOz	328,500	1,254,994	95.4	926,494	70.4	0
64. Platinum Group Metals, Platinum	TrOz	187,500	452,645	69.0	265,145	40.4	0
65. Pyrethrum	LB	0	0	0	0	0	0
66. Quartz Crystals	LB	209,000	4,120,143	47.3	3,911,143	44.9	3,800,143
67. Quinidine	Oz	1,059,000	1,800,356	6.0	741,356	2.5	0
68. Quinine	Oz	779,500	3,548,111	8.7	2,768,611	6.8	0
69. Rubber	LT	0	222,652	207.0	222,652	207.0	102,469
70. Rutile	SDT	0	56,407	11.8	56,407	11.8	17,385
71. Sapphire and Ruby	KT	0	16,305,502	0.2	16,305,502	0.2	0
72. Shellac	LB	0	0	0	0	0	0
73. Silicon Carbide	ST	0	196,453	40.3	196,453	40.3	0
74. Silver (Fine)	TrOz	21,663,000	139,500,000	373.9	117,837,000	315.8	0
75. Talc, Steatite Block and Lump	ST	0	1,180	0.4	1,180	0.4	980
76. Tantalum Carbide Powder	LB	2,900	28,688	0.5	25,788	0.4	0
77. Tantalum Metal	LB	45,000	201,133	6.5	156,133	5.1	0
78. Tantalum Minerals	LB	312,000	3,629,065	29.9	3,317,065	27.3	719,799
79. Thorium	ST	0	1,761	20.9	1,761	20.9	1,729
80. Tin	LT	40,500	249,021	1,220.2	208,521	1,021.7	43,400
81. Titanium Sponge	ST	0	34,964	94.7	34,964	94.7	19,963
82. Tungsten Carbide Powder	LB	0	2,032,833	13.5	2,032,833	13.5	132,838
83. Tungsten, Ferro	LB	0	2,140,912	9.6	2,140,912	9.6	2,140,912
84. Tungsten, Metal Powder, Carbon Reduced	LB	0	716,910	3.2	716,910	3.2	170,562
85. Tungsten, Metal Powder, Hydrogen Reduced	LB	0	1,297,821	6.4	1,297,821	6.4	101,964
86. Tungsten Ores and Concentrates	LB	4,234,000	122,220,968	330.0	117,986,968	318.6	100,695,217
87. Vanadium							
a. Vanadium, Ferro	ST	0	0	0	0	0	0
b. Vanadium Pentoxide	ST	0	540	3.1	540	3.1	0

SUMMARY OF GOVERNMENT INVENTORIES, OBJECTIVES, EXCESSES AND BALANCE OF DISPOSAL AUTHORIZATIONS (Continued)

Basic Stockpile Materials
June 30, 1973

(Market Value - $ Millions)

Commodity	Unit	Objective	Total Inventory[1]	Market Value[2]	Uncommitted Excess[3]	Market Value[2]	Balance of Disposal Authorization
88. Vegetable Tannin Extract, Chestnut	LT	4,400	23,832	$ 8.2	19,432	$ 6.6	14,332
89. Vegetable Tannin Extract, Quebracho	LT	0	180,647	63.7	180,647	63.7	130,047
90. Vegetable Tannin Extract, Wattle	LT	0	29,724	10.1	29,724	10.1	20,224
91. Zinc	ST	202,700	797,114	328.9	594,414	245.2	237,114

FOOTNOTES

[1] Total inventory consists of stockpile and nonstockpile grades and reflects uncommitted balance.

[2] Market values are estimated from prices at which similar materials are being traded; or in the absence of trading data, at an estimate of the price which would prevail in the market. Prices used are unadjusted for normal premiums and discounts relating to contained qualities or normal freight allowances. *The market values do not necessarily reflect the amount that would be realized at time of sale.*

[3] Uncommitted excess excludes the unshipped sales. Includes material for which Congressional disposal authorization has been requested.

[4] Committed for sale but undelivered under long-term contracts.

[5] Balance available due to rotation in order to prevent deterioration.

ABBREVIATIONS

FL	- Flask	OZ	- Ounce
KT	- Carat	PC	- Piece
LB	- Pound	SDT	- Short Dry Ton
LCT	- Long Calcined Ton	ST	- Short Ton
LDT	- Long Dry Ton	TrOz	- Troy Ounce
LT	- Long Ton		

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

ANNEX to
AC/127-WP/385

PRELIMINARY LIST OF RAW MATERIALS AND BASIC COMMODITIES OF SPECIAL ECONOMIC IMPORTANCE

1. Iron ore

Iron ore deposits are widely distributed throughout the world and at the present time it is their metal percentage, the ease with which they can be exploited and the labour costs which determine the profitability of mineral production. These factors explain the rôle which countries such as Brazil, Mauritania and Australia have come to play in mineral production and the supply of the industrialized countries. Of the latter, only Japan is almost entirely dependent on imports for its iron ore. West European production could be stepped up, quite considerably in Sweden and Norway and to a lesser extent in France, Germany and the United Kingdom, if there were a big rise in iron ore prices. The United States could probably get from Canada the bulk of any additional supplies it might require. However, there is unlikely to be any great increase in the demand for this raw material unless it should become necessary to return to steel as a substitute for certain synthetic materials.

2. Bauxite

Aluminium is also widely distributed throughout the world, but the cost effectiveness of exploiting it depends mainly on the metal content of the ore from which it is extracted. Bauxite is the best ore for this purpose at present. However, in the longer-term (by the end of the present decade), the extraction of aluminium from raw materials which are more common than bauxite would seem perfectly feasible. The main producers (Australia, Jamaica, Surinam, Guyana and Guinea), which account for some 45% of world output, have expressed their intention of acting together with a view to obtaining better prices for their bauxite exports.

3. Copper

Over the last few years, the demand for copper has risen more slowly than the demand for the two metals referred to above. Refined copper production rose from some 3 million tons in 1950 to almost 5 million tons in 1960 and 8 million tons in 1972. The reason for this slower growth rate is that aluminium and stainless steel alloys are increasingly used as substitutes although the characteristics of these new products are often different from those of copper. Judging from the known reserves available, copper is one of the metals which may quite rapidly become scarcer and scarcer over the

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

next few decades. The existing deposits are likely to become exhausted over the same time-span as oil deposits, although the harnessing of seabed resources may compensate for this. At present, four countries (Zambia, Chile, Zaire and Peru) account for 30% of world output and yet provide two thirds of world copper exports. These countries have set up an inter-governmental committee to strengthen their hand in dealings with the importing countries. It is worth noting, however, that over the last few years Canada has increased its capacity to export copper. The United States has rich domestic deposits, big strategic stocks and a large amount of scrap copper, only part of which is reprocessed at present(1). If necessary, therefore, the United States could to some extent increase its exports of copper to Western Europe and Japan.

4. Zinc

After iron, zinc is the metal which occurs most commonly in the earth's crust. It is increasingly in competition with other materials and during the last ten years its use has not kept pace with that of copper. The largest currently known deposits are mostly in North America, and particularly Canada, which supplies 60% of United States imports, over half Western Europe's and more than a third of Japan's. Australia is another major source of supply. Consequently, the supply of zinc to the industrialized countries should not give rise to any particular difficulties, especially as little has been done so far to re-process this metal.

5. Lead

The foregoing remarks on zinc apply in the main to lead, which is often extracted at the same time and from the same raw materials. In most of the European countries, however, lead is more often reprocessed than zinc. The United States covers about a quarter of its requirements through imports from Canada, Mexico and Peru. Nearly a third of Europe's imports come from Yugoslavia, Ireland and Spain and most of the rest from Australia and Canada. The remaining requirements are covered by Peru, Bolivia, Morocco and South Africa. Half Japan's requirements are covered by national production and re-processing and it imports lead mainly from the same areas as Europe (Canada, Latin America and Australia) and also from North Korea.

(1) 1972 - United States

	(in thousands of tons)
- Overall consumption of refined copper	2,021
- Production of refined copper	1,988
- Domestic copper-mining output	1,490
- Reprocessed copper	347

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

6. Tin

Tin is the only metal for which there is an international agreement guaranteeing minimum prices for the producers. The current agreement, to which the Soviet Union subscribes, expires at the end of 1975 and applies to the seven main exporting countries (six developing countries and Australia) and to sixteen importing countries. Malaysia alone accounts for almost one third of world tin output. The combined output of six developing countries - Malaysia, Bolivia, Thailand, Indonesia, Nigeria and Zaire - represents nearly three quarters of the overall world output of this metal. Among the Communist countries, China and the Soviet Union, with 15% of world production, cover most of their requirements. Tin is one of the metals for which the industrialized countries rely most heavily on imports from the Third World. However, there has been a much slower rise in the demand for tin than for the other metals. In 1972, world output of pure metal (233 million tons) was at the same level as in 1940, after a drop to around 100,000 tons at the end of the Second World War. Lastly, United States strategic stocks have a major stabilizing effect and, so far, little effort has been made to reprocess tin.

7. Nickel

Nickel is used in the production of special steels, the demand for which has grown rapidly during the last ten years. World nickel output rose from some 150,000 tons in 1950 to 326,000 tons in 1960 and 586,000 tons in 1972. Canada accounts for almost 40% of this output and New Caledonia's share has expanded rapidly in recent years to around 20%. The other chief non-Communist producers are Australia, South Africa and Indonesia. The nickel-producing companies concentrate on developing resources in these countries and in Guatemala and the Dominican Republic, which have not so far been among the producer countries. Among the Communist countries, the Soviet Union and Cuba together produce nearly a quarter of the world's nickel.

8. Chromium

The demand for chromium, like that for nickel, has increased rapidly over the past few years. Between 1963 and 1972, world output rose by some 7% a year. Unlike mining for nickel ores, chrome iron ore mining is concentrated in a small number of countries. The main producer is the Soviet Union (more than a quarter of world output) closely followed by

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

South Africa. Most of the rest comes from Turkey, Albania, the Philippines, Rhodesia, India and Iran. In 1971, the United States, which does not produce chrome iron ore, imported nearly one third of its requirements from South Africa, more than a quarter from the Soviet Union and a quarter from Turkey. Western Europe relies mainly on South Africa, the Soviet Union and Turkey for its supplies. Little is known about European imports from Rhodesia. Chromium is apparently more difficult to reprocess than other metals. However, thanks to Turkey and the other smaller producers (Finland, Cyprus, Greece, Yugoslavia), Europe is able to cover about two thirds of its requirements. If South African and Rhodesian resources are taken into consideration, there should be no particular problem as regards chromium supplies for Western Europe. Japan relies heavily on South Africa (more than 60% of its imports), the Philippines, India and Iran (nearly 25% of its imports). In 1971, only 7% of Japan's supplies came from the Soviet Union.

9. Manganese

Manganese is used only in alloys, generally with iron and steel. The growth in its use is closely bound up with that of steel. The Soviet Union accounts for one third of world manganese output and the United States imports up to 97% of its ore requirements, 60% of which are covered by Brazil and Gabon. Western Europe can cover only between 2% and 3% of its requirements from domestic sources and depends mainly on South Africa (36% of imports in 1971) and black Africa (chiefly Gabon). Its remaining imports come from Brazil (15%), the Soviet Union (7%) and India and Australia (2% and 3% from each). Japan gets most of its Manganese from South Africa, India and Australia. It is worth noting that the seabed appears to be a promising source of this metal.

10. Antimony

Antimony is mainly used in alloys for strengthening lead and tin. It also has chemical applications. World output of antimony ores is around 70,000 tons, with South Africa and China each producing nearly 20% of the total. The next biggest producers are Bolivia, the Soviet Union, Thailand and Mexico. The main European producers are Turkey, Yugoslavia and Italy. The United States takes its supplies from Bolivia and Mexico. Domestic sources provide European countries with one third of their requirements and the rest is covered mainly by imports from South Africa, Bolivia and Thailand. Given the geographical distribution of supply sources, the Western industrialized countries are unlikely to encounter difficulties unless South Africa should decide to line up with the Latin American countries.

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

11. Cobalt

Like nickel, cobalt is used mainly in alloys with steel; compounds are used in the manufacture of chemical fertilizers and as colouring agents. Primary world production of cobalt in 1971 was estimated at 23,500 tons. Zaire with 57%, Zambia with 9% and Morocco with 4%, account for nearly three quarters of cobalt output in the non-Communist world. Other producers are Canada (10%), Finland (5%) and, to a lesser extent, Australia. Supplies for the Communist world probably come mainly from the Soviet Union, the Asian Communist countries, other than China, and Cuba. Since the Western industrialized countries rely heavily for their supplies on three African countries, cobalt would seem to be a raw material which requires particular attention on the part of the consumer countries.

12. Tungsten

Tungsten is the metal with the highest melting point and the lowest coefficient of expansion. It is used mainly for special steels and for electric lamp filaments. After a long period of stagnation, world output over the last five years rose by between 5 and 6% a year and reached a total of 36,500 tons in 1971. Virtually half of world production comes from the Communist countries, chiefly China (8,000 tons), the Soviet Union (7,000 tons) and North Korea (2,100 tons). In the non-Communist world, the main primary producers are Thailand, the United States, Bolivia and Canada. Other producers are Brazil, Peru and Australia. In Europe, France, Spain and Portugal account for nearly 7% of world output.

13. Uranium

Little information is available on uranium imports. The annual output of uranium oxide in the non-Communist world has been estimated at 22,300 tons, of which more than half is extracted in the United States, 17% in South Africa, 16% in Canada and 7% in France. Little is known of output in Central Africa; Zaire and the Central African Republic, whose uranium-producing capacity has been common knowledge for many years, publish no information on their output. Known reserves occur mainly in the countries referred to above, but also in Niger, Gabon, Spain, Portugal, Australia and Argentina. Japan has very inadequate reserves.

14. Natural phosphates

World output of natural phosphates has increased four-fold over the last twenty years and now stands at some 100 million tons a year. The three main producer countries (the United States, the Soviet Union and Morocco) together supply about 75% of this total. Over half the known deposits

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

in the world are estimated to occur in Morocco. The United States has about 20%, and the Soviet Union 15%, of these reserves. Morocco is the leading exporter with one third of the total, followed by the United States with almost one third and the Soviet Union with one eighth. The remainder, less than 30%, comes from a dozen or so other countries including Tunisia, Algeria, Egypt, Senegal, Togo and certain Pacific Islands. As regards consumption, the OECD European countries use almost 30% of the natural phosphates produced and import most of their supplies from Morocco. The latter is in a very strong position which would only be threatened if there were to be a big build-up in United States export capacity. However, this would only be likely to happen if the recent price increases introduced by Morocco were to be applied by most of the other exporting countries and particularly the Soviet Union.

15. Natural rubber

The growth rate in the demand for natural rubber during the last ten years was less than half that for synthetic rubber. In 1972, world consumption was in the region of 9.6 million tons, of which 3.1 million tons were natural rubber and 6.5 million tons synthetic rubber. However, natural rubber is still used in the manufacture of synthetic rubber. The motor industry is far and away the biggest consumer of this raw material and fluctuations in production within that industry have a big effect on the demand for rubber. In the United States, the natural product accounts for less than one quarter of consumption, whereas in the European countries and Japan more than one third of the rubber used is natural rubber. Three countries, Malaysia (44%), Indonesia (27%) and Thailand (9%) together produce more than 80% of the world's natural rubber. Sri Lanka and India contribute rather less. All in all, Asia accounts for more than 90% of world output, African countries for 7% and Brazil for less than 1%. In 1971, the United States imported some 600,000 tons of natural rubber, the European OECD countries 900,000 tons and the European Communist countries around 450,000 tons. Japan imported about 300,000 tons. Although the producer countries are in a strong position because natural rubber cultivation is confined to a small number of countries, the possibilities of synthetic rubber greatly reduce the bargaining power of Malaysia and Indonesia in negotiations with the consumer countries. In addition, both Malaysia and Indonesia have a pressing need for foreign currency.

16. Coffee

After oil, coffee is the leading international trading commodity and an important source of revenue for a score of developing countries. Latin America at present supplies two thirds of the 4 million tons or so of green coffee consumed

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE

annually in the world (Brazil: between 35% and 40%, Columbia: 12%, Mexico, El Salvador and Guatemala: between 2.5% and 4%). Since 1950, Africa's share in coffee production has risen from 12% to 27% (the Ivory Coast, Angola, Ethiopia). Asia (Indonesia) and Oceania supply the rest. In 1963 an international coffee agreement was concluded between 40 producing countries, and since then national outputs have generally become stabilized. In the event of serious over-production coffee is stockpiled in order to adapt supply to demand. The main importers are the United States (37%), the Federal Republic of Germany (9.5%), France (7.5%), Italy (5%) and the Netherlands (4%). Per capita consumption of coffee is highest in the Scandinavian countries, the Netherlands, Switzerland, Belgium, the United States, the Federal Republic of Germany and France. Far less coffee is drunk in the United Kingdom. Japan consumes very little and the Soviet Union even less. Europe takes half of Brazil's coffee exports and also imports supplies from the Ivory Coast. Supplies for the United States come mainly from Brazil and the other Latin American countries. Certain difficulties arose when the coffee agreements were renewed on 1st October, 1973. The countries concerned failed to agree on the control of exports. Prices were freed and the producing countries will have to accept certain restraints if they wish to avoid over-production.

17. Tea

The chief tea-exporting countries subscribed to an international tea agreement in 1970 and established yearly quotas for the amounts to be put on the international market. There is a tendency for supply to rise faster than demand. The main producers are India (40%), Sri Lanka (20%), Japan (8%), the Soviet Union (6%), Indonesia (4%), Kenya (3%) and Turkey (3%). More than half the tea produced in India is consumed locally and Turkey consumes two thirds of its output. Japan and the Soviet Union import small amounts. The main importing countries are the United Kingdom and some of the Commonwealth countries (Australia, Canada, New Zealand).

18. Cocoa

The demand for cocoa, unlike tea and coffee, appears to be rising more rapidly than the supply. January 1973 saw a new international agreement covering the main producer and most of the consumer countries. Africa accounts for three quarters of cocoa output and 80% of the beans exported; the rest comes from Latin America. The main producing countries are Ghana (37%), Nigeria (15%), Brazil (14%), the Ivory Coast (13%) and Cameroun (8%). Some 1.6 million tons of cocoa were consumed

in 1973. The yearly imports of cocoa beans amount to about 400,000 tons for the European OECD countries, 350,000 tons for the United States and 120,000 tons for the Soviet Union and the East European countries. The consumption of cocoa-based products has increased at a steady rate in all the countries referred to above. It seems that the new international agreement will go even further towards reducing the possibility of over-production. For some time yet, and until there is a fall-off in consumption, the producers countries will be able to exercise pressure on price levels.

DECLASSIFIED/DECLASSIFIEE - PUBLIC DISCLOSED/MISE EN LECTURE PUBLIQUE