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ECONOMIC COMMITTEE

IMPORTANCE OF SOUTHERN AFRICA FOR THE SUPPLY OF THE EUROPEAN NATO COUNTRIES WITH METALLIC RAW MATERIALS(1)

Note by the German Delegation

Introduction

The most important mining countries in Southern Africa are Gabon, Rhodesia, Zambia, the Republic of South Africa, Zaire. Only an insignificant portion of the European NATO countries' consumption of lead, zinc, tin, nickel and tungsten is supplied by Southern Africa. On the other hand, this portion is very high in the case of copper (43%), chromium ore (41%), manganese ore (78%), cobalt and uranium. A loss of these supplies from Southern Africa could only be compensated by supplies from other sources - since Communist countries have to be excluded as possible suppliers - in the case of copper and, perhaps, uranium.

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This document includes: 8 Annexes

(1) Inluding all African countries south of the equator.

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1. Southern Africa's Potential of Metallic Raw Materials

The deposits in the 18 southern African+) countries have been explored with different intensity. The potential of mineral resources can be estimated at least partly by comparing the present production with world production (see Annex 1). This shows that the following southern African countries are of importance for the world production and will be able to maintain this rôle for a prolonged period due to their reserves:

Gabon (manganese ore, uranium)
Rhodesia (chromium ore)
Zambia (copper, cobalt)
Republic of South Africa and Namibia (chromium ore, manganese ore, uranium)
Zaire (copper, cobalt)

These countries will be able to increase their production substantially by new developments or by extending it to additional metallic raw materials:

Rhodesia: Opening of new nickel mines (1976)
Zambia: medium-term prospects for the start of uranium mining
Namibia: Start of production in the world's largest uranium deposit "Rössing" in 1976; reserves: 150,000 tons of U_3O_8 to be mined at a cost of less than 15 US $/lb

Republic of South Africa:
Start of titanium ore production near Richards Bay in 1978

+) Angola, Botswana, Burundi, Gabon, Kenia, People's Republic of Congo, Lesotho, Madagascar, Malavi, Mozambique, Namibia, Rhodesia, Rwanda, Zambia, Republic of South Africa, Svaziland, Tanzania, Zaire.

Zaire: bauxite mining and aluminium production with the participation of the Swiss firm ALUSUISSE.

The following smaller mining countries in southern Africa will probably gain increasing importance on a short or medium term basis:

Burundi: (development of nickel and tin deposits)

Kenia: (chromium ore mining, probably with Japanese participation in 1977)

Madagascar: (bauxite mining and construction of an aluminium plant with Hungarian aid) and

Mozambique: (utilization of titanium ores)

2. Supply of the European NATO Countries with Metallic Raw Materials from Southern Africa

The European NATO countries buy a great variety of metallic raw materials from southern Africa. However, compared with the overall consumption of the importing countries these import quantities are of varying importance. Only the most important industrial countries among the European NATO countries have been included in the following study+):

2.1 Lead

Southern Africa is without importance for the lead supply of the European NATO countries.
The Federal Republic of Germany, Belgium-Luxemburg, Great Britain and Italy import small quantities of lead ore and metal from the Republic of South Africa, Namibia and Zambia. The share of these imports in the consumption of refined lead is less than 3 % with the exception of Italy, where it reaches 8 %.

2.2 Copper

Almost all European NATO countries import substantial quantities of copper from southern Africa. The most important suppliers are Zaire, Zambia and the Republic of South Africa (see Annex 2).

+) All data - if not indicated otherwise - are referring to 1974.

These supplies represent the following percentages of the refined copper consumption of the importing countries:

Federal Republic of Germany:	22 %
Belgium-Luxemburg	168 %
France	40 %
Great Britain	34 %
Italy	51 %
Netherlands	41 %

Import quantities exceeding the domestic requirements of Belgium/Luxemburg are exported, mostly in a refined form. 86 % of the Belgian copper exports go to NATO countries. The total copper quantity purchased by the European NATO countries in southern Africa (see Annex 2) amounts to 935,000 tons (of which 46 % from Zaire, 40 % from Zambia, 12 % from the Republic of South Africa) or to about 43 % of the refined copper consumption of these countries.

2.3 Zinc

The Federal Republic of Germany, Belgium-Luxemburg, the Netherlands, France, Great Britain and Italy import zinc and zinc ores from southern Africa, mostly from Zaire, Zambia, the People's Republic of Congo and the Republic of South Africa.

The import quantities are very small; the percentage in the crude zinc consumption of Italy is 4.7 %, of Belgium-Luxemburg about 7 % and in case of the other countries the highest percentage is 1 %.

2.4 Tin

Only Belgium-Luxemburg import tin from southern Africa. Ore and metal imports come mostly from Zaire, but also from Rwanda and Burundi and their share in the crude tin consumption is about 12 %.

2.5 Chromium ore

Southern Africa's contribution to the supply of the European NATO countries with chromium ore is substantial. The Federal Republic of Germany, the Benelux countries, France, Great Britain and Italy import considerable quantities of chromium ore from this region (see Annex 3).

The share of imports in the consumption of the various countries amounts to (1973):

Federal Republic of Germany	51 %
Benelux countries	102 %
France	36 %
Great Britain	51 %
Italy	11 %

Total imports by the Benelux countries exceeded their domestic requirement of chromium ore by 700 % in 1973. 90 % of the surplus quantities were exported to NATO countries. The total chromium ore quantity imported by the above mentioned NATO countries from southern Africa (see Annex 3) amounts to about 501,000 tons (of which 60 % from the Republic of South Africa, 16 % from Rhodesia, 23 % from Madagascar) or to about 41 % of the chromium ore consumption of these countries.

2.6 Nickel

Nickel in various forms (ore, concentrate, matting, metal) is reported by the Republic of South Africa to the Federal Republic of Germany, Belgium, France, Italy and Norway. The share of these supplies in the consumption of the importing countries is very small. Only in the Federal Republic of Germany and Belgium-Luxemburg it reaches 9 - 10 %.

2.7 Manganese ore

The manganese ore supply of most of the European NATO countries is mainly based on imports from southern Africa. Supplying countries are the Republic of South Africa, the People's Republic of Congo, Gabon, Zaire and Angola (see Annex 4).

The share of these supplies in the manganese ore consumption of the importing countries was (1973):

Federal Republic of Germany	63 %
Belgium-Luxemburg	83 %
France	91 %
Great Britain	54 %
Italy	82 %
Netherlands probably	124 %

For 73,513 tons of Netherland's total imports of 79,379 tons the countries of origin are not indicated. This quantity was most probably supplied by the Republic of South Africa. 90 % of Netherlands manganese ore exports went to other NATO countries.

The total quantity of manganese ore of 2 741,411 tons imported by the above NATO countries from southern Africa (see Annex 4) (of which 63 % from the Republic of South Africa, 27 % from Gabon, 5 % from the People's Republic of Congo) represents 78 % of the consumption of these countries.

2.8 Tungsten

Southern Africa is of no special importance for the tungsten supply of the European NATO countries. Tungsten is supplied by Rwanda, Uganda, Tanzania, Zaire and the Republic of South Africa. Since the Republic of South Africa does not produce any tungsten it can be assumed that the tungsten which it exports is of Rhodesian origin.

The share in the overall consumption of the importing countries is small:

Federal Republic of Germany	6 %
Belgium-Luxemburg	33 %
France	5 %
Great Britain	7 %
Italy	-
Netherlands	1 %

No great importance is to be attached to Belgium-Luxemburg's apparently high degree of dependence (33 %) on supplies from southern Africa. Both countries are insignificant consumers of tungsten with 142 tons in 1974 (for comparison: France's consumption in 1974 was 1,781 tons).

2.9 Cobalt

Only few exact data are available on cobalt imports of European NATO countries. These countries have no cobalt mining production of their own and are therefore 100 % dependent on imports.

Zaire and Zambia produce about 58 % of the world cobalt production, the remaining 42 % are produced by the USSR, Cuba, Canada, Morocco, Finland and Australia.

A substantial portion of the cobalt requirements of the European NATO countries is therefore probably met by imports from Zaire and Zambia. In 1975 the Federal Republic of Germany imported 55 % of its cobalt requirements from Zaire and 27 % from Belgium-Luxemburg. The imports from Belgium-Luxemburg are most probably of Zaire origin (s. also chapter 2.2 Copper).
Great Britain imported 1,178 tons of cobalt (about 50 % of its consumption) from Zambia in 1972.

2.10 Uranium

Few exact data are available on the share of southern Africa in the natural uranium supply of the European NATO countries. For the Federal Republic of Germany the Republic of South Africa is the second greatest uranium supplier (after Canada). France is the main buyer of Gabon's uranium and will also purchase uranium from Namibia. Great Britain has secured the main portion of the uranium production of the new mine "Rössing" in Namibia for 5 to 6 years.

3. Alternatives for the supply of metallic raw materials to the European NATO countries

If the metallic raw material supplies from southern Africa were completely or partly discontinued because of political or military events in this area alternatives would have to be found.

As can be seen from Chapter 1 the following are the "critical" metals of which southern Africa supplies at least one third of the importing countries' total consumption:

Copper (Zaire, Zambia, Republic of South Africa)

Chromium ore (Republic of South Africa, Rhodesia, Madagascar)

Manganese ore (Republic of South Africa, Gabon, Zaire, PR Congo)

Cobalt (Zaire, Zambia) and probably also

Uranium (Republic of South Africa, Gabon)

3.1 Copper

The world copper mining production is spread over about 50 countries. When looking for alternatives, the Soviet bloc countries (producing 23.2 %), the countries of southern Africa (producing 18.9 %) and countries whose consumption exceeds the domestic production (producing 20.9 % of the world mining production) have to be excluded.
The remaining 37 % are shared by 19 countries with a varying, sometimes very unimportant, copper potential (Ireland, Norway, Burma, Cyprus, Indonesia, Iran, Israel, the Philippines, Turkey, Botswana, Mauretania, Bolivia, Chile, Canada, Mexico, Nicaragua, Peru, Australia, Papua-New Guinea).
Since it has become profitable to mine even copper ore with minor metal contents estimated reserves have by far outrun the development of production in recent years. The number of copper-producing countries increases continuously. Countries which would be suitable as alternative suppliers are planning new mining capacities of about 2.1 million tons per year from 1975 - 1982 (see Annex 5).
These capacities are shared i. a. by

Peru	29 %
Mexico	15 %
Chile	11 %
Panama	8 %
Canada	8 %
Iran	7 %
Philippines	7 %

The planned extensions of smelting plant and refinery capacities are accordingly high. In view of the growing number of copper producing countries it will be possible to ensure the copper supply of the European NATO countries without having recourse to the supplies from southern Africa.

3.2 Chromium ore

Chromium ore is mined in 20 countries of the world, in 1973 38.6 % of the world production were mined in communist countries (USSR, Albania, North Viet Nam, Cuba, Yugoslavia) and 34.7 % in countries in southern Africa (Republic of South Africa, Rhodesia, Madagascar) which have not been taken into consideration here. The remaining 26.7 % are shared by:

Philippines	580,000 tons	(8.6 %)
Turkey	406,000 tons	(6.0 %)
India	268,000 tons	(4.0 %)
Finland	150,000 tons	(2.2 %)
Brazil	140,000 tons	(2.1 %)
Iran	140,000 tons	(2.1 %)
Cyprus	30,000 tons	(0.4 %)
Sudan	25,000 tons	(0.4 %)
Japan	23,000 tons	(0.3 %)
Greece	20,000 tons	(0.3 %)
Pakistan	18,000 tons	(0.3 %)
Columbia	1,000 tons	(0.01 %)

The possible loss of supplies of 500,000 tons (see chapter 2.5) would have to be compensated with deliveries from these countries. Further suppliers could be: Canada, USA, Greenland, Afghanistan, Sierra Leone, Togo and New Caledonia. Deposits have become known or are assumed to exist in these countries. However, mining has not yet started. Only seven of these countries have (sure, probable and potential) reserves to permit substantial increases in production in the long run, i. e.

Brazil	18 million tons
Finland	33 million tons
Greece	26 million tons
India	40 million tons
Iran	45 million tons
Philippines	19 million tons
Turkey	60 million tons

However, compared with the reserves of the Republic of South Africa (6,100 million tons) and Rhodesia (1,560 million tons) they are very small. Remarkable production increases were achieved by Finland (122 %), Turkey (38 %) and Greece (72 %) in the years 1973 to 1975. In 1975 Czechoslovakia showed interest in participating in the development and mining of chromium ore in Greece.

Similar efforts were made by Japan in Brazil in 1975 (already with success) and on the Philippines as well as in Turkey in 1976.

During the visit of Finland's President KEKKONEN to the USA (August 1976) the latter showed their interest in an agreement with Finland on chromium ore supplies. It will probably be possible for the European NATO countries to buy the chromium ore supplied by southern Africa from several of the countries mentioned above, however, about 5 years will be required for this shift for technical reasons. The USSR supplies a high percentage of the European NATO countries' consumption of chromium ore (1973: 28 %). Thus, the dependence on supplies from southern Africa (41 %) and the USSR amounts to 69 % (1973: 841,000 tons).

3.3 Manganese Ore

The most important manganese ore producing countries (see Annex 6) are Australia, Brazil, the People's Republic of China, Gabon, India, the Republic of South Africa, the USSR and the USA. The communist countries and the countries of southern Africa, which have to be excluded here, account for 67 % of the world's manganese ore production.

A loss of the manganese ore supplies from these countries would result in a shortage of 2.74 million tons (see Annex 4) for the European NATO countries. This is one third of the production of the remaining producer countries and could not be covered by them. Due to the reserve situation (see Annex 6) it does not appear possible to shift manganese ore imports to other countries even on a long-term basis.

In 1980 the mining of about 600,000 tons of manganese ore by western firms is to start in Upper Volta. Other prospects for manganese ore mining in a more distant future exist also in the People's Republic of Yemen, in the Amazon area of Columbia and in Paraguay.

3.4 Cobalt

Cobalt is mined in only 10 countries of the world (see Annex 7); Zaire, Zambia, the USSR and Cuba combined produced 81.2 % of the world supplies in 1975. Morocco, Canada, Finland, Australia, New Caledonia and the Philippines which produce the remaining 18.8 % could be alternative suppliers. Great Britain, the Federal Republic of Germany and France alone consume already 21 % of the world's cobalt production. For metallo-genetic reasons little information can be gained by examining the reserve situation in the case of cobalt (see Annex 7). With the exception of Morocco, whose reserves are unimportant, cobalt reserves are combined world-wide with nickel or copper. Any increased or new cobalt production would require a correspondingly growing nickel or copper production with all the necessary investments and a correspondingly growing nickel and copper consumption. For this reason, it appears impossible to develop new sources for the cobalt supply of the European NATO countries.

However, in the long run - approximately from 1990 - there may be possibilities of general access to deep sea manganese knobs.

3.5 Uranium

Uranium is mined by a relatively small number of western countries. On the basis of their reserves, production and planned production capacities (see Annex 8) only few of them are in a position to contribute as exporters substantially to the supply of the European NATO countries with natural uranium. These countries are:

USA
Republic of South Africa and Namibia
Australia
Canada
Niger

In addition to the countries listed in Annex 8 other countries in which uranium deposits have been found during the last two years but not yet fully examined are: Bolivia, Brazil, Chile, Finland, Greece, Indonesia, Iran, Jordan, Columbia, Libya, Mali, New Zealand, Austria, Pakistan, Peru, Sweden, Syria; the most important among them is Brazil.
The Republic of South Africa and Namibia which own 20 % of the safe uranium reserves (to be mined at a cost of less than 15 US$/lb U_3O_8) of the western world (in 1980 probably 18 % of the production capacity) are of great importance for the uranium supply of the European NATO countries. A loss of the supplies from South Africa - especially in view of the uranium bottleneck forecast by the OECD from 1983 - would prevent the expansion of Western Europe's nuclear energy supply as planned.

Mining Production of Non-Ferrous Metals (tons) in Southern Africa (1974)

(Share in World Production in %)

	Lead	%	Copper	%	Zinc	%	Tin	%	Chromium ore	%	Nickel	%	Manganese ore	%	Tungsten	%	Cobalt	%	Uranium +)	
Botswana	-	-	1.600	0,02	-	-	-	-	-	-	1.500	0,2	-	-	-	-	-	-	-	-
Burundi	-	-	-	-	-	-	100	0,05	-	-	-	-	-	-	-	-	-	-	-	-
Gabon	-	-	-	-	-	-	-	-	-	-	-	-	1.447 000	6,6	-	-	-	-	770	4,1
PR of Congo	1.700	0,05	-	-	3.400	0,06	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Madagascar	-	-	-	-	-	-	-	-	155.900	2,0	-	-	-	-	-	-	-	-	-	-
Rhodesia	-	-	32.000	0,4	-	-	600	0,3	590.000	8,2	-	-	-	-	91	0,2	-	-	-	-
Rwanda	-	-	-	-	-	-	1.300	0,6	-	-	-	-	-	-	251	0,7	-	-	-	-
Zambia	25.200	0,7	698.000	8,8	58.100	1,0	-	-	-	-	-	-	-	-	-	-	* 2.108	7,7	-	-
Rep. of South Africa	-	-	179.000	2,3	37,400	0,6	2.600	1,2	1.977.000	26,1	22.100	3,0	4.384.000	20,0	-	-	-	-	3.000	15,8
Namibia	47.600	1,3	26.100	0,3	44.900	0,8	700	0,3	-	-	-	-	-	-	-	-	-	-	-	-
Uganda	-	-	11.600	0,1	-	-	-	-	-	-	-	-	-	-	109	0,3	-	-	-	-
Zaire	-	-	544.100	6,9	81.300	1,4	4.400	2,3	-	-	-	-	* 334.000	1,5	195	0,5	*13.638	50,2	-	-
Total	74.500	2,1	1.492.400	18,8	225.100	3,8	9.700	4,6	2.722.900	36,3	23.600	3,2	6.165.000	28,1	646	1,7	15.746	57,9	3.770	19,9

*) Data of 1975 +) Communist countries not taken into account

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Copper Imports (tons) by European NATO Countries from Southern Africa (1974)

(Share in refined copper consumption in %)

Exporting country	Federal Rep. of Germany		Belgium-Luxemburg		France		Great Britain		Italy		Netherlands	
Angola	-	-	3.397	1,9	3.767	0,9	-	-	-	-	900	2,4
Burundi	-	-	-	-	150	0,04	-	-	-	-	-	-
Kenia-Uganda	-	-	200 30* 230	0,1	-	-	-	-	-	-	-	-
PR of Congo	125	0,02	-	-	-	-	-	-	300	0,1	-	-
Mozambique	4.001	0,6	2.806	1,6	126	0,03	-	-	-	-	-	-
Zambia	81.802	11,2	2.141	1,2	74.760	18,0	136.061	27,3	75.736	24,6	-	-
Rep. of South Africa	54.996 1.100* 56.096	7,7	27.684 13* 27.697	15,5	4.016	9,7	19.951	4,0	8.634	2,8	-	-
Tanzania	-	-	3.221	1,7	101	0,02	-	-	174	0,06	50	0,01
Zaire	21.729	3,0	260.340 300* 260.640	146,2	46.778	11,3	11.725	2,4	73.513	23,9	14.299	38,7
Total	163.753	22,5	300.132	168,2	129.698	40,0	167.737	33,7	158.357	51,5	15.249	41,1

*) Copper contents in ore, estimated

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Chromium Ore Imports (tons) by European NATO Countries from Southern Africa (1973)

(Share in consumption in %)

Exporting country	Fed. Rep. of Germany	%	Benelux countries	%	France	%	Great Britain	%	Italy	%
Madagascar	-	-	-	-	117.600	35,6	-	-	-	
Mozambique *)	80.422	15,9	713	59,4	1.366	0,4	-	-		
Rep. of South Africa	177.030	35,0	515	42,9	-	-	102.555	51,4	20.543	11,0
Total	257.452	50,9	1.228	102,3	118.966	36,0	102.555	51,4	20.543	11,0

*) Mozambique does not mine any chromium ore; the data refer probably to Rhodesian ore. The exports by the Republic of South Africa may also contain chromium ore of Rhodesian origin.

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Manganese Ore Imports by European NATO Countries from Southern Africa (1973)

(Share in consumption in %)

Exporting country	Fed. Rep. of Germany		Belgium-Luxemburg		France		Great Britain		Italy		Netherlands	
Angola	50	0,005	44.455	10,7	19.830	1,4	-	-	-	-	-	-
Gabon	-	-	14.132	3,4	645.198	45,2			91.902	29,9	-	-
PR of Congo	69.659	9,8	25.219	6,0	-	-	42.488	7,2	-	-	-	-
Rep. of South Afrika	376.058	53,1	228.701	55,0	639.370	44,8	246.648	42,0	159.792	51,9	wahrscheinlich (probably) 73.513	123,9
Zaire	95	0,01	34.123	8,2	-	-	30.028	5,1	150	0,05	-	-
Total	445.862	62,9	346.630	83,3	1.304.398	91,4	319.164	54,3	251.844	81,8	wahrscheinlich (probably) 73.513	123,9

New Copper Mining Capacities (1975 - 1982)

Argentina	63.000 t	1981	
	27.000 t	1982	90.000 t
Australia	6.000 t	1975	
	6.000 t	1976	
	5.000 t	1977	17.000 t
Bolivia	5.000 t	1977	5.000 t
Brazil	30.000 t	1978	30.000 t
Burma	20.000 t	1978	20.000 t
Chile	24.000 t	1977	
	80.000 t	1978	
	140.000 t	1979	244.000 t
Guatemala	8.000 t	1976	8.000 t
Indonesia	12.000 t	1975	12.000 t
Iran	4.000 t	1975	
	5.000 t	1976	
	145.000 t	1978	154.000 t
Ireland	3.000 t	1975	3.000 t
Jordan	30.000 t	1979	30.000 t
Canada	39.000 t	1975	
	4.000 t	1976	
	24.000 t	1977	
	27.000 t	1978	
	5.000 t	1979	
	56.500 t	1980	
	11.000 t	1982	166.500 t
Columbia	3.000 t	1976	3.000 t
Malaysia	30.000 t	1976	30.000 t
Morocco	10.000 t	1977	10.000 t
Mexico	23.000 t	1977	
	104.000 t	1978	
	84.000 t	1979	
	38.000 t	1980	
	70.000 t	1982	319.000 t
Norway	4.000 t	1978	4.000 t
Panama	136.000 t	1981	
	30.000 t	1982	166.000 t
Peru	2.000 t	1976	
	157.000 t	1977	
	82.000 t	1978	
	110.000 t	1979	
	180.000 t	1980	
	81.000 t	1981	612.000 t

Carried over: 1.923.500 t

Carried over			1.923.500 t
Philippines	28.000 t	1975	
	33.000 t	1976	
	49.000 t	1977	
	30.000 t	1978	140.000 t
Turkey	23.000 t	1975	23.000 t
Total			2.086.500 t

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World Manganese Ore Production and Reserves (tons)

Country	Manganese ore production 1973	%	Certain and probable reserves *)	%
Australie	1.522.000	6,4	200.000.000	5,2
Brazil	2.040.000	8,6	107.000.000	5,2
Bulgaria	38.000	0,2		
PR of China	850.000	3,6		1,3
CSSR	40.000	0,2		
Gabon	1.919.000	8,1	230.000.000	10,4
Ghana	510.000	2,1	40.000.000	
India	1.461.000	6,2	51.000.000	
Japan	189.000	0,8		
Yugoslavia	10.000	0,04		
Morocco	196.000	0,8	3.000.000	
Mexico	364.000	1,5	11.000.000	
Upper Volta	-	-	12.000.000	
Romania	21.000	0,1	-	
Rep. of S. Africa	4.242.000	17,9	1.000.000.000	47,1
USSR	8.245.000	34,8	2.500.000.000	26,6
Hungary	136.000	0,6		
USA (1974)	1.422.000	6,0		
Zaire	334.000	1,4		
Other development countries	106.000	0,4		
Othern western industrialized countries	60.000	0,2		
Total	23.705.000	99,9		

*) Absolute and relative data on reserves come from different sources.

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World Cobalt Production and Reserves (tons)

Country	Cobalt Production (Co-contents in the ore) 1975	%	Identified Cobalt Reserves	%
Australie	400	1,5	295.000	5,1
Brazil	-	-	9.000	0,2
Burma	-	-	16.000	0,3
Dominican Republic	-	-	89.000	1,5
Finland	1.048	3,8	22.500	0,4
Guatemala	-	-	45.500	0,8
Indonesia/New Guinea	-	-	18.000	0,3
Japan	-	-	2.500	0,04
Canada	1.527	5,6	250.000	4,3
Columbia	-	-	22.500	0,4
Cuba	1.550	5,7	1.048.500	18,2
Morocco	1.891	6,9	7.000	0,1
New Caledonia	120	0,4	385.000	6,7
Philippines	105	0,4	159.000	2,8
Puerto Rico	-	-	68.000	1,2
Solomon Islands	-	-	22.500	0,4
Zambia	2.108	7,7	370.000	6,4
USSR	4.800	17,6	181.500	3,1
Uganda	-	-	8.000	0,1
USA	-	-	764.000	13,2
Venezuela	-	-	60.000	1,0
Zaire	13.638	50,2	1.920.000	33,3
Total:	27.187	99,8	5.763.500	99,8

Uranium Reserves and Production (tons) of the Western World

(as per 1 January 1975)

Country	Certain reserves to be mined at a cost of less than 15 $/lb U_3O_8	%	Production 1974	%	Planned production capacities 1980	%
Algeria	28.000	2,7	-	-	-	-
Argentina	9.300	0,9	50	0,3	600	1,0
Australia	188.000	18,2	-	-	3.260	5,3
Fed.Rep. of Germany	500	0,05	26	0,1	250	0,4
France	37.000	3,6	1.610	8,5	3.000	4,9
Gabon	20.000	1,9	770	4,1	1.200	1,9
India	3.400	0,3	-	-	-	-
Italy	-	-	-	-	85	0,1
Japan	1.100	0,1	9	0,05	30	0,05
Canada	144.000	14,0	3.420	18,0	10.000	16,2
Mexico	5.000	0,5	-	-	320	0,5
Niger	40.000	3,9	1.120	6,0	4.000	6,5
Portugal	6.900	0,7	89	0,5	130	0,02
Spain	10.000	1,0	60	0,3	680	1,0
Rep.of South Africa and Namibia	202.000	19,6	3.000	15,8	11.000	17,9
Turkey	2.600	0,2	-	-	-	-
USA	323.000	31,3	8.800	46,4	27.000	43,8
Zaire	1.800	0,2	-	-	-	-
Central African Republic	8.000	0,8	-	-	-	-
Total	1.030.600	99,9	18.954	100	61.555	99,6