Minerals in the World Economy

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The continued expansion of the world economy in 1967 again placed a greater demand for raw materials upon the world's mineral producing industries. As in past years, the mineral extractive and processing industries responded with a larger output of both fuels and nonfuel minerals.

There were several factors of a sociopolitical nature which disturbed the operation of the world mineral industry to a significant degree. The Arab-Israeli war, which lasted only a few days before a cease-fire was invoked, resulted in a serious dislocation of world petroleum supply patterns. Although the demand-supply balance was restored relatively quickly, the interdiction of Suez Canal traffic and the temporary closure of several major international pipelines, since reopened, resulted in a serious oil transport problem. The swing to supertankers, which do not use the canal route, was accelerated and intensified.

Conflict in Viet-Nam resulted in a higher than normal demand for munitions and war materials, including steel, copper, aluminum, fuels, and other minerals. The financial effect of the Viet-Nam war upon the United States economy was a factor in the limiting controls, first voluntary and then mandatory, placed upon U.S. direct foreign investment flows. Because much of this investment is in minerals, particularly petroleum, the impact of this action may be felt for many years. Although U.S. firms have continued to invest, much of the financing has been raised outside the United States.

The internal unrest in China apparently had a significant depressing effect on that country's mineral industry. As China is a major producer of coal, the drop in the estimated output of this fuel significantly lowered total world output. Likewise, China's production of steel appears to have declined significantly.

The shortage of copper, accentuated by the strike in that U.S. industry, resulted in price dislocations; increased production and releases of stocks at least partly restored the balance. The U.N. embargo upon trade with Southern Rhodesia, honored by United Nations members in the main, caused some dislocation in world supplies of chromite. The revolution of Biafra in Nigeria seriously debilitated what had been rapidly expanding petroleum production from that area. The accelerating demand for gold by some nations and by private speculators threatened the stability of world money markets.

In spite of these dislocations, mineral supplies were generally in balance, and prices for mineral materials were not significantly advanced, with only a few exceptions.

PRODUCTION

The value of world crude mineral production in 1967 was estimated at roughly $80,000 million, an increase of about $5,000 million over the 1966 level.[3] The value added by the processing of these materials in mineral industry plants on a worldwide basis is difficult to assess but probably was of the order of $200,000 million or more.

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[3] Estimates based on extrapolation of data for 1963 compiled for and published in Annales des Mines, No. 4, 1966, pp. 7–98. Extrapolation based on United Nations indexes of extractive mineral industry production presented in table 1 of this chapter, but allows for production by countries not covered by the United Nations indexes.

PRODUCTION INDEX PATTERNS

United Nations production indexes for various sectors of the mineral industry for the world and for major groups of countries are presented in table 1. For the first time, this series includes data on the European Communist countries, reportedly on a comparable basis to that presented heretofore in the Minerals Yearbook for non-Communist countries only. This series of indexes indicates that in general, during 1963–67, world mineral industries have enjoyed a greater growth than that of total industry (including minerals) although the rate of growth for most mineral industry sectors has been decreasing during this period, and specifically in 1967. Moreover, although the index levels for 1967 as a whole were higher than in 1966, the quarterly indexes show little if any growth through the year.

The extractive sector of the world's mineral industry in general has not shown as great a growth as have the processing sectors, based wholly or primarily upon mineral raw materials.

Growth in indexes for metal mining and, to a lesser extent in base metals production, were somewhat retarded by the U.S. copper strike in the latter part of 1967, but the increase in world copper prices somewhat moderated the effect of the volume decline from the viewpoint of output value. Moreover the 1967 world steel output increase of about 3.5 percent, although slightly lower than that recorded between 1965 and 1966, was coupled with rising prices in the case of some producers (3.7 percent), and this tended to further improve the overall metals production index level. Lower reported world iron ore output presumably did not have a significant influence on the index for metal ore output for two reasons: First, a major part of the decline was the result of low estimated output in mainland China which is not considered in the index, and second, reduced output in the non-Communist world was largely in lower grade ores in Europe, which was compensated in terms of iron content (and value) by increased output of higher grade ores elsewhere.

The growth in the production index of nonmetallic mineral products to 136 (1963=100) was in keeping with virtually worldwide growth in construction industry activities. However, despite the fact that the 1967 index was appreciably higher than that of 1966, quarterly returns do not indicate continued growth but rather stability at the 136-point level throughout the year.

Among the mineral fuel industry sectors for which indexes are provided, coal mining in 1967 again registered a decline, mainly as a result of production cutbacks in non-Communist Europe aimed at economic rationalization of the industry in the face of competition from liquid fuels. Such reductions have exceeded continuing but modest gains registered elsewhere most notably in North America and Communist Europe. The United Nations index does not take into account output in mainland China, thus the severe reduction in the estimated output of that country in 1967 is not reflected in table 1.

The recovery in the world coal production index in the last quarter of 1967 was chiefly due to significant increases in North America and non-Communist Europe. This growth presumably represented efforts to insure an adequate fuel supply to non-Communist Europe in the face of possible further interruptions in the flow of Near East and North African oil to that area following the Arab Israeli crisis of mid–1967.

World petroleum and natural gas production indexes continued to advance at a significant rate through 1967, although the volumetric increase was not as significant as the index numbers, based on value, would indicate. The interruption of movement of lower unit value crude oil from the Near East and Northern Africa during and after the Arab-Israeli war, and the substitution of higher unit value crude from other areas, increased the index without a corresponding quantitative gain. Nonetheless, by yearend, world oil output had increased to a new record level.

The chemical, petroleum and coal product production index continued to increase in 1967, with all areas showing sizable gains led by the European Economic Community. This reflected, in part, the rising world demand for liquid fuel productions as well as an increase in chemical industry activity that is based to a significant extent on mineral raw materials.

QUANTITATIVE COMMODITY OUTPUT

Table 2 summarizes total world output

of a number of mineral commodities for 1963–67, while table 3 gives the regional distribution of 1967 output of these commodities. Tables within the statistical summary of this chapter provide more detailed figures for output by major producers of selected major commodities.

World iron ore production declined 1.6 percent in 1967, but except for mainland China, which accounted for most of the total decline, a greater amount of contained iron was available to the steel industry as production of low-grade ores, chiefly in France, West Germany, and the United Kingdom, was reduced, while output of higher grade ores in less developed countries increased.

World steel output (ingots and castings) advanced by 3.5 percent in 1967, mainly as the result of the 14.4 million ton (30 percent) increase in Japanese steel production, to 62.2 million tons; the U.S.S.R. recorded a 5.3 million ton increase while the United States recorded a 6.2 million ton decline relative to 1966 performance.

Manganese ore output continued to decline modestly in spite of increased steel production as a result of use of higher quality iron ores and increased presmelting treatment (with an attendant lower manganese requirement) in steelmaking, wider adoption of new steelmaking technology, and reduced acquisition of manganese for stocks. India, Brazil, Gabon, and mainland China registered notable declines, which were partly compensated by increases in other countries, notably Republic of South Africa, the U.S.S.R., and Australia.

Aside from copper, world output of which fell as a result of the major U.S. strike that continued through yearend, most major nonferrous base metals showed increased output in 1967. Mine production of lead appeared to be off slightly from the 1966 level, but more complete returns may show a slight gain, Otherwise, both mine and smelter output of aluminum, lead, zinc, nickel, and tin increased.

Among precious metals, platinum output increased in 1967 in response to higher market prices, and additional increases were in the offing as new mines were readied for production. Gold output fell as the overwhelming dominant producer, the Republic of South Africa apparently passed the peak economic production level at the $35 per ounce price. Silver production also was apparantly lower than in 1966, chiefly as a result of a 12 million ounce drop in U.S. output which was evidently the result of lower byproduct output by the struck copper industry.

World sulfur production, both as native sulfur (Frasch produced and from ores) and as a byproduct from metal smelting and petroleum refining continued to increase in response to growing chemical industry requirements. Moreover, output of pyrite, another principal source of sulfur also increased.

Output of all three major fertilizer materials (nitrogen, phosphate, and potash) increased in 1967 as efforts continued to pace world population growth with agricultural product output. Natural nitrate output (entirely from Chile), however, continued to decline as competition from manufactured nitrates increased; Chilean nitrates accounted for less than 2 percent of total world nitrogen compound supplies in 1967.

On the basis of incomplete returns, world output of most other nonmetallic mineral commodities apparently increased in 1967, but some few commodities seemingly went counter to the trend, notably barite, graphite, and gypsum.

Preliminary data indicate that world production of energy commodities in 1967 reached a new high in terms of heat content, despite a 3.9 percent decline in world coal output (all grades, including lignite) relative to that of 1966. In terms of standard coal equivalent (SCE), total commerical fuel [4] output in 1967 was of the order of 5,800 million metric tons, about 2.8 percent greater than in 1966. Petroleum for the first time ranked ahead of coal in energy equivalent produced, as shown in the following tabulation:

Energy source	Percent of total energy production	
	1966 [1]	1967 [2]
Coal (including lignite)	41.1	38.5
Petroleum	38.6	40.3
Natural gas	18.1	18.9
Hydro and nuclear electricity	2.2	2.3
Total	100.0	100.0

[1] Based on United Nations. World Energy Supplies 1963–66, Statistical Papers, ser. J, No. 11, New York, 1968, p. 10.

[2] Estimates are based on extropolation of United Nations data from world production data reported to and published by the U.S. Bureau of Mines.

[4] Excluding wood, charcoal, bagasse, animal dung and other minor fuels.

The 1967 decline in reported coal output was attributed chiefly to a precipitous drop in estimated production of mainland China (100 million metric tons) and a decline of 21 million tons altogether by France, West Germany, the Netherlands, and the United Kingdom; a number of producers including the United States and the U.S.S.R. showed significant output increases.

The growth in petroleum output was principally the result of increases of over 150 million barrels each by the United States, Iran, and the U.S.S.R., and increases of almost 75 million barrels by Saudi Arabia and Venezuela. Canada showed a 32 million barrel increase and Muscat and Oman, not listed among producers in 1966, recorded a 23 million barrel output, further swelling the world total. The Arab-Israeli crisis of June sharply restricted output in Kuwait, Libya, and Algeria for a brief period, and as a result, these countries showed only modest increases relative to their 1966 performance. Among major Arab-world producers Iraq and the Kuwait-Saudi Arabia Neutral Zone were more severely affected, recording declines compared with their 1966 output.

The growth in recorded natural gas output was chiefly attributed to the United States (up 1.0 million million cubic feet), the US.S.R. up 0.5 million million cubic feet), and the Netherlands (up 0.136 million million cubic feet), although most world producers showed gains.

TRADE

GENERAL TRENDS

Spurred by increasing quantities of material moved and by higher unit prices for some commodities, world trade in mineral commodities in 1967 unquestionably exceeded the value level of total world mineral commodity exports in 1966, but owing to far-from-complete reporting on 1967 movements, it was impossible at this writing to assess the amount of increase and the total 1967 value.

In 1966, the last year for which reasonably complete trade returns are available on a worldwide basis, mineral commodities traded had an estimated value of over $53,250 million, about 6.7 percent greater than in 1965 and equivalent to about 26.2 percent of the value of all commodities traded. Comparable figures for recent years were as follows:

Year	Estimated value of mineral commodities traded (million dollars)	Increase relative to previous year (percent)	Mineral commodities' share of all commodities traded (percent)
1963	40,300	18.6	26.2
1964	45,740	13.5	26.6
1965	49,890	9.1	26.8
1966	53,250	6.7	26.2

The foregoing estimates represent a summation of the recorded value of major mineral commodities traded and reported from United Nations sources in table 4 and a factor added for trade in other mineral commodities not included in that table; this added factor has been derived by comparison of total mineral commodity trade value data included in selected country chapters with the total recorded for these countries in table 4; this comparison indicated that the recorded major mineral commodities traded represented 78 percent of total mineral commodities traded.

COMMODITY GROUP TRADE PATTERNS

Although the share of total commodity trade accounted for by mineral commodities has varied but little since 1963, the relative share accounted for by major commodity groups has shown a small but steady shift favoring metals, as indicated in the following tabulation:

Year	Share of total listed [1] mineral commodity trade (percent)		
	Metal ores, concentrates and scrap	Metals	Mineral fuels
1963	11.6	38.4	50.0
1964	12.2	40.1	47.7
1965	11.8	42.1	46.1
1966	11.7	42.4	45.9

[1] As given in table 4 of this chapter.

The relative decline of mineral fuels' importance and increasing importance of metals during 1963–66 is evident; this pattern likely was altered in 1967 follow-

ing the Near East crisis as a result of increased markets of oils with a higher unit price to the European markets to replace lower priced Near East oils. Movement of higher unit price copper resulting primarily from the prolonged U.S. copper strike may also have influenced the 1967 figure, but reduced shipment levels may have negated increases owing to the higher unit price.

REGIONAL TRADE PATTERNS

Data on world trade in major mineral commodities (metal ores and concentrates, metals, and mineral fuels) are presented in tables 4 and 5, the former showing export and import totals by commodity group and continental area, the latter showing the distribution of these totals by trading partner areas and/or countries.

The countries of the European Economic Community (EEC) increased their aggregate annual trade deficit in major mineral commodities from $2,375 million in 1965 to $3,170 million in 1966. This area, which accounts for about two-fifths of world exports and over half of world imports of these commodities on a value basis, increased exports of these materials to non-EEC countries by only $70 million in 1966 relative to that of 1965, while increasing imports from non-EEC countries by $865 million. As a result, the Community's share of world exports of these commodities declined marginally because of the greater increase rate in the world total, while its share of imports increased slightly. Of total EEC trade in major mineral commodities in 1966, trade between the member nations accounted for 51 percent of exports and 37 percent of imports, compared with 1965 figures of 49 percent for exports and 38 percent for imports. The value of major mineral commodities traded between EEC countries increased from $3,990 million in 1965 to $4,395 million in 1966.

For the European Free Trade Association countries as a group, the aggregate annual deficit in major mineral commodities increased from $2,835 million in 1965 to $3,000 million in 1966, but in contrast to the EEC, these countries accounted for a greater percentage of world exports and a smaller share of world imports of these commodities. Trade in major mineral commodities among EFTA nations increased by $92 million in 1966 to $928 million.

Communist European countries bettered their positive trade balance in major mineral commodities between 1965 and 1966, increasing their net inflow by $165 million to $3,000 million. Trade in major mineral commodities within the group of countries declined by $110 million in 1966 to $2,910 million, while exports to other countries increased by $275 million to $1,975 million and imports from other countries increased by $135 million to $705 million.

Among major non-European developed countries, Canada, South Africa, and Australia recorded significantly higher values of major mineral commodity exports in 1966 than in 1965, and on a percentage basis, Canada and Australia provided a larger share of the world total in 1966 than in 1965. These three nations also all recorded a smaller share of total world imports of these commodities in 1966 than in 1965. Both South Africa and Australia had an actual lower value of such imports, while Canada recorded a figure on a par with that of 1965.

Japan's deficit in major mineral commodity trade in 1966 totaled $1,328 million, approximately $493 million greater than in 1965, as a result of a $495 million increase in value of imports compared to only a $2 million increase in exports of these materials.

The less-developed countries of the world showed quantitative increases in value of both exports and imports of major mineral commodities in 1966 relative to their 1965 performance, not only in overall total, but also in total for each of the major areas—Latin America, Africa, Near East, South Asia, and the Far East. However, in each of these areas and in total their percentage share of world imports of these materials declined, possibly indicating a widening of the gap between them and the developed countries. In the case of exports of major mineral commodities, the less developed countries of Latin America and Africa accounted for lesser shares of the total in 1966 than in 1965, while those countries of the Near East and South Asia and the Far East increased their role on a percentage basis.

CONSUMPTION

NONFUEL MINERAL COMMODITIES

World Consumption of most nonfuel mineral commodities, both metals and nonmetals, advanced in 1967 on a total tonnage basis, but on a per-capita basis, it is indicated that advances were more modest and less numerous. Notable departures from the trend were apparent for iron ore (on a gross weight basis) and copper ore and metal. In the case of iron ore, the increased output of higher grade ores and increased use of scrap in some areas made possible increased steel production despite the decline in tons of ore consumed. In the case of copper, the strike closure of smelters in the United States led to lower consumption of copper ore by industry and an attendant shortage of copper metal on world markets. The decline in copper consumption probably stimulated some of the increased use of other metals as these were substituted.

Apart from these downturns in consumption, some few minor metals presumably were used in lesser quantities in 1967, and requirements for some nonmetals may have fallen off, but such downturns were more than compensated by increased use of other mineral commodities.

Data on world consumption of major nonferrous metals appears in table 6.

MINERAL FUEL COMMODITIES

In 1966 total world energy consumption in terms of standard coal equivalent reached a new high of 5,509 million metric tons as shown in table 7. As of that year solid fuels (coal and lignite) continued to be the major energy source with a 41.7 percent share of the world market. Petroleum continued as the second fuel with 37.7 percent, natural gas third with 18.4 percent, and the few remaining percent of the market were shared by hydrogenerated and nuclear-generated electricity. Although data are not available for 1967 world consumption, information covering production leads to the conclusion that the consumption of solid fuels and petroleum were about equal in that year. The modest annual increase rate of coal consumption recorded in recent years was probably eroded by the sharp reduction in available quantities in China. Part of this loss was made up by an increased demand for coal in Western Europe resulting from the mid–1967 oil crisis. Within this latter area sufficient stocks of coal were being held to permit increased consumption without requiring a commensurate gain in production. Petroleum consumption gains on a world basis appear to have continued relatively unaffected by the European supply problems.

Increase in energy consumption by major world areas during 1963–66 roughly coincided with the shares of total energy consumed as shown in the following tabulation:

	Percent	
	Increase share 1963–66	Total share 1966
North America	37	37
Countries not specified (Includes U.S.S.R.)	32	30
West Europe	14	20
Far East (includes Japan)	8	6
Other areas	9	7
Total	100	100

A continuation of the trends established during this period would result in a decline in Europe's share of total energy and a growth in the share of the Far East. North America's share would remain the same while that of unspecified countries (including the U.S.S.R.) would grow slightly. Other areas, including Western Asia, Africa, and other America (South America less Colombia and Venezuela), would be able to increase their total share about as fast as would the Far East which includes Japan. Regardless of the differences in the rate of increase, it is noteworthy that all areas during 1963–66 participated in the world growth of energy consumption.

Further examination indicates that the rates of increase of the aggregate for North America and Western Europe, which are relatively heavily industrialized, were among the lowest. However, in terms of per-capita increase, Caribbean America (including Columbia and Venezuela), Other America, and Africa were at the lower end of the spectrum.

INVESTMENT

Although comprehensive data on world investment in mineral industry operations are not available, there are a number of sources of partial data on investment in certain geographic and commodity subject areas that clearly point to continued overall growth in investments during 1967.

Table 8 summarizes steel industry investment expenditures for countries and groups of countries within the Organization for Economic Cooperation and Development (OECD) and indicates a 7.5-percent increase in such expenditures by the listed countries in 1967 relative to the 1966 level, compared with a 5.8-percent growth in 1966 relative to that of 1965.

These steel industry investments in general have been for overall modernization and economic rationalization of the industry rather than for sizable expansion of total capacity. It is indicated that this trend will continue in the near future. Erection of additional oxygen steel process equipment and iron ore sintering and pellatizing plants were technologic areas receiving relatively high proportions of total funds invested, not only within the countries of the OECD, but in other steel producing areas as well.

Tables 9 and 10 cover non-Communist world petroleum industry capital expenditures and exploration expenses through the end of 1966. The former distributes the total on the basis of geographic area, and the latter gives distribution by phases of the industry's activities. On a geographic basis, almost half of the total was invested in the United States in 1966, but the growth rate of petroleum investment in the United States (11 percent) was less than in Other Western Hemisphere (14 percent) and in Western Europe (17 percent). An overall growth of 10 percent in investment expenditures was indicated between 1965 and 1966, and indications are that this growth rate continued in 1967. In the distribution of petroleum investment by phase of operations, significant changes included the 6-percent decline in exploration expenses and the 2.5-percent decline in capital expenditures for production that were more than compensated by increases of over 40 percent in capital expenditures for refineries and chemical plants.

Tables 9 and 10 over non-Communist vestment in mining, smelting, and petroleum activities in foreign areas, together with earnings and income from these investments, for the most recent years for which such data are available. The growth rate of this foreign investment in mining and smelting between 1965 and 1966 was 9.2 percent, compared with 6.1 percent between 1964 and 1965; corresponding figures for petroleum were 6.3 percent between 1965 and 1966 and 6.7 percent between 1964 and 1965. On a regional basis, for mining and smelting, the most notable 1965–66 growth occurred in Australia, while in petroleum, the greatest increase was in Western Europe. During part of 1966 and through 1967, the U.S. Government had requested a voluntary limitation of direct foreign investment by U.S. firms. These controls were made mandatory on January 1, 1968.

Firm value data on expenditures within major mineral industry areas of Communist countries are not available, but statements regarding percentage increases in mineral industry investment in the U.S.S.R. indicate continuing acceleration of growth within this sector of the economy.

TRANSPORTATION

TANKERS

Expansion of the world petroleum tanker fleet continued in 1967 at a pace faster than that of the total world merchant vessel fleet. Both the number of vessels and the aggregate deadweight tonnage grew, but complete returns were not available to indicate the total amount of growth. The Near East Crisis of June and the attendant Suez Canal closure stimulated investment in supertankers.

Data on the size of the non-Communist world tanker fleet at yearend 1965 and 1966 are given in table 12; these indicate a growth in the average tanker size from 28,530 deadweight tons to 30,863 deadweight tons, reflecting the additions of larger tankers. United Nations data, on a fiscal (July 1 to June

30) year and in terms of gross registered tons (grt) rather than deadweight tons indicate a growth of the world tanker fleet from 55,046,000 grt in mid-1965 to 60,200,000 grt in mid-1966 (including 2,484,000 grt of Soviet-flag vessels), but do not indicate the number of vessels included in these tonnages. Further expansion of the carrying capacity is assured in view of the number of supertankers launched subsequent to the compilation of the foregoing data as well as the number of such tankers now on the way or planned.

The United Nations figures indicate that in mid-1966, almost 35.2 percent of total merchant fleet gross, registered tonnage was in tankers, compared with 34.3 percent in 1965, 33 percent in 1964, and 32.3 percent in 1963.

In addition to construction of large oil tankers, mineral transporters were arranging for more liquefied natural gas carriers, as this technique for energy movement has proved economically feasible.

ORE CARRIERS

Although statistics comparable to those on tankers are not readily available on the world's ore carrier fleet, it can be stated in general terms that the trend here also is toward increasing construction and use of significantly larger vessels, again owing to the reduction in transport charges that can be effected through their use. Reflecting this trend, a number of mineral shipping and receiving ports throughout the world were undergoing enlargement and/or deepening during 1967.

OCEAN FREIGHT RATES

Table 13, which presents United Nations indexes of selected ocean freight rates, shows that except for Netherlands general cargo rates (which were unreported for the last two quarters of 1967), the London tanker brokers panel and United Kingdom ore trade, all rates advanced in 1967, led by tanker rates for Norway and West Germany.

PANAMA AND SUEZ CANALS

The world's two major international seaway canals continued to play a growing role in mineral commodity transport, despite the expanded use of oil and ore carriers that are too large to use either. Closure of Suez in June 1967 had a pronounced effect on oil transport charges during the latter half of the year. Shipment through Panama continued to increase and mineral commodities accounted for an increasing share of total goods transiting the Canal.

Of the total quantity selected major commodities [5] moving through the Panama Canal in fiscal 1967, almost 73.7 percent on a weight basis was mineral commodities, compared with the following percentages for past fiscal years: 1966—71.8; 1965—71.9; 1964—71.0; and 1963—70.3. Total materials transiting the Canal in 1967 aggregated 65,882,000 metric tons, of which mineral commodities constituted 48,546,000 tons. Of this mineral commodity total, 35 percent was petroleum as shown in table 14, which summarizes mineral commodities transiting the Canal for the fiscal years 1963–67.

For the Suez Canal, mineral commodity movement data are not available subsequent to the first 3 quarters of 1965. In those 9 months, however, oil tankers accounted for about 74 percent of total tonnage transiting the Suez Canal. In this period, 7,280 such vessels passed through the Canal out of a total of 15,207 ships. Of the oil moved, 115 million tons was northbound and 5.6 million tons southbound. Other minerals passing through the Canal northbound in the 9-month period included iron ore (2.5 million metric tons); manganese ore (854,000 tons); ilmenite and rutile (348,000 tons); lead (340,000 tons); zinc (247,000 tons); chromite (214,000 tons); tin (168,000 long tons); copper (140,000 tons); bauxite (82,000 tons); and others (246,000 tons).

Returns on total Suez Canal trade for the last quarter of 1965 and preliminary data for 1966 indicate an increase in overall traffic from 20,309 vessels in 1965 to an estimated 21,000 in 1966, and presumably there was a corresponding increase in tonnage of material moved, including petroleum and other minerals.

Following the closure of the Suez Canal, Capetown South Africa showed a marked growth in transit shipping, vessels diverted

[5] Commodities listed in Panama Canal-Selected Commodity Movements, prepared by Executive Planning Staff, March 1, 1968.

from the Suez route. In the first year following the closure, 1,698 diverted vessels passed through Capetown, and on a tonnage basis this represented about 35 percent of the 88.2 million tons moving through the port. This diverted shipping added an estimated $980,000 to Capetown port revenues.

PIPELINES

World pipeline construction advanced in 1967 as existing means of transport for oil proved increasingly unsatisfactory or inadequate. In efforts to permit greater exports of crude oil into the Communist countries of Eastern Europe, as well as non-Communist Europe, the Soviet Union was engaged in laying a second, parallel line to the "Friendship" pipeline, as well as in expanding their internal trunk pipeline system and building a major line to move gas from Iran to the Transcaucasus. The Soviet Union's first major international gas pipeline, to move gas from Afghanistan into the U.S.S.R., was put into operation during 1967.

In non-Communist Europe, despite difficulties in acquiring rights-of-way and the rigid safety demands established, construction of lines to transport indigenous natural gas, as well as to transport imported petroleum and natural gas, proceeded through 1967 and additional extensive projects were in planning stages.

PRICES

World steel prices moved upward slightly in 1967, but in general the increases were modest relative to some of the changes in some other metals. The price differential between steel in the United States and most of the other major world producers remained virtually the same and continued to make the U.S. market a lucrative target particularly for Japanese and European producers.

Major nonferrous metal prices for 1963–67 with 1967 data on a monthly basis are presented for the United States, United Kingdom, and Canadian markets in tables 15, 16, and 17. Lead and zinc had lower average prices for 1967 than for 1966 in these markets as well as in Australia, although the price trends for the metals on a monthly basis through 1968 varied from market to market. The annual average tin price, recorded only for the U.S. and London markets, also was lower for 1967 than for 1966. The aluminum price, which advanced during January in the United States and Canada, increased on the London market in November, but this increase merely compensated for the devaluation of the pound. The United States Atlantic seaboard copper price was suspended after August when it stood at 39.090 cents; the Canadian price, which in January 1967 was already more than 8 cents higher than the U.S. price, continued to advance through December, averaging 51 Canadian cents per pound in that month. In contrast, the 1967 annual average copper price on the London market was below that for 1966, although on a monthly basis, there was a steady upturn toward the end of the year following a slump in midyear.

Market prices for silver in 1967 almost without exception increased markedly from April through December, with a slight break in their rise between July and September, raising the 1967 annual average to a new high.

Tables 18 and 19 provide data on the level of United Nations export price indexes for mineral commodities. In 1967, these were either on a par with or fell below 1966 levels on an annual basis, although there was a general rising trend after the second quarter. On a commodity basis, mineral fuels showed much less of a slump than did nonfuels. Comparing developed areas with less developed areas, the former showed a greater decline for total mineral exports than did the latter; however, considering only nonferrous base metals, the export price index fell more in the less developed countries.

RESERVES AND RESOURCES

Although an overall appraisal of the 1967 status of world mineral commodity reserves and resources is impossible within the space alloted, certain trends and specific developments seem worthy of brief mention. These will have an effect

upon global mineral supply patterns, in regard to geographic distribution of output and consumption and therefore upon mineral commodity movement. They may also influence the quantity and unit quantity prices of available materials and the substitution of one commodity for another.

Additional discoveries and economically successful development of rather inacessible but high-grade iron ore deposits, particularly in Africa, coupled with technologic advances in ore processing (concentration, sintering and pelletizing) have added appreciably to world iron reserves. In the face of this competition, certain lower grade iron deposits in non-Communist Europe have become uneconomic as mining costs there have risen. Thus, at least some of the ferrous materials in this area, heretofore classified as economic reserves, in effect have slipped into the category of a resource, following the trend of many coal deposits in the same area.

Under slightly different circumstances, Australian iron deposits, heretofore too far from major markets, have come into their own as a major source for the rapidly expanding Japanese steel industry, and as a result exploration efforts in recent years have been extensive and quite successful.

Preliminary studies by the Argentine Government, assisted by the United Nations, indicate sizable potentially commercial porphyry copper deposits in the High Andes of Argentina but much work in the way of detailed drilling and other investigations remains necessary to assure their economic potential. Across the Atlantic, mining circles in Salisbury, Southern Rhodesia, expressed considerable interest in possibly commercial discoveries of copper-nickel mineralization in the border area between Southern Rhodesia and Botswana. This find reportedly might represent a southerly extension of the prolific copper-producing mineralization that extends through the Katanga area of the Republic of the Congo (Kinshasa) into Zambia.

Of possible significance to the economic producibility of a number of world copper, lead, zinc, and other nonferrous base metals resources has been the sharp rise in the world silver price. Particularly in the case of lead and zinc, where a number of deposits have been regarded as marginal or subeconomic in recent years, the presence of silver as a byproduct has resulted in their reconsideration for development. This trend may be expected so long as higher silver prices prevail.

Among significant recent additions to world-fertilizer raw material reserves should be counted the extensive potash discoveries of the early 1960's in Canada, that have fostered the development of a 2.2 million-ton-per-year industry within 6 years, and more recent discoveries in the Soviet Union, which, reportedly totaling 50 billion tons of minerals, rank that country's reserves as the world's largest.

Not nearly so important on a quantitative basis, but of considerable local significance, were phosphate rock discoveries of 1967 in Australia. Through 1965 at least, phosphate rock imports into Australia ranked second only to oil in terms of value, among all mineral commodity imports. Moreover, most of these imports were being obtained from the phosphate islands of the Indian and Pacific Oceans, with reserves which, almost assuredly, will be exhausted by the year 2000. Also, New Zealand, without any significant phosphate resources, draws heavily upon these islands, and prior to 1967, upon Makatea Island, where reserves were exhausted in that year. Thus, in an area with a significant and growing consumption of phosphatic raw material and faced with depletion of reserves in traditional import source areas, discovery of sizable phosphate deposits was important.

On the negative side of the ledger regarding phosphates, some concern has been shown regarding the rapid and extensive urbanization of rural Florida in the United States. Increasing value of land for purposes other than phosphate mining may force increases in production costs or abandonment of phosphate areas as too expensive for economic development.

On the Arabian Peninsula and in the offshore areas of the Persian Gulf, sizable new petroleum reserves continued to be discovered, or at last openly reported.

Several areas that had no commercial production 10 years ago have become sizable producers on the basis of these discoveries, and further expansion seems assured. States recently joining the producers ranks include Abu Dhabi (first commercial production in 1961; output in 1967 totaled 139.5 million barrels), and Muscat and Oman (first commercial production, 23 million barrels, in 1967). A

number of offshore areas of traditional major producers—Iran, Kuwait, and Saudi Arabia—have begun operations or sizably increased output during the past 10 years.

Australia's recent (including 1967) finds of commercially exploitable petroleum have been important. Athough discoveries to date only provide a basis for production at a level much below current needs, any such discovery and ultimate development contributes to a lessening of foreign exchange expanditures for an essential mineral commodity and has provided a stimulus for further searches not only in Australia but on and offshore from nearby islands such as New Guinea.

Not yet a major factor in world energy reserves, but certainly a huge resource is the natural gas potential of the oil-producing countries of the Near East and North Africa. The highly newsworthy beginnings of liquified natural gas shipments from North Africa and Nigeria to Europe are insignificant compared to the potential that exists for utilization of a vast energy source which to date has only been crudely approximated in estimates of its size, owing to the fact that it has just recently been shown to be of possible commercial value. The gas resources of Afghanistan were tapped in 1967 by the U.S.S.R. by a major pipeline and work continued on another major international gasline from Iran to the U.S.S.R. The demonstration of economically feasible utilization of these gas resources both through pipeline shipment and liquifaction and subsequent sea shipment, coupled with growing use of gas in these areas as chemical plant fuel and feedstock suggests that more detailed study of the extent of known deposits and exploration for additional deposits may soon be in order.

Tar sands and oil shale, long regarded as vast resource of petroleum, but heretofore not proven to be economically exploitable, seemed assured of reclassification as economic reserves. In Alberta, Canada, the Athabasca tar sands were commercially tapped in September of 1967 by a $235 million, 45,000 barrel-per-day project, while in Colorado, work commenced on oil shale mining with commercial oil production from the shale slated to begin in 1970.

POLICIES AND PROGRAMS AFFECTING MINERAL PRODUCTION AND TRADE

The policies of EEC and EFTA countries toward maximizing trade between their respective members and associated nations and minimizing trade with unassociated, nonmember states were evident in changes in the distribution patterns of trade in major mineral commodities through 1966, and, although complete 1967 trade data are not available, partial information indicates that the trend continued in 1967. Considering exports from these areas, EEC shipments of major mineral commodities to member countries rose slightly more than 10 percent between 1965 and 1966, while exports to nonmember states (including associate members) increased less than 3 percent. Corresponding figures for EFTA were exports to member states up 11 percent and exports to nonmember states up 9 percent.

In the case of imports, however, the EEC's expanding requirements for fuels and other crude minerals were such that member states could not provide sufficient materials, and imports from nonmember states (including associate members) advanced 13 percent while those from member states were up only 10 percent. Among the EFTA countries, major mineral commodity imports from other member states, up 11 percent, advanced more rapidly than imports from nonmembers (up 8 percent).

The Third International Tin Agreement of the International Tin Council officially came into force on March 21, 1967. Under this agreement, the member states[6] essentially were continuing efforts toward industry stabilization that were begun with the First International Tin Agreement (July 1, 1956 to June 30, 1961) and continued under the Second Agreement (July 1, 1961 to June 30, 1966) and provisionally under the draft of the Third Agreement (July 1, 1966 to March 21, 1967).

[6] Australia, Austria, Belgium, Bolivia, Canada, Czechoslovakia, Republic of the Congo (Kinshasa), Denmark, France, India, Indonesia Israel, Italy, Japan, South Korea, Malaysia, Mexico, Netherlands, Nigeria, Spain, Thailand, Turkey, and the United Kingdom.

Specifically, the stated objectives were to (1) provide for adjustment between tin output and consumption; (2) prevent excessive price fluctuations; (3) make arrangements to maintain or increase export earnings of developing countries from tin while also taking into account the interests of consumers (chiefly in developed countries); (4) insure conditions that would permit a rising rate of output to assure adequate tin supplies with concomitant remunerative return to producers and fair prices to consumes; (5) prevent widespead unemployment in the industry; (6) take steps to insure output increases and equitable distribution of tin in the event of shortages of supply; (7) take steps to mitigate difficulties that might arise in producing countries as a result of oversupply; (8) review disposals from government stockpiles of tin and formulate criteria applicable to such disposals that would eliminate problems that might arise; (9) to arrange for continuing studies of short- and long-term industry problems; (10) to review the need for developing new deposits and protecting existing deposits against waste or premature abandonment; and (11) encourage wider participation in organizations devoted to research to promote tin consumption.[7] Buffer stock arrangements set up under the earlier agreements were continued as the principal method of providing supply and price stability. At the sixth meeting under the Third Agreement (November 21–22, 1967), the buffer stocks floor price was set at £1,283 per long ton and the ceiling price at £1,633 per long ton. Floor and ceiling buffer stock prices were slated for review in mid–January of 1968.

Within the United States, the Government took steps to insulate the U.S. market from the sharp increases in the world price of copper. Moves included a special purchase of copper from Chile undertaken as a part of a larger financial arrangement and releases of copper from Governmental stockpiles. Efforts were also made within the United States to assure that the available copper moved into the hands of essential consumers.

Tariff negotiations under GATT, generally known as the Kennedy Round, were concluded in 1967. The first reductions under the Kennedy Round as of January 1, 1968. While many of the tariff reductions are in manufactured items, iron and steel mill products and some major nonferrous metals are involved as well.

STATISTICAL SUMMARY OF WORLD PRODUCTION AND TRADE OF MAJOR COMMODITIES

The final 27 tables in this chapter (tables 20 through 46) extend the statistical series started in the 1963 edition and updated in the 1965 edition. They are provided both as a supplement to other statistical data within the chapter and as a summary of international production and trade data for major commodities covered in greater detail on a commodity basis in individual chapters of volume I and II of the Minerals Yearbook and on a regional basis in country chapters of volume IV. The data presented here on production (tables 20 through 36) include all revisions in reported data and in estimates that were available to the authors through September 30, 1968, and therefore should be considered more reliable and up-to-date than foreign production data prepared previous to this date and published elsewhere in the 1967 Minerals Yearbook changes in world totals in these tables relative to data published in previous editions of the Minerals Yearbook are (1) the result of acquisition of new data and (2) due to fact that totals no longer contain estimates for countries not reported individually, but rather represent only a summation of recorded figures, both reported and estimated. National gas output is included for the first time owing to this fuel's rising importance as an energy source.

Overall world movements of 9 major mineral commodities are presented in tables 37 to 46; 8 of these have been covered in similar tables in previous editions of Volume IV. Petroleum product trade, not heretofore reported in this chapter, is included for the first time (table 46).

[7] International Tin Council. Statistical Bulletin. April, 1968, 72 pp.

Table 1.—United Nations indexes of world [1] mineral industry production

(1963=100)

Industry sector and geographic area	1964	1965	1966	1967	1967 by quarters			
					1st	2d	3d	4th
Extractive industries:								
Metals:								
Non-Communist world	105	110	114	113	110	119	113	112
Industrialized countries [2]	105	109	114	112	110	121	111	105
United States and Canada	106	111	117	112	112	127	110	97
Europe	106	108	106	107	101	109	100	116
European Economic Community only [3]	101	100	97	92	92	86	90	98
Less industrialized countries [4]	105	112	113	116	108	115	116	125
Latin America [5]	105	110	116	120	117	115	113	133
Asia, East and Southeast [6]	103	112	113	117	112	121	120	116
Communist Europe [7]	109	121	133	146	144	146	148	146
World [8]	106	113	118	121	118	125	121	120
Coal:								
Non-Communist world	101	100	97	93	96	95	87	96
Industrialized countries [2]	102	100	96	92	95	93	85	95
United States and Canada	106	111	114	115	114	117	111	116
Europe	100	96	90	84	88	85	75	88
European Economic Community only [3]	101	97	90	81	87	81	75	83
Less industrialized countries [4]	99	103	106	106	108	108	103	104
Latin America [5]	106	97	106	NA	NA	NA	NA	NA
Asia, East and Southeast [6]	97	104	106	106	111	109	104	102
Communist Europe [7]	103	106	108	109	110	108	108	110
World [8]	102	103	101	100	102	100	95	102
Crude petroleum and natural gas:								
Non-Communist world	105	110	118	124	125	119	126	127
Industrialized countries [2]	103	105	111	116	115	112	119	118
United States and Canada	102	105	111	116	115	112	119	118
Europe	110	120	127	136	126	135	136	146
European Economic Community only [3]	109	113	115	118	118	118	115	121
Less industrialized countries [4]	108	117	128	135	137	129	135	139
Latin America [5]	105	106	105	111	107	107	116	113
Asia, East and Southeast [6]	110	120	130	153	151	145	156	159
Communist Europe [7]	111	123	136	150	149	151	150	149
World [8]	106	113	122	130	130	126	131	132
Total extractive industry:								
Non-Communist world	105	109	113	116	115	115	116	119
Industrialized countries [2]	107	114	122	125	123	126	121	130
United States and Canada	104	107	113	116	114	116	119	116
Europe	104	103	101	99	99	101	93	104
European Economic Community only [3]	106	110	115	116	114	117	109	125
Less industrialized countries [4]	107	115	123	129	129	125	128	133
Latin America [5]	105	107	108	113	110	109	115	118
Asia, East and Southeast [6]	108	116	123	129	129	127	129	132
Communist Europe [7]	108	116	124	132	133	133	133	132
World [8]	106	111	117	121	121	121	121	123
Processing industries:								
Base metals:								
Non-Communist world	114	120	124	125	125	126	119	129
Industrialized countries [2]	114	120	124	124	124	125	118	127
United States and Canada	114	121	126	118	121	119	111	120
Europe	112	118	117	119	119	121	112	124
European Economic Community only [3]	111	116	115	117	116	119	113	122
Less industrialized countries [4]	111	117	131	136	134	135	134	141
Latin America [5]	113	116	128	131	NA	NA	NA	NA
Asia, East and Southeast [6]	100	103	109	110	115	107	109	110
Communist Europe [7]	108	117	126	136	137	136	136	136
World [8]	112	119	125	128	128	129	124	131
Nonmetallic mineral products:								
Non-Communist world	111	115	121	123	110	126	128	127
Industrialized countries [2]	110	115	119	121	108	124	126	125
United States and Canada	107	114	120	118	107	119	125	121
Europe	113	115	119	121	106	128	126	125
European Economic Community only [3]	112	112	114	117	98	123	124	121
Less industrialized countries [4]	112	119	130	138	127	141	141	144
Latin America [5]	111	115	124	133	120	133	137	140
Asia, East and Southeast [6]	107	120	124	135	127	138	134	142
Communist Europe [7]	110	120	131	141	142	141	141	141
World [8]	110	117	125	130	123	132	134	133

See footnotes at end of table.

Table 1.—United Nations indexes of world [1] mineral industry production—Continued

(1963=100)

Industry sector and geographic area	1964	1965	1966	1967	1967 by quarters			
					1st	2d	3d	4th
Processing industries—Continued								
Chemicals, petroleum and coal products:								
Non-Communist world	109	118	130	138	135	138	136	144
Industrialized countries [2]	110	119	131	140	136	139	138	146
United States and Canada	107	115	127	133	130	133	133	137
Europe	113	123	135	145	143	145	139	153
European Economic Community only [3]	114	125	139	150	147	149	146	160
Less industrialized countries [4]	108	115	123	130	126	131	128	134
Latin America [5]	107	114	121	126	NA	NA	NA	NA
Asia, East and Southeast [6]	109	114	121	128	125	125	125	135
Communist Europe [7]	113	128	144	161	157	162	161	165
World [8]	110	120	133	143	140	143	141	148

[1] Excludes a number of countries of the Near East and Africa as well as mainland China, North Korea, and North Viet-Nam.
[2] All countries having a per-capita value added in manufacturing in 1958 equivalent to US$125 or more.
[3] Belgium, France, West Germany, Italy, Luxembourg, and the Netherlands.
[4] Countries having a per-capita value added in manufacturing in 1958 of less than US$125.
[5] Central and South America and the Caribbean Islands.
[6] Afghanistan, Brunei, Burma, Ceylon, Hong Kong, India, Indonesia, Iran, South Korea, Malaysia (excluding Sabah), Mongolia, Pakistan, Philippines, Singapore, Taiwan, Thailand, and South Viet-Nam.
[7] Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania, U.S.S.R., and Yugoslavia.
[8] Aggregate for listed countries.
Source: United Nations Monthly Bulletin of Statistics. August, 1968, pp x–xxi.

Table 2.—World production of major minerals

Commodity	1963	1964	1965	1966	1967 p
Metals:					
Aluminum—thousand metric tons	5,323	5,912	6,288	6,860	7,451
Antimony—do	57	63	62	61	58
Arsenic, white [1 2]—do	48	53	49	48	55
Bauxite—do	30,707	33,389	37,530	39,948	44,608
Beryl—metric tons	6,600	[2] 4,500	[2] 5,200	[2] 3,200	[2] 8,600
Bismuth [1 3]—do	2,500	2,910	3,000	3,110	3,380
Cadmium [4]—do	12,093	13,008	11,917	13,115	12,409
Chromite—thousand metric tons	3,822	4,137	4,760	5,020	5,094
Cobalt [5]—metric tons	15,200	16,600	17,800	20,800	19,100
Columbium-tantalum [6]—do	4,467	5,318	6,631	10,415	9,458
Copper:					
Mine [7]—thousand metric tons	4,618	4,801	5,024	5,259	4,986
Smelter—do	4,942	5,236	5,520	5,718	5,394
Gold [8]—thousand troy ounces	43,147	44,840	46,222	46,567	45,614
Iron and steel:					
Iron ore—thousand metric tons	523,442	581,808	617,364	639,426	629,297
Pig iron (including ferroalloys) [9] thousand metric tons	281,518	317,361	335,129	347,046	355,556
Steel ingots (including castings) thousand metric tons	386,979	438,006	459,300	476,059	492,929
Lead:					
Mine—do	2,518	2,531	2,702	2,855	2,914
Smelter—do	2,449	2,526	2,614	2,720	2,769
Magnesium—do	143	151	162	162	183
Manganese ore—do	14,723	15,847	17,632	17,169	17,073
Mercury—thousand 76-pound flasks	240	255	268	265	242
Molybdenum [10]—metric tons	41,250	42,800	52,400	64,650	64,750
Nickel [11]—thousand metric tons	341	373	423	398	439
Platinum-group metals thousand troy ounces	2,040	2,545	2,970	3,070	3,180
Selenium [6]—metric tons	915	980	816	907	963
Silver [12]—thousand troy ounces	249,982	248,551	256,362	268,564	260,915
Tellurium [6]—metric tons	145	128	145	151	127
Tin:					
Mine—long tons	[1] 191,100	[1] 193,600	201,300	210,800	[1] 216,100
Smelter—do	195,100	190,100	195,400	203,700	219,100
Titanium concentrates: [6]					
Ilmenite—thousand metric tons	1,987	2,349	2,466	2,631	2,710
Rutile—do	201	195	[1] 223	[1] 253	[1] 282
Tungsten concentrate (contained tungsten) [13]—metric tons	27,100	28,100	27,300	28,600	28,100
Uranium oxide (U_3O_8) [6 14]—do	28,200	24,300	19,200	17,300	16,900
Vanadium [6]—do	7,183	7,776	8,921	9,095	9,644
Zinc:					
Mine [15]—thousand metric tons	3,666	4,025	4,309	4,488	4,916
Smelter [15]—do	3,441	3,696	3,897	4,096	4,129

See footnotes at end of table.

Table 2.—World production of major minerals—Continued

Commodity	1963	1964	1965	1966	1967 p
Nonmetals:					
Asbestos [16]--thousand metric tons--	2,506	2,770	2,817	2,976	2,992
Barite [4]----------do----	3,000	3,234	3,563	3,742	3,508
Cement, hydraulic----------do----	378,135	415,686	435,582	464,445	447,909
Diamond:					
Gem--thousand metric carats--	6,424	7,647	7,707	8,909	9,093
Industrial----------do----	30,242	30,167	29,323	31,046	33,295
Diatomite [17]-thousand metric tons--	1,376	1,406	1,439	1,558	1,564
Feldspar [18]----------do----	1,715	1,862	1,955	2,012	1,987
Fluorspar [19]----------do----	2,148	2,466	2,773	2,858	3,192
Graphite----------do----	694	635	622	499	378
Gypsum [20]----------do----	45,504	46,938	48,154	48,336	46,626
Magnesite [21]----------do----	8,982	[1] 9,541	10,035	[1] 10,071	[1] 10,057
Mica [6]----------do----	144	146	[r] 158	147	140
Phosphate rock [22]----------do----	48,741	57,050	[r] 63,860	75,793	78,703
Potash (marketable), K_2O equivalent thousand metric tons--	11,300	12,300	13,700	14,600	15,400
Pumice [6] [23]----------do----	15,121	14,725	14,515	14,677	13,813
Pyrites (including cupreous)-do----	19,800	20,600	21,540	21,920	22,410
Salt----------do----	96,110	99,160	108,126	111,394	118,262
Strontium minerals [6]--metric tons--	17,019	23,523	14,011	16,898	14,293
Sulfur:					
Native, including frasch [24] thousand metric tons--	8,264	8,833	9,736	10,887	11,150
Byproduct elemental----do----	4,611	5,307	5,794	5,823	6,285
Talc, soapstone and pyrophyllite thousand metric tons--	3,094	3,518	3,575	3,713	4,013
Vermiculite [6]----------do----	298	311	344	346	336
Mineral fuels:					
Coal:					
Anthracite----------do----	182,479	190,461	193,443	194,726	186,765
Bituminous----------do----	1,755,837	1,816,656	1,866,436	1,900,467	1,805,860
Lignite----------do----	711,178	742,013	737,316	732,649	728,896
Total----------do----	2,649,494	2,749,130	2,797,195	2,827,842	2,721,521
Coke:					
Metallurgical----------do----	281,790	299,042	310,151	309,776	304,978
Other types [25]----------do----	39,063	37,506	34,876	33,360	31,816
Fuel briquets [26]----------do----	121,400	120,950	115,100	111,950	110,000
Gas, natural (marketed) [27] million cubic feet--	21,165,883	23,076,733	24,697,707	26,612,164	28,611,206
Peat [28]----thousand metric tons--	165,600	177,000	183,100	203,100	203,100
Petroleum, crude-thousand barrels--	9,538,948	10,311,060	11,057,489	12,015,830	12,889,705

p Preliminary.
[1] United States data withheld to avoid disclosing individual company confidential data.
[2] Excludes Argentina, Austria, Belgium, mainland China, Czechoslovakia, East Germany, Finland, Hungary, United Kingdom, and Yugoslavia.
[3] Excludes Brazil, Bulgaria, East Germany and North Korea.
[4] Excludes Bulgaria.
[5] Excludes Bulgaria, East Germany, Poland and Uganda.
[6] Excludes production, if any, by Albania, Bulgaria, mainland China, Czechoslovakia, East Germany, Hungary, North Korea, Mongolia, Poland, Rumania, U.S.S.R., and North Viet-Nam.
[7] Excludes Czechoslovakia, Hungary, Iran, Kenya and Malaya.
[8] Excludes Bulgaria, Czechoslovakia, Rumania and a negligible amount in East Germany, Hungary and Thailand.
[9] Excludes a negligible amount produced in the Republic of the Congo (Kinshasa).
[10] Excludes a negligible amount produced in Bulgaria, North Korea, Rumania, South-West Africa and Spain.
[11] Excludes Albania and East Germany.
[12] Excludes a negligible amount produced in Bulgaria, Mozambique, Panama, Thailand and Turkey.
[13] Excludes India, Italy, Hong Kong, Malaysia, New Zealand, Nigeria, Republic of South Africa, and Southern Rhodesia.
[14] Excludes West Germany, India, Italy and Japan.
[15] Excludes Czechoslovakia, Rumania and North Viet-Nam.
[16] Excludes a negligible amount produced in Czechoslovakia, Ethiopia, Malagasy, North Korea and Rumania.
[17] Excludes Bulgaria, Hungary, Japan, Rumania, and United Arab Republic.
[18] Excludes Brazil, mainland China, Czechoslovakia and Rumania.
[19] Excludes Brazil, Bulgaria and Burma.
[20] Excludes Bolivia, Ecuador, Rumania and Switzerland.
[21] Excludes Bulgaria and Canada.
[22] Excludes a negligible amount of phosphate rock produced in Cambodia, Jamaica, the Philippines and Tanzania and of guano in Argentina, South-West Africa and the Philippines.
[23] Excludes Japan and Mexico.
[24] Excludes Iran.
[25] Excludes Ceylon, mainland China, Malaysia, Mexico, Rumania and U.S.S.R.
[26] Excludes Indonesia and Pakistan.
[27] Excludes mainland China.
[28] Excludes a negligible amount of fuel peat produced in Canada, Iceland, Italy and Spain.

Note: This table incorporates numerous revisions from world production tables and country production tables appearing in Volumes I–II and IV, respectively of the Minerals Yearbook. Data in this table revised through September 30, 1968.

Table 3.—Approximate percentage distribution of world mineral production by major areas in 1967 [1]

Commodity	Western Hemisphere			Eastern Hemisphere							World	
				Europe			Near East and Asia					
	North and Central America	South America	Total	Non-Communist [2]	Communist [3]	Africa	Non-Communist [4]	Communist [5]	Oceania	Total	Non-Communist	Communist [6]
Metals:												
Aluminum:												
Bauxite	27.8	20.1	47.9	15.4	15.4	5.2	5.8	0.8	9.5	52.1	83.8	16.2
Ingot	51.8	.9	52.7	20.8	17.3	.6	6.3	1.1	1.2	47.3	81.6	18.4
Antimony	8.8	20.5	29.3	5.6	14.4	24.3	4.1	20.7	1.6	70.7	64.9	35.1
Arsenic, white	28.7	.9	29.6	56.4	12.8	NA	1.2	NA	------	70.4	87.2	12.8
Beryl	W	W	18.7	.4	14.0	9.3	57.1	------	.5	81.3	86.0	14.0
Bismuth	W	W	W	6.3	1.2	.1	23.4	7.5	------	38.5	91.3	8.7
Cadmium	39.3	1.2	40.5	14.3	21.3	4.4	15.3	------	4.2	59.5	78.7	21.3
Chromite	.6	.1	.7	2.5	37.6	30.9	27.7	.6	(7)	99.3	61.2	38.8
Cobalt	W	------	W	W	7.3	68.6	------	------	.5	W	87.2	12.8
Columbium-tantalum [8]	20.4	52.2	72.6	.7	NA	25.1	1.4	------	.2	[8] 27.4	100.0	NA
Copper:												
Mine	29.9	17.1	47.0	2.8	17.4	23.8	5.4	1.8	1.8	53.0	80.7	19.3
Smelter	23.9	14.6	38.5	11.2	16.6	20.9	9.5	1.9	1.4	61.5	81.5	18.5
Gold	10.8	1.4	12.2	.6	12.5	70.4	2.1	.5	1.7	87.8	87.0	13.0
Iron and steel:												
Iron ore	20.7	9.5	30.2	19.3	28.9	6.0	7.0	5.5	3.0	69.8	65.6	34.4
Pig iron (including ferroalloys)	25.1	1.4	26.5	26.0	26.8	1.2	13.7	4.4	1.4	73.5	68.8	31.2
Steel ingots and castings	25.8	1.3	27.1	26.7	27.4	.7	14.3	2.5	1.3	72.9	70.1	29.9
Lead:												
Mine	26.8	8.0	34.8	15.3	21.0	6.5	4.1	5.3	13.0	65.2	73.7	26.3
Smelter	24.5	4.4	28.9	22.5	22.2	4.5	6.1	5.3	10.5	71.1	72.5	27.5
Magnesium	52.6	------	52.6	21.6	21.8	------	3.5	.5	------	47.4	77.7	22.3
Manganese ore	1.2	7.9	9.1	.4	44.5	25.0	13.3	4.1	3.6	90.9	51.0	49.0
Mercury	19.7	1.3	21.0	47.1	19.1	.1	4.4	8.3	------	79.0	72.6	27.4
Molybdenum	76.7	8.9	85.6	.4	10.8	NA	.9	2.3	------	14.4	86.9	13.1
Nickel	60.2	.2	60.4	.7	22.0	1.5	1.4	------	14.0	39.6	71.9	28.1
Platinum-group metals	13.2	.8	14.0	------	59.7	26.1	.2	------	------	86.0	40.3	59.7
Selenium [8]	63.6	.5	64.1	13.1	NA	2.7	19.9	------	.2	[8] 35.9	100.0	NA
Silver	42.4	17.4	59.8	7.1	16.4	3.3	5.3	.5	7.6	40.2	83.1	16.9
Telliurium [8]	77.6	11.7	89.3	------	NA	------	6.7	------	------	[8] 10.7	100.0	NA
Tin:												
Mine	.4	13.7	14.1	1.3	12.2	9.7	50.9	9.3	2.5	85.9	78.5	21.5
Smelter	1.8	1.5	3.3	21.4	11.9	5.6	47.1	9.1	1.6	96.7	79.0	21.0
Titanium:												
Ilmenite [8]	51.5	.5	52.0	20.8	NA	.1	[9] 6.9	------	20.2	[8] 48.0	100.0	NA
Rutile [8]	NA	(7)	(7)	------	NA	(7)	.9	------	99.1	[8] 100.0	100.0	NA
Tungsten	13.9	7.9	21.8	4.6	22.0	1.7	10.5	36.0	3.4	78.2	42.0	58.0
Uranium oxide (U_3O_8) [8]	69.3	.1	69.4	7.7	NA	21.1	NA	------	1.8	[8] 30.6	100.0	NA
Vanadium [8]	46.7	------	46.7	19.1	NA	34.2	------	------	------	[8] 53.3	100.0	NA

Zinc:												
Mine	39.3	7.5	46.8	12.5	16.6	5.4	6.4	4.1	8.2	53.2	79.3	20.7
Smelter	31.1	2.1	33.2	22.8	20.1	2.6	12.7	3.8	4.8	66.8	76.1	23.9
Nonmetals:												
Asbestos	47.5	.1	47.6	4.4	25.7	14.5	2.4	5.0	.4	52.4	69.3	30.7
Barite	36.0	5.5	41.5	31.2	11.3	5.0	5.0	5.6	.4	58.5	83.1	16.9
Cement, hydraulic	16.9	3.6	20.5	31.5	25.4	2.7	16.5	2.4	1.0	79.5	72.0	28.0
Diamond:												
Gem	----	2.6	2.6	------	15.4	81.9	.1	------	------	97.4	84.6	15.4
Industrial	----	.8	.8	------	16.8	82.4	(7)	------	------	99.2	83.2	16.8
Diatomite	40.9	.9	41.8	[3]3.7	23.0	1.1	.1	------	.3	58.2	77.0	23.0
Feldspar	32.0	2.2	34.2	45.2	13.5	1.5	5.4	NA	.2	65.8	86.5	13.5
Fluorspar	35.5	.5	36.0	29.0	14.4	3.1	6.4	11.1	------	64.0	74.5	25.5
Graphite	W	W	W	W	20.4	4.6	20.5	27.8	------	W	51.8	48.2
Gypsum	30.8	1.6	32.4	40.1	12.9	1.7	10.1	1.1	1.7	67.6	85.9	14.1
Magnesite	W	W	W	24.7	51.2	1.2	3.4	18.0	.2	98.7	30.8	69.2
Mica, including scrap [8]	77.2	1.4	78.6	3.4	NA	2.5	15.1	NA	.4	[8]21.4	100.0	NA
Phosphate rock	46.0	.6	46.6	(7)	20.8	23.2	3.3	3.0	3.1	53.4	76.2	23.8
Potash, K_2O equivalent (marketable)	33.9	.1	34.0	31.2	32.3	------	2.5	------	------	66.0	67.7	32.3
Pumice [8]	22.8	1.1	23.9	76.0	NA	(7)	NA	------	.1	[8]76.1	100.0	NA
Pyrites, including cupreous	5.5	------	5.5	31.5	21.2	4.8	26.9	8.9	1.2	94.5	69.8	30.2
Salt	37.8	2.6	40.4	23.2	13.9	2.1	8.2	11.6	.6	59.6	74.4	25.6
Strontium minerals [8]	17.8	2.8	20.6	74.6	NA	------	4.8	------	------	[8]79.4	100.0	NA
Sulfur:												
Native	80.4	1.5	81.9	.7	13.7	.1	2.5	1.1	------	18.1	85.2	14.8
By-product, elemental	55.3	.1	55.4	31.3	9.5	.3	1.4	2.1	------	44.6	88.4	11.6
Talc and soapstone	24.0	2.6	26.6	15.7	12.9	1.3	37.6	5.5	.4	73.4	81.6	18.4
Vermiculite [8]	68.8	.8	69.6	------	NA	30.3	.1	------	------	[8]30.4	100.0	NA
Mineral fuels:												
Coal, all grades including lignite	19.3	.4	19.7	19.0	42.4	1.9	5.5	9.2	2.3	80.3	48.4	51.6
Coke:												
Metallurgical	20.8	.7	21.5	28.2	32.3	1.2	10.7	4.9	1.2	78.5	62.8	37.2
Other types	.5	.9	1.4	36.5	36.2	.8	22.5	NA	2.6	98.6	63.8	36.2
Fuel briquets	.1	------	.1	21.4	66.9	(7)	9.9	------	1.7	99.9	33.1	66.9
Gas, natural (marketed)	69.8	2.1	71.9	3.7	22.7	.3	1.4	--------	(7)	28.1	77.3	22.7
Peat	.4	(7)	.4	3.4	96.0	------	.2	------	------	99.6	4.0	96.0
Petroleum, crude	29.2	12.2	41.4	1.2	17.4	8.7	30.6	.6	.1	58.6	82.0	18.0

NA Production data not available, no estimate for output included in total upon which percentages have been calculated. W Withheld to avoid disclosing individual U.S. company confidential data.

[1] See detailed Footnotes on table 2 of this chapter indicating countries excluded from world totals for each of the commodities listed. Data presented in this table have been calculated from production figures that include additions and revisions to all data appearing elsewhere in the 1967 Minerals Yearbook. These production data were compiled September 30, 1968.

[2] Includes all European countries not listed in Footnote 3; note that Yugoslavis is included here with non-Communist countries.

[3] Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania and U.S.S.R; note that Yugoslavia is not included.

[4] Includes all countries and other political areas in the Near East, South Asia and the Far East not listed in Footnote 5.

[5] Mainland China, Mongolia, North Korea and North Viet-Nam.

[6] Total of countries listed in Footnotes 3 and 5 plus Cuba.

[7] Less than .05 percent.

[8] Percentages calculated from total that includes no estimates for Communist countries listed in Footnotes 3 and 5.

[9] Percentage based on export date in lieu of production figures.

Table 4.—Value of world trade in major mineral commodities [1] by region [2] and major commodity group

(Million dollars)

Area and country [3]	Mineral commodities								All commodities	
	Exports				Imports					
	Metal ores concentrates and scrap	Metals	Mineral fuels	Total	Metal ores and scrap	Metals	Mineral fuels	Total	Exports	Imports
1963 total	3,640	12,060	15,700	31,400	3,640	12,060	15,700	31,400	153,860	153,860
1964 total	4,360	14,270	17,010	35,640	4,360	14,270	17,010	35,640	172,160	172,160
1965 total	4,580	16,390	17,920	38,890	4,580	16,390	17,920	38,890	186,390	186,390
1966:										
Northern North America:										
United States	420	1,160	980	2,560	1,010	2,910	2,230	6,150	30,000	24,580
Canada	870	1,155	460	2,485	145	490	640	1,275	9,550	9,070
Total [3]	1,290	2,315	1,440	5,045	1,155	3,400	2,870	7,425	39,550	33,650
Latin America	760	921	2,700	4,381	52	785	670	1,507	11,660	10,410
Europe:										
Non-Communist:										
EEC	510	5,800	2,250	8,560	1,450	5,130	5,150	11,730	52,630	51,020
EFTA	340	2,430	540	3,310	650	2,690	2,970	6,310	27,990	30,930
Other [3]	70	300	80	450	90	840	760	1,690	5,680	9,690
Subtotal	920	8,530	2,870	12,320	2,190	8,660	8,880	19,730	86,300	91,640
Communist	455	2,130	2,300	4,885	500	1,835	1,280	3,615	20,910	19,650
Total [3]	1,375	10,660	5,170	17,205	2,690	10,495	10,160	23,345	107,210	111,290
Africa:										
Republic of South Africa	(4)	(4)	54	[5] 54	6	134	130	270	1,680	2,250
Other	395	[6] 1,030	1,980	[5] 3,405	3	434	485	922	8,380	8,150
Total [3]	[5] 395	[5] 1,030	2,034	[5] 3,459	9	568	615	1,192	10,060	10,400
Near East	(4)	(4)	5,960	[5] 5,960	1	335	375	711	7,130	5,050
South Asia and Far East:										
Japan	(4)	1,410	32	[5] 1,442	850	460	1,460	2,770	9,780	8,080
Other non-Communist	415	421	650	1,486	53	910	970	1,933	9,750	14,220
Subtotal	[5] 415	1,831	682	[5] 2,928	903	1,370	2,430	4,703	19,530	22,300
Communist	(4)	145	29	[5] 174	3	291	57	351	2,220	2,300
Total	[5] 415	1,976	711	[5] 3,102	906	1,661	2,487	5,054	21,750	24,600

Australia and New Zealand	(4)	280	115	[5] 395	4	188	295	487	4,140	3,780
Rest of world	265	---	920	1,185	6	117	940	1,063	1,980	2,950
Not reported [3]	340	378	---	718	17	11	638	666	---	1,350
Grand total 1966	4,840	17,560	19,050	41,450	4,840	17,560	19,050	41,450	203,480	203,480

[1] Commodities included are as follows: SITC (Standard International Trade Classification) categories: (1) Division 28—Metal ores concentrates, and scrap; Section 3—Mineral Fuels, lubricants and related materials; Division 67—Iron and steel; Division 68—Nonferrous metals.

[2] Regional groupings generally conform to United Nations practice; modifications and special aspects of classification scheme are as follows: (1) Latin America include Mexico, Central America, and South America, but excludes Caribbean Islands; (2) EEC consists of Belgium, France, West Germany, Italy, Luxembourg, and The Netherlands; (3) EFTA consists of Austria, Denmark, Norway, Portugal, Sweden, Switzerland, and the United Kingdom; (4) Other non-Communist Europe consists of Finland, Greece, Iceland, Ireland, and Spain as well as Yugoslavia (a Communist country) and Turkey (a Near-Eastern country); (5) Communist Europe includes Albania, Bulgaria, Czechoslovakia, Hungary, Poland, Rumania, and the U.S.S.R.; (6) Other Africa corresponds to the United Nations category "Developing Africa"; (7) Near East corresponds to the United Nations category "Western Asia"; (8) Other non-Communist South Asia and Far East corresponds to the United Nations category "Other developing Asia" (9) Communist Far East consists of China (mainland), North Korea, Mongolia, and North Viet-Nam; (10) Rest of world is taken directly from source and reportedly consists mainly of Caribbean and Pacific Islands; (11) Not reported is derived by subtracting all listed figures from reported totals.

[3] Data not reported in source but derived from data therein.

[4] Not listed separately, presumably included under Not reported (see below in body of table).

[5] Partial total, exclusions indicated by footnotes 4 and 6 applied to detail.

[6] Nonferrous metals only; iron and steel presumably included under Not reported (see below in body of table).

Sources: United Nations. Monthly Bulletin of Statistics. March 1968, pp. xviii-xix and xxiv–xxv, and May 1968, pp. xxv–xxvi and xxviii-xxxiii.

Table 5.—Direction of trade in major mineral commodities [1] in 1966

(Million dollars)

Sources	Destinations [2]									
	Northern North America			Latin America	Non-Communist Europe				Communist Europe	Near East
	United States	Canada	Total [3]		EEC	EFTA	Other [3]	Total		
Northern North America:										
United States	XX	619	619	378	573	203	70	846	6	28
Canada	1,565	XX	1,565	49	145	517	20	682	3	3
Total [3]	1,565	619	2,184	427	718	720	90	1,528	9	31
Latin America	1,622	231	1,853	343	560	509	63	1,132	45	2
Europe:										
Non-Communist:										
EEC	628	68	696	194	4,395	1,588	442	6,425	222	169
EFTA	320	72	392	72	1,065	928	257	2,250	168	67
Other [3]	34	1	35	5	180	94	21	295	75	5
Subtotal	982	139	[4] 1,121	271	5,640	2,610	720	8,970	465	241
Communist	43	8	51	158	491	417	366	1,274	2,910	46
Total [3]	1,025	147	1,172	429	6,131	3,027	1,086	10,244	3,375	287
Africa:										
Republic of South Africa [5]	1	---	1	---	3	1	1	5	---	---
Other [6]	169	30	199	28	2,020	727	108	2,855	32	5
Total [3 7]	170	30	200	28	2,023	728	109	2,860	32	5
Near East [5]	270	90	360	105	1,780	950	260	2,990	---	330
South Asia and Far East:										
Japan [8]	606	35	641	94	45	13	18	76	41	34
Other non-Communist	183	12	195	11	148	51	15	214	33	12
Subtotal [3 9]	789	47	836	105	193	64	33	290	74	46
Communist Far East [8]	---	---	---	2	18	4	1	23	51	---
Total [3 10]	---	---	---	---	---	---	---	---	---	---
Australia and New Zealand [8]	43	4	47	2	30	58	7	95	1	---
Rest of world [11]	520	110	630	61	88	159	22	269	---	3
Not reported [3]	146	---	146	5	189	91	19	299	28	7
Grand total [12]	6,150	[4] 1,275	[4] 7,425	1,507	11,730	6,310	1,690	19,730	3,615	711

	Destinations [2]										
	Africa			South Asia and Non-Communist Far East			Communist Far East	Australia and New Zealand	Rest of world	Not reported [3]	Grand total
	Republic of South Africa	Other	Total [3]	Japan	Other	Total [3]					
Northern North America:											
United States	21	52	73	366	197	563	---	26	27	---	[4] 2,560
Canada	16	4	20	113	22	135	1	17	4	6	2,485
Total [3]	37	56	93	479	219	698	1	43	31	6	[4] 5,045
Latin America	1	4	5	210	13	223	9	3	760	6	4,381
Europe:											
Non-Communist:											
EEC	23	269	292	26	145	171	101	8	29	253	8,560
EFTA	42	68	110	34	85	119	30	63	34	5	3,310
Other [5]	---	10	10	5	17	22	---	---	---	3	450
Subtotal	[4] 64	347	[4] 411	65	247	312	131	71	63	[4] 264	12,320
Communist	---	70	70	166	90	256	93	---	---	27	4,885
Total [3]	64	417	481	231	337	568	224	71	63	291	17,205
Africa:											
Republic of South Africa [6]	XX	26	26	2	1	3	---	---	---	19	54
Other [6]	56	87	143	108	5	113	3	1	3	63	3,445
Total [3 7]	56	113	169	110	6	116	3	1	3	82	3,499
Near East [5]	92	220	312	990	395	1,385	---	185	60	233	5,960
South Asia and Far East:											
Japan [8]	8	30	38	XX	367	367	113	39	5	---	[4] 1,442
Other non-Communist	2	14	16	417	457	874	---	83	48	---	1,486
Subtotal [3 9]	10	44	54	417	824	1,241	113	122	53	---	[4] 2,928
Communist Far East [8]	---	8	8	55	36	91	NA	---	---	---	[4] 174
Total [3 10]	---	---	---	---	---	---	---	---	---	---	---
Australia and New Zealand [8]	2	2	4	94	61	155	2	62	21	6	395
Rest of world [11]	3	20	23	48	29	77	---	3	76	48	1,185
Not reported [3]	5	38	43	136	13	149	---	---	---	---	[4] 678
Grand total [12]	270	922	1,192	2,770	1,933	4,703	[4] 351	[4] 487	[4] 1,063	[4] 666	41,450

NA Not available. XX Not applicable. [1] Commodities included are detailed in footnote 1, table 4, of this chapter. [2] Regional groupings are defined in footnote 2, table 4, of this chapter. [3] Data not reported in source, but derived from data therein. [4] Detail does not add to reported total apparently because of rounding. [5] Value of mineral fuel exports only; value of (1) metal ores and scrap; (2) iron and steel; and (3) nonferrous metals presumably included under Not reported (in body of table). [6] Value of (1) mineral fuels; (2) metal ores and scrap; and (3) nonferrous metals; value of iron and steel presumably included under Not reported (in body of table). [7] Total incomplete; see footnotes 4 and 5 on Republic of South Africa and Other Africa, respectively. [8] Value of (1) mineral fuels; (2) iron and steel; and (3) nonferrous metals; value of metal ores and scrap presumably included under Not reported (in body of table). [9] Total incomplete; see footnote 8 on Japan. [10] Total incomplete; see footnote 8 on Japan and Communist Far East. [11] Value of (1) iron and steel and (2) nonferrous metals; value of (1) metal ores and scrap and (2) mineral fuels presumably included under Not reported (in body of table). [12] Total as reported in source. Sources: United Nations. Monthly Bulletin of Statistics. March 1968, pp. xxiv–xxv, and May 1968, pp. xxv–xxvi and xxviii–xxxiii.

Table 6.—Estimated world [1] consumption of major nonferrous metals

Metal	1963	1964	1965	1966	1967
Aluminum [2]_thousand metric tons	5,319	5,834	6,496	r 7,044	7,333
Copper [3]_____do_____	5,401	r 5,921	r 6,121	r 6,442	6,072
Lead [4]_____do_____	2,658	2,783	2,794	r 2,946	3,029
Tin [5]_____thousand long tons	162	r 168	r 165	r 166	166
Zinc [6]_____thousand metric tons	3,466	3,864	3,995	4,056	3,983

r Revised.

[1] In general, major consuming countries only have been included; sum of consumption by excluded minor consumers may be significant; data included for Communist countries (excluding Yugoslavia) are listed as conjectural in source.

[2] Partial, according to source, but apparently includes secondary metal.

[3] Primary and secondary refined.

[4] Chiefly primary, may include some secondary.

[5] Primary only. As reported by the International Tin Council. Non-Communist countries excluded except for Yugoslavia.

[6] Primary and secondary slab.

Source: Yearbook of the American Bureau of Metal Statistics (Forty-Seventh Annual Issue for the year 1967). New York, 1968, 148 pp.

Table 7.—World energy consumption [1] by continental areas

(Million tons of standard coal equivalent unless otherwise specified)

Area [2] and year	Solid fuels	Liquid fuels	Natural and imported gas	Hydro, nuclear, and imported electricity	Total aggregate	Total per capita (kilograms)
North America:						
1963	403	722	592	34	1,751	8,403
1964	424	757	630	37	1,848	8,742
1965	449	795	656	40	1,940	9,052
1966	471	828	707	42	2,048	9,435
Caribbean America:						
1963	5	64	21	2	91	911
1964	5	68	25	2	99	963
1965	5	68	26	2	100	942
1966	5	71	28	2	106	961
Other America:						
1963	5	55	9	4	73	555
1964	6	58	10	4	77	573
1965	6	59	10	4	80	578
1966	6	65	11	5	87	611
Western Europe:						
1963	557	364	22	34	977	2,904
1964	540	414	24	34	1,012	2,982
1965	515	465	28	39	1,047	3,055
1966	486	523	33	43	1,085	3,139
Western Asia:						
1963	5	27	5	(3)	37	439
1964	6	30	5	(3)	41	472
1965	6	33	5	(3)	44	496
1966	6	36	7	(3)	49	538
Far East:						
1963	146	116	8	11	281	293
1964	144	133	9	12	298	304
1965	150	150	9	12	321	321
1966	154	172	8	14	348	340
Oceania:						
1963	30	20	(3)	2	53	3,192
1964	32	23	(3)	2	58	3,442
1965	34	26	(3)	2	62	3,615
1966	35	28	(3)	2	65	3,748
Africa:						
1963	46	28	1	1	76	256
1964	49	31	1	2	82	271
1965	53	32	2	2	88	284
1966	52	36	2	2	92	289
Countries not elsewhere specified:						
1963	975	249	140	12	1,376	1,329
1964	1,020	271	167	13	1,471	1,400
1965	1,040	290	195	14	1,540	1,446
1966	1,080	316	218	15	1,629	1,510
World total:						
1963	2,172	1,644	797	101	4,714	1,490
1964	2,226	1,786	870	105	4,987	1,547
1965	2,257	1,918	931	116	5,223	1,591
1966	2,296	2,075	1,013	125	5,509	1,648

[1] In most cases, data are aggregates of country figures representing apparent inland consumption—the purely arithmetic result of subtracting, from the sum of production and imports, the sum of exports, additions to stocks (where these are known), and bunker loadings. Figures are as reported and may not add to totals shown because of rounding.

[2] Areas listed are those appearing in source and have not been conformed to standard terms used elsewhere in the Minerals Yearbook.

[3] Nil or less than ½ unit.

Source: United Nations. World Energy Supplies. Statistical Papers, Series V, No. 11, New York 1968, pp. 10–13.

Table 8.—Annual investment expenditures in the steel industry for selected countries

(Million dollars)

	1963	1964	1965	1966	1967
European Economic Community (EEC)	1,469	1,317	932	836	[1] 750
European Free Trade Association (EFTA) [2]	343	260	261	266	272
Other countries:					
Canada	104	191	141	190	NA
Ireland	3	1	1	([3])	NA
Japan [4]	501	460	454	540	843
Spain	82	109	116	143	186
Turkey	17	-------	-------	10	10
United States	1,040	1,600	1,818	1,953	2,173

[1] European Coal and Steel Community Commission. Investment in the Community Coal Mining and Steel Industries. Report on the 1968 Survey. July 1968, p. 8.
[2] Totals given exclude any figures for Denmark and Switzerland in every year; therefore covers reported investments, if any, for Austria, Norway, Portugal, Sweden and United Kingdom.
[3] Less than ½ unit.
[4] Japanese fiscal years.
Source: Except as noted, Organization for Economic Cooperation and Development. The Iron and Steel Industry in 1967 and Trends in 1968 and previous editions of the same publication covering 1964 and 1965, 1965 and 1966, and 1966 and 1967.

Table 9.—Non-Communist world petroleum industry capital expenditures and exploration expenses by geographic area

(Million dollars)

	1963	1964	1965	1966
United States:				
Capital expenditures	5,475	6,100	6,375	7,125
Exploration expenses	600	650	610	650
Total	6,075	6,750	6,985	7,775
Other Western Hemisphere:				
Capital expenditures	1,475	1,425	1,550	1,785
Exploration expenses	205	170	195	210
Total	1,680	1,595	1,745	1,995
Western Europe:				
Capital expenditures	1,750	1,725	2,050	2,500
Exploration expenses	35	90	150	75
Total	1,785	1,815	2,200	2,575
Africa:				
Capital expenditures	500	575	600	560
Exploration expenses	115	115	100	75
Total	615	690	700	635
Middle East:				
Capital expenditures	275	275	625	600
Exploration expenses	30	30	35	50
Total	305	305	660	650
Far East:				
Capital expenditures	775	900	800	840
Exploration expenses	65	75	90	50
Total	840	975	890	890
Unspecified: Capital expenditures (no exploration expenses)	900	1,275	1,175	1,265
Total:				
Capital expenditures	11,150	12,275	13,175	14,675
Exploration expenses	1,050	1,130	1,180	1,110
Total	12,200	13,405	14,355	15,785

Source: Energy Division, Chase Manhattan Bank N.A. Capital Investments of the World Petroleum Industry. November 1967, pp. 24–31.

Table 10.—Non-Communist world petroleum industry capital expenditure and exploration expenses by industry sector

(Million dollars)

	1963	1964	1965	1966
Capital expenditures:				
Production	5,170	5,565	5,785	5,640
Pipelines	625	555	550	760
Marine	945	1,355	1,225	1,295
Refineries	1,735	1,565	1,865	2,670
Chemical plants	630	625	925	1,340
Marketing	1,735	2,190	2,430	2,410
Other	310	420	395	560
Total	11,150	12,275	13,175	14,675
Exploration expenses	1,050	1,130	1,180	1,110
Grand total	12,200	13,405	14,355	15,785

Source: Energy Division, Chase Manhattan Bank N.A. Capital Investments of the World Petroleum Industry. November, 1967, pp. 24–31.

Table 11.—U.S. direct foreign investment in mineral industries: Value, earnings and income

(Million dollars)

Area and country	Mining and smelting			Petroleum		
	Value	Earnings [1]	Income [1]	Value	Earnings [1]	Income [1]
1964:						
Canada	1,667	191	114	3,187	170	118
Latin American Republics:						
South America:						
Venezuela	(2)	(2)	(2)	2,139	460	461
Other	(2)	(2)	(2)	665	36	35
Total	926	158	151	2,804	496	496
Other	178	26	21	298	14	7
Other Western Hemisphere	250	76	73	488	34	33
Europe:						
EEC	13	(2)	(2)	1,523	−38	24
Non-EEC:						
United Kingdom	2	(2)		902	44	28
Other	41	(2)	(2)	677	2	13
Total Europe	56	3	5	3,102	8	64
Africa:						
Republic of South Africa	68	20	15	(2)	(2)	(2)
Other	290	18	17	(2)	(2)	(2)
Total	358	38	32	883	227	223
Middle East	2			1,240	867	893
Far East	31	3	1	814	45	68
Oceania:						
Australia	100	10	3	(2)	(2)	(2)
Other				(2)	(2)	(2)
Total	100	10	3	453	−6	−6
International shipping				1,064	6	26
Grand total	3,568	505	400	14,333	1,861	1,922
1965:						
Canada	1,755	198	110	r 3,356	183	122
Latin American Republics:						
South America:						
Venezuela	(2)	(2)	(2)	2,033	405	408
Other	(2)	(2)	(2)	679	71	52
Total	r 956	181	167	2,704	476	460
Other	r 158	25	18	r 330	20	8

See footnotes at end of table.

Table 11.—U.S. direct foreign investment in mineral industries: Value, earnings and income—Continued

(Million dollars)

Area and country	Mining and smelting			Petroleum		
	Value	Earnings [1]	Income [1]	Value	Earnings [1]	Income [1]
1965—Continued						
Other Western Hemisphere	310	85	82	r 512	24	18
Europe:						
EEC	16	(2)	(2)	1,624	−32	18
Non-EEC:						
United Kingdom	2	(2)	(2)	1,093	−6	−4
Other	r 36	(2)	(2)	r 710	−4	3
Total Europe	r 54	8	8	3,427	−42	17
Africa:						
Republic of South Africa	65	34	35	126	(2)	(2)
Other	r 289	27	20	903	(2)	(2)
Total	354	61	55	1,029	240	233
Middle East	r 2	-------	-------	r 1,436	816	813
Far East	34	5	2	r 904	76	107
Oceania:						
Australia	161	10	3	(2)	(2)	(2)
Other	(3)	−2	−2	(2)	(2)	(2)
Total	162	8	1	r 498	−6	−11
International shipping	-------	-------	-------	r 1,101	37	30
Grand total	r 3,785	571	443	r 15,298	1,825	1,798
1966:						
Canada	1,942	191	120	3,606	196	114
Latin American Republics:						
South America:						
Venezuela	(2)	(2)	(2)	1,922	384	385
Other	(2)	(2)	(2)	679	74	78
Total	955	235	218	2,601	458	463
Other	162	28	16	358	21	8
Other Western Hemisphere	364	96	93	579	32	26
Europe:						
EEC	17	(2)	(2)	1,978	−89	17
Non-EEC:						
United Kingdom	3	(3)	(3)	1,167	−25	−15
Other	34	(2)	(2)	832	−15	3
Total Europe	54	10	11	3,977	−79	4
Africa:						
Republic of South Africa	73	45	33	140	(2)	(2)
Other	296	33	25	968	(2)	(2)
Total	369	78	58	1,108	259	243
Middle East	3	-------	-------	1,560	863	852
Far East	37	4	1	907	68	54
Oceania:						
Australia	249	18	6	(2)	(2)	(2)
Other	-------	-------	-------	(2)	(2)	(2)
Total	249	18	6	521	2	−8
International shipping	-------	-------	-------	1,047	40	23
Grand total	4,135	660	524	16,264	1,859	1,778

[1] Earnings is the sum of the U.S. share in the net earnings of subsidiary and branch profits; income is the sum of dividends, interest, and branch profits.
[2] Combined in other industries in source; not listed here.
[3] Less than $500,000.
Note: Detail may not add to totals due to rounding.
Sources: U.S. Dept. of Commerce. Survey of Current Business. V. 45, No. 9 (September 1965) pp. 24–25; v. 46, No. 9 (September 1966), pp. 34–35; v. 47, No. 9 (September 1967) pp. 42–43.

Table 12.—Non-Communist world tanker fleet

Flag	Number of vessels at yearend		Deadweight tonnage at yearend	
	1965	1966	1965	1966
United States	268	279	6,650	6,753
Panama	149	135	4,285	4,029
Norway	470	457	13,935	15,380
United Kingdom	437	427	11,866	12,319
Liberia	553	595	20,229	22,622
Others	1,181	1,239	30,279	35,561
Total	3,058	3,132	87,244	96,664

Source: Chase Manhattan Bank N.A. Capital Investments of the World Petroleum Industry 1965. 1965, p. 20 and 1966, p. 22.

Table 13.—Indexes of ocean freight rates

(1963=100)

	London tanker bankers panel	Trip charter				
		West Germany		Netherlands (general)	Norway	
		Dry cargo	Tankers		Dry cargo	Tankers
1964	93	101	90	114	100	92
1965	90	110	90	114	112	90
1966	89	100	84	100	97	84
1967: [1]						
First quarter	NA	91	66	[2] 83	92	67
Second quarter	NA	102	181	[2] 82	101	198
Third quarter	NA	111	246	NA	116	260
Fourth quarter	NA	117	152	NA	114	146
Annual average	78	102	154	NA	104	155

	Trip charter				Time charter	
	United Kingdom				Norway (dry cargo)	United Kingdom (dry cargo)
	General	Coal trade	Ore trade	Fertilizer trade		
1964	103	96	103	112	112	114
1965	116	105	120	136	126	128
1966	104	88	94	128	113	126
1967: [1]						
First quarter	97	80	72	146	102	113
Second quarter	104	92	NA	[3] 244	103	116
Third quarter	115	116	[4] 120	[4] 242	131	140
Fourth quarter	134	111	NA	239	126	132
Annual average	111	95	85	186	113	124

NA Not available.
[1] Except as noted, quarterly figures are those for the last month in the quarter.
[2] Actual quarterly average.
[3] June not available, July used instead.
[4] September not available, October used instead.
Source: United Nations. Monthly Bulletin of Statistics. New York, June 1968, pp. xx–xxi.

Table 14.—Summary of selected mineral commodity groups transiting the Panama Canal

(Thousand metric tons)

Commodity group	Fiscal years				
	1963	1964	1965	1966	1967
Metal ores	7,932	8,190	8,749	8,445	6,774
Metals, including scrap	3,357	4,827	3,856	3,132	5,591
Iron and steel manufactures [1]	2,172	2,614	3,905	5,217	5,335
Nitrogen products	720	751	797	742	619
Phosphates	1,990	2,408	3,400	3,902	3,650
Coal and coke	5,347	6,668	6,803	7,264	9,506
Petroleum	13,011	13,725	15,545	15,979	17,071
Total	34,529	39,183	43,055	44,681	48,546

[1] May include some materials not normally included among mineral commodities.
Source: Executive Planning Staff. Panama Canal-Selected Commodity Movements. Mar. 1, 1968.

Table 15.—Nonferrous metal prices in the United States

(Average, cents per pound except where otherwise noted) [1]

Year and month	Aluminum [2]	Copper [3]	Lead [4]	Zinc [5]	Tin [6]	Silver [7]
1963	22.623	30.600	10.937	11.997	116.652	127.912
1964	23.741	31.960	13.396	13.568	157.595	129.300
1965	24.507	35.017	15.800	14.500	178.202	129.300
1966	24.500	36.170	14.915	14.500	164.070	129.300
1967:						
January	24.738	37.872	15.000	14.500	153.911	129.300
February	25.000	38.103	15.000	14.500	154.396	129.300
March	25.000	38.076	15.000	14.500	153.733	129.300
April	25.000	38.170	14.800	14.500	153.394	129.300
May	25.000	38.118	13.800	13.563	153.170	129.591
June	25.000	38.083	13.800	13.551	155.034	130.100
July	25.000	38.295	13.800	13.500	154.388	159.290
August	25.000	39.090	13.800	13.500	152.511	174.978
September	25.000	([8])	13.800	13.500	151.019	167.950
October	25.000	([8])	13.800	13.500	151.990	178.590
November	25.000	([8])	13.800	13.500	155.038	195.320
December	25.000	([8])	13.800	13.500	152.631	206.600
Annual average	24.978	[9] 38.226	14.183	13.843	153.434	154.968

[1] As recorded by Engineering and Mining Journal.
[2] Unalloyed ingot, 99.5 percent, delivered United States.
[3] Electrolytic copper, domestic refineries, Atlantic seaboard.
[4] Refined lead, New York.
[5] Prime Western slab, f.o.b., East St. Louis.
[6] Straits tin, New York.
[7] Cents per troy ounce, 0.999 fine, New York.
[8] Average suspended.
[9] Based on January to August.

Table 16.—Nonferrous metal prices in the United Kingdom

(Average, £ per long ton unless otherwise noted) [1]

Year and month	Aluminum [2]	Copper [3]	Lead [4]	Zinc [5]	Tin [6]	Silver [7]
1963	181.000	234.775	63.438	76.704	910.167	110.115
1964	190.900	352.879	101.250	118.125	1,240.917	111.920
1965	196.000	469.875	115.000	112.900	1,414.133	111.583
1966	196.000	554.471	95.150	101.992	1,296.588	111.807
1967:						
January	196.000	451.358	79.900	101.446	1,198.954	111.869
February	196.000	442.850	80.458	102.425	1,201.375	111.750
March	196.000	398.596	82.846	101.367	1,204.308	111.673
April	196.000	361.000	82.246	98.700	1,216.650	111.543
May	196.000	376.000	82.854	99.863	1,219.433	118.756
June	196.000	368.433	82.771	99.558	1,222.454	145.284
July	196.000	361.904	83.921	97.000	1,220.525	150.869
August	196.000	379.067	84.529	97.496	1,194.842	151.307
September	196.000	384.713	82.350	96.029	1,185.879	145.857
October	196.000	413.092	81.963	95.796	1,190.933	154.455
November	206.875	523.888	87.838	104.192	1,273.817	181.024
December	228.666	560.554	94.167	112.688	1,351.896	209.342
Annual average	199.628	417.338	83.763	100.429	1,222.458	141.977

[1] London Metal Exchange, average settlement prices.
[2] 99.5 percent ingots, producers price.
[3] London Metal exchange, electrolytic wirebar.
[4] London Metal exchange, refined pig lead, 99.97 percent.
[5] London Metal exchange, virgin zinc, 98 percent.
[6] London Metal exchange, standard tin.
[7] Pence per troy ounce, 0.999 fine as reported by Engineering and Mining Journal.

Table 17.—Nonferrous metal prices in Canada

(Average, Canadian cents per pound unless otherwise noted)

Year and month	Aluminum [1]	Copper [2]	Lead [3]	Zinc [3]	Silver [4]
1963	NA	31.500	11.042	12.206	138.457
1964	25.42	33.342	13.418	13.566	139.962
1965	26.00	37.639	15.500	14.500	139.879
1966	26.00	44.940	14.943	14.500	139.803
1967:					
January	26.31	46.349	14.000	14.500	140.071
February	26.50	47.250	14.000	14.500	140.230
March	26.50	47.250	14.000	14.500	140.400
April	26.50	47.250	14.000	14.500	140.455
May	26.50	47.250	14.000	13.784	140.480
June	26.50	47.250	14.000	13.659	180.736
July	26.50	47.250	14.000	13.500	188.715
August	26.50	47.250	14.000	13.500	188.239
September	26.50	47.250	14.000	13.500	180.590
October	26.50	47.250	14.000	13.500	191.619
November	26.50	47.875	14.000	13.500	209.950
December	26.50	51.000	14.000	13.500	222.874
Annual average	26.48	47.539	14.000	13.870	172.030

[1] Ingot, 99.5 percent.
[2] Electrolytic ingot, prompt delivery at Toronto.
[3] Producers' prices, carload quantities, communicated by Cominco Ltd; pig lead and prime western zinc.
[4] Canadian cents, per troy ounce, Cominco Ltd. price.
Source: Yearbook of the American Bureau of Metal Statistics. Forty-Seventh Annual Issue for the Year 1967.

Table 18.—Mineral commodity export price indexes [1]

(1963=100)

Year and quarter	Metal ores	Fuels	All crude minerals
1964	108	100	102
1965	114	101	104
1966	[2] 115	101	104
1967:			
January to March	108	101	103
April to June	107	100	102
July to September	108	101	102
October to December	111	101	103
Annual average	109	101	103

[1] United Nations. Monthly Bulletin of Statistics. June 1968, Special table C II, p. xvii.
[2] Derived from quarterly averages; annual figure reported in source as 105 obviously is in error.

Table 19.—Analysis of export price indexes [1]

(1963=100)

Year and quarter	Developed areas		Less developed areas	
	Total minerals	Nonferrous base metals	Total minerals	Nonferrous base metals
1964	105	116	102	124
1965	106	129	103	146
1966	107	144	103	177
1967:				
January to March	105	138	102	162
April to June	103	130	102	146
July to September	104	131	102	148
October to December	106	143	102	168
Annual average	105	135	102	156

[1] United Nations. Monthly Bulletin of Statistics. June 1968, Special Table C III, p. xviii.

Table 20.—Leading world producers of bauxite [1]

(Thousand metric tons)

Country	1963	1964	1965	1966	1967 p
Jamaica [2]	7,014	7,937	8,699	9,138	9,392
Surinam	3,438	3,993	4,346	4,585	e 5,300
U.S.S.R. e [3]	4,300	4,300	4,700	4,800	5,000
Australia	360	796	1,186	1,827	4,236
Guyana	2,380	2,518	2,919	3,358	3,381
France	2,029	2,433	2,662	2,811	2,813
Yugoslavia	1,285	1,293	1,574	1,887	2,131
Greece	1,277	1,047	1,270	1,344	1,692
United States	1,549	1,626	1,680	1,824	1,680
Hungary	1,363	1,477	1,478	1,429	1,649
Guinea, Republic of	1,664	1,678	1,870	1,609	1,617
Total	26,659	29,098	32,384	34,612	38,891
All others	4,048	4,291	5,146	5,336	5,717
World total e	30,707	33,389	37,530	39,948	44,608

e Estimate. p Preliminary.
[1] Includes additions and revisions to data appearing elsewhere in the 1967 Minerals Yearbook (all volumes). Compiled Sept. 30, 1968.
[2] Bone dry equivalent of bauxite shipments and bauxite converted into alumina and including cement grade as follows: 1965, 48,243; 1966, 76,095; and 1967, 124,314.
[3] Excludes nepheline concentrates and alunite ores.

Table 21.—Leading world producers of aluminum [1]

(Thousand metric tons)

Country	1963	1964	1965	1966	1967 p
United States	2,098	2,316	2,499	2,693	2,966
U.S.S.R. e	760	800	840	890	965
Canada	653	764	753	808	874
Norway	225	261	279	324	362
France	298	316	341	364	361
Japan	224	266	294	337	356
Germany, West	209	220	234	244	253
Italy	91	116	124	128	128
Total	4,558	5,059	5,364	5,788	6,265
All others	765	853	924	1,072	1,186
World total e	5,323	5,912	6,288	6,860	7,451

e Estimate. p Preliminary.
[1] Includes additions and revisions to data appearing elsewhere in the 1967 Minerals Yearbook (all volumes). Compiled Sept. 30, 1968.

Table 22.—Leading world mine producers of copper [1]

(Copper content of ore, recoverable where indicated, thousand metric tons)

Country	1963	1964	1965	1966	1967 p
United States [2]	1,101	1,131	1,226	1,296	866
U.S.S.R. e	600	650	700	750	800
Chile	604	633	606	664	664
Zambia	588	632	696	623	662
Canada [2]	411	442	462	461	547
Congo (Kinshasa) [3]	271	277	289	316	321
Peru	[2] 180	[2] 176	[2] 180	176	181
South Africa, Republic of	55	59	60	125	[3] 128
Japan	107	106	107	112	118
Total	3,917	4,106	4,326	4,523	4,287
All others	701	695	698	736	699
World total e	4,618	4,801	5,024	5,259	4,986

e Estimate. p Preliminary.
[1] Includes additions and revisions to data appearing elsewhere in the 1967 Minerals Yearbook (all volumes). Compiled Sept. 30, 1968.
[2] Recoverable.
[3] Smelter production.

Table 23.—Leading world producers of iron ore, iron ore concentrates, and iron ore agglomerates [1]

(Thousand metric tons)

Country	1963	1964	1965	1966	1967 p
U.S.S.R.	137,475	145,584	153,432	160,271	168,000
United States	74,780	86,198	88,842	91,594	85,530
France	57,892	60,938	59,532	55,060	49,220
Canada	27,346	34,769	36,250	41,344	42,322
Sweden	23,637	26,619	29,485	28,206	28,270
China, mainland e	35,000	37,000	39,000	40,000	28,000
India (including Goa)	19,995	21,363	23,660	26,336	26,157
Brazil	11,219	16,962	18,160	23,254	23,500
Australia	5,603	5,759	6,803	11,608	18,814
Liberia	7,520	12,999	15,959	16,859	18,224
Venezuela	11,747	15,656	17,510	17,759	17,005
United Kingdom	15,151	16,588	15,662	13,877	12,944
Chile	8,507	9,853	12,145	12,246	11,025
Total	435,872	490,288	516,440	538,414	529,011
All others	87,570	91,015	100,864	101,012	100,286
World total e	523,442	581,303	617,304	639,426	629,297

e Estimate. p Preliminary.
[1] Include additions and revisions to data appearing elsewhere in the 1967 Minerals Yearbook (all volumes). Compiled Sept. 30, 1968.

Table 24.—Leading world producers of steel ingots and castings [1]

(Thousand metric tons)

Country	1963	1964	1965	1966	1967 p
United States	99,119	115,281	119,259	121,654	115,406
U.S.S.R.	80,226	85,034	91,021	96,907	102,200
Japan	31,501	39,799	41,161	47,784	62,154
Germany, West	31,597	37,339	36,821	35,316	36,744
United Kingdom	22,881	26,651	27,444	24,705	24,279
France	17,431	19,505	19,340	19,585	19,675
Italy	10,157	9,793	12,681	13,639	15,890
China, mainland e	12,000	14,000	15,000	16,000	11,000
Poland	8,004	8,573	9,088	9,850	10,451
Czechoslovakia	7,598	8,377	8,598	9,128	9,800
Belgium	7,528	8,731	9,169	8,917	9,635
Canada	7,436	8,281	9,134	9,074	8,795
Total	335,478	381,364	398,716	412,559	426,029
All others	51,501	56,642	60,584	63,500	66,900
World total e	386,979	438,006	459,300	476,059	492,929

e Estimate. p Preliminary.
[1] Includes additions and revisions to data appearing elsewhere in the 1967 Minerals Yearbook. Compiled Sept. 30, 1968.

Table 25.—Leading world mine producers of lead [1]

(Lead content of ore, recoverable where indicated, thousand metric tons)

Country	1963	1964	1965	1966	1967 p
U.S.S.R e	315	330	350	375	400
Australia	417	381	368	371	378
Canada	181	187	275	293	308
United States [2]	230	259	273	297	288
Mexico	190	175	170	e 179	e 171
Peru [2]	149	151	154	145	158
Yugoslavia	114	113	106	103	106
Bulgaria	89	91	e 100	e 100	103
China, mainland e	100	100	100	100	90
Morocco	74	71	77	76	78
Sweden	71	67	69	69	72
South-West Africa, Territory of [2]	75	94	88	85	70
Korea, North e	50	55	60	60	65
Japan	53	54	55	63	64
Spain	62	58	57	62	63
Germany, West	53	49	50	55	59
Ireland	------	1	3	40	58
Total	2,223	2,236	2,355	2,473	2,531
All others	295	295	347	382	383
World total e	2,518	2,531	2,702	2,855	2,914

e Estimate. p Preliminary.
[1] Includes additions and revisions to data appearing elsewhere in the 1967 Minerals Yearbook (all volumes). Compiled Sept. 30, 1968.
[2] Recoverable.

Table 26.—Leading world producers of manganese ore [1]

(Thousand metric tons)

Country	1963	1964	1965	1966	1967 p
U.S.S.R	6,663	7,096	7,576	e 7,000	e 7,200
South Africa, Republic of	1,308	1,320	1,567	1,693	1,817
India, including Goa	1,296	1,405	1,615	1,678	1,599
Brazil	1,254	1,352	1,396	1,239	1,145
Gabon	637	960	1,280	1,274	1,125
China, mainland e	1,000	1,000	1,000	1,000	700
Australia	37	62	104	282	e 550
Ghana	407	462	604	587	498
Total	12,602	13,657	15,142	14,753	14,634
All others	2,121	2,190	2,490	2,416	2,439
World total e	14,723	15,847	17,632	17,169	17,073

e Estimate. p Preliminary.
[1] Includes additions and revisions to data appearing elsewhere in the 1967 Minerals Yearbook (all volumes). Compiled Sept. 30, 1968.

Table 27.—Leading world mine producers of tin [1]

(Tin content of ore, long tons)

Country	1963	1964	1965	1966	1967 p
Malaysia	59,947	60,004	63,670	68,886	72,121
Bolivia	22,209	24,319	23,036	25,626	26,890
U.S.S.R [2]	21,000	22,000	23,000	24,000	25,000
Thailand	15,585	15,597	19,047	22,565	22,489
China, mainland [2]	28,000	25,000	25,000	22,000	20,000
Indonesia	12,947	16,345	14,698	12,527	13,579
Nigeria	8,723	8,721	9,547	9,354	9,340
Total	168,411	171,986	177,998	184,958	189,419
All others	22,689	21,614	23,302	25,842	26,681
World total e	191,100	193,600	201,300	210,800	216,100

e Estimate. p Preliminary.
[1] Includes additions and revisions to data appearing elsewhere in the 1967 Minerals Yearbook (all volumes). Compiled Sept. 30, 1968.
[2] Estimated smelter production.

Table 28.—Leading world mine producers of zinc [1]

(Zinc content of ore, recoverable where indicated, thousand metric tons)

Country	1963	1964	1965	1966	1967 p
Canada	451	662	826	950	1,133
U.S.S.R.e [2]	400	430	470	500	535
United States [2]	480	522	554	519	498
Australia	357	350	355	375	404
Peru [2]	195	237	254	258	318
Mexico	240	236	225	219	288
Japan	198	216	221	254	262
Poland	147	151	152	150	196
Italy	107	111	116	116	124
Congo (Kinshasa)	104	106	119	113	122
Korea, North e	100	100	105	105	115
Germany, West	108	111	109	107	106
Total	2,887	3,232	3,506	3,666	4,101
All others	779	793	803	822	815
World total e	3,666	4,025	4,309	4,488	4,916

e Estimate. p Preliminary.
[1] Includes additions and revisions to data appearing elsewhere in the 1967 Minerals Yearbook (all volumes). Compiled Sept. 30, 1968.
[2] Recoverable.

Table 29.—Leading world producers of hydraulic cement [1]

(Thousand metric tons)

Country	1963	1964	1965	1966	1967 p
U.S.S.R.	61,018	64,934	72,388	79,992	84,800
United States (including Puerto Rico)	62,832	65,728	66,318	68,522	65,807
Japan	29,948	32,981	32,689	38,265	42,993
Germany, West	29,218	33,632	34,133	34,739	31,507
Italy	22,088	22,840	20,695	22,374	26,272
France	18,134	21,537	22,365	23,304	24,600
United Kingdom	14,060	16,966	17,191	16,750	17,577
Spain	7,748	8,500	10,219	11,807	13,099
India	9,355	9,690	10,578	11,052	11,700
Poland	7,674	8,761	9,573	10,041	11,138
China, mainland e	10,000	10,500	11,000	11,000	8,000
Germany, East	5,458	5,767	6,087	6,456	7,188
Canada	6,364	7,119	7,645	8,157	7,160
Rumania	4,369	4,752	5,405	5,886	6,338
Mexico	3,762	4,418	4,322	4,907	e 6,258
Total	292,028	318,125	330,608	353,252	364,437
All others	86,107	97,561	104,974	111,193	115,472
World total e	378,135	415,686	435,582	464,445	479,909

e Estimate. p Preliminary.
[1] Includes additions and revisions to data appearing elsewhere in the 1967 Minerals Yearbook (all volumes). Compiled Sept. 30, 1968.

Table 30.—Leading world phosphate rock production [1]

(Thousand metric tons)

Country	1963	1964	1965	1966	1967 p
United States	20,174	23,328	26,704	35,420	36,079
U.S.S.R.e [2]	8,570	11,030	13,900	15,190	16,350
Morocco	8,548	10,098	9,824	9,439	10,545
Tunisia	2,371	2,751	3,040	3,216	2,810
Nauru Island [3]	1,572	1,849	1,496	2,037	[2] 2,000
Total	41,235	49,056	54,964	65,302	67,784
All others	7,506	7,994	8,896	10,491	10,919
World total e	48,741	57,050	63,860	75,793	78,703

e Estimate. p Preliminary.
[1] Includes output of all major crude mineral sources of phosphate, including apatite, guano, and similar materials. Includes additions and revisions to data appearing elsewhere in the 1967 Minerals Yearbook. Compiled Sept. 30, 1968.
[2] Includes material described by the Russians as "sedimentary rock."
[3] Exports.

Table 31.—Leading world producers of marketable potash [1]

(Thousand metric tons, K_2O equivalent)

Country	1963	1964	1965	1966	1967 p
United States	2,598	2,628	2,848	3,012	2,993
U.S.S.R e	2,050	2,200	2,350	2,550	2,760
Germany, West	1,948	2,201	2,385	2,291	e 2,300
Canada	569	779	1,353	1,805	2,207
Germany, East	1,845	1,857	1,926	2,006	e 2,200
France	1,722	1,807	1,888	1,782	1,780
Total	10,732	11,472	12,750	13,446	14,240
All others	568	828	950	1,154	1,160
World total e	11,300	12,300	13,700	14,600	15,400

e Estimate. p Preliminary.
[1] Includes additions and revisions to data appearing elsewhere in the 1967 Minerals Yearbook (all volumes). Compiled Sept. 30, 1968.

Table 32.—Leading world producers of pyrite [1]

(Gross weight, thousand metric tons)

Country	1963	1964	1965	1966	1967 p
Japan	3,894	4,146	4,323	4,734	4,527
U.S.S.R e	3,200	3,200	3,300	3,300	3,500
Spain	2,027	2,393	2,424	2,418	2,291
China, mainland e	1,200	1,300	1,500	1,500	1,500
Italy	1,402	1,395	1,402	1,304	1,411
Cyprus	923	685	994	987	e 1,200
United States	838	861	889	886	875
Norway	721	719	709	677	634
Germany, West	355	424	439	450	556
South Africa, Republic of	419	432	428	481	553
Portugal	602	607	613	558	528
Finland	541	547	582	516	e 516
Korea, North e	400	420	450	500	500
Sweden	403	452	441	434	e 440
Yugoslavia	356	428	407	378	e 425
Total	17,281	18,009	18,901	19,123	19,456
All others	2,519	2,591	2,639	2,797	2,954
World total e	19,800	20,600	21,540	21,920	22,410

e Estimate. p Preliminary.
[1] Includes cupreous pyrites. Includes additions and revisions to data appearing elsewhere in the 1967 Minerals Yearbook (all volumes). Compiled Sept. 30, 1968.

Table 33.—Leading world elemental sulfur producers [1]

(Thousand metric tons)

Country	1963	1964	1965	1966	1967 p
United States	5,923	6,350	7,449	8,374	8,416
Canada (sales)	1,134	1,622	1,876	1,852	2,107
Mexico	1,544	1,725	1,586	1,706	1,891
France	1,409	1,511	1,521	1,540	1,645
U.S.S.R e	1,350	1,350	1,430	1,430	1,500
Poland	235	295	431	477	e 475
Japan	234	260	250	283	317
China, mainland e	250	250	250	250	250
Germany, East	120	125	125	128	e 130
Germany, West	86	78	77	80	105
Total	12,285	13,566	14,995	16,120	16,836
All others	590	574	535	590	599
World total e	12,875	14,140	15,530	16,710	17,435

e Estimate. p Preliminary.
[1] Includes Frasch-process sulfur, sulfur from sulfur ores, and byproduct sulfur from other ores, natural gas, oil refinery operations and oil shale. Includes additions and revisions to data appearing elsewhere in the 1967 Minerals Yearbook (all volumes). Compiled Sept. 30, 1968.

Table 34.—Leading world producers of coal (all grades) [1]

(Million metric tons)

Country	1963			1964			1965			1966			1967 [p]		
	Lignite	Bituminous and anthracite	Total	Lignite	Bituminous and anthracite	Total	Lignite	Bituminous and anthracite	Total	Lignite	Bituminous and anthracite	Total	Lignite	Bituminous and anthracite	Total
U.S.S.R.	137	395	532	145	409	554	150	428	578	146	439	585	[e] 151	[e] 444	[e] 595
United States	2	430	432	3	455	458	3	475	478	4	493	497	4	507	511
Germany, East	254	2	256	257	2	259	251	2	253	249	2	251	[e] 250	[e] 2	252
China, mainland [e]	NA	270	270	NA	290	290	NA	300	300	NA	325	325	NA	225	225
Germany, West	107	[2] 144	251	111	[2] 144	255	102	[2] 137	239	98	[2] 127	225	97	[2] 113	210
United Kingdom	-----	199	199	------	197	197	------	191	191	------	177	177	------	175	175
Poland	15	113	128	20	118	138	23	119	142	25	122	147	[e] 24	124	148
Czechoslovakia	73	28	101	76	28	104	73	28	101	74	27	101	65	[e] 26	91
India	1	66	67	2	62	64	2	70	72	3	71	74	3	71	74
Australia	19	25	44	19	28	47	21	32	53	22	34	56	24	35	59
France	2	48	50	2	53	55	3	51	54	3	50	53	3	48	51
South Africa, Republic of	-----	42	42	------	45	45	------	48	48	------	48	48	------	49	49
Japan	1	52	53	1	51	52	1	50	51	[3]	51	51	[3]	47	47
Bulgaria	20	1	21	24	1	25	24	1	25	25	1	26	[e] 29	[e] 1	[e] 30
Hungary	27	4	31	27	4	31	27	4	31	26	4	30	23	4	27
Yugoslavia	26	1	27	28	1	29	29	1	30	28	1	29	26	1	27
Total	684	1,820	2,504	715	1,888	2,603	709	1,937	2,646	703	1,972	2,675	699	1,872	2,571
All others	27	118	145	27	119	146	28	123	151	30	123	153	30	121	151
World total [e]	711	1,938	2,649	742	2,007	2,749	737	2,060	2,797	733	2,095	2,828	729	1,993	2,722

[e] Estimate. [p] Preliminary. NA Not available.
[1] Includes additions and revisions to data appearing elsewhere in the 1967 Minerals Yearbook (all volumes). Compiled Sept. 30, 1968.
[2] Includes pitch coal.
[3] Less than ½ unit.

Table 35.—Leading world producers of marketed natural gas [1]

(Billion cubic feet)

Country	1963	1964	1965	1966	1967 p
United States	14,667	15,462	16,040	17,207	18,171
U.S.S.R.	3,231	3,892	4,570	5,110	5,601
Canada	1,111	1,328	1,442	1,342	1,465
Rumania [2]	504	547	610	657	724
Italy	257	271	276	312	331
Venezuela	218	237	250	269	293
Mexico	206	235	250	255	276
Total	20,194	21,972	23,438	25,152	26,861
All others	972	1,105	1,260	1,460	1,750
World total e	21,166	23,077	24,698	26,612	28,611

e Estimate. p Preliminary.
[1] Includes additions and revisions to data appearing elsewhere in the 1967 Minerals Yearbook (all volumes). Compiled Sept. 30, 1968.
[2] Including associated (casing lead) gas.

Table 36.—Leading world producers of crude oil [1]

(Million 42-gallon barrels)

Country	1963	1964	1965	1966	1967 p
United States	2,753	2,787	2,849	3,028	3,216
U.S.S.R.	1,504	1,644	1,786	1,948	2,116
Venezuela	1,186	1,242	1,268	1,230	1,293
Iran	538	619	688	771	e 952
Saudi Arabia	595	628	739	873	948
Kuwait	705	775	792	831	837
Libya	168	316	445	553	637
Iraq	423	462	482	505	446
Canada	258	275	296	321	353
Algeria	184	205	202	257	e 282
Indonesia [2]	168	171	179	168	185
Kuwait-Saudi Arabia Neutral Zone	115	131	132	153	153
Trucial States	18	67	103	132	139
Mexico	115	116	118	121	133
Total	8,730	9,438	10,079	10,891	11,690
All others	809	873	978	1,125	1,200
World total e	9,539	10,311	11,057	12,016	12,890

e Estimate. p Preliminary.
[1] Includes additions and revisions to data appearing elsewhere in the 1967 Minerals Yearbook (all volumes). Compiled Sept. 30, 1968.
[2] Includes output of West Irian in all years, including 1963; this area officially become a part of Indonesia on May 1, 1963.

Table 37.—World trade in bauxite

(Thousand metric tons)

Sources	Destinations						
			Europe				
	Canada	United States	Communist [1]	Non-Communist	Japan	Other countries	Total
1965:							
United States	86	XX	---	7	(2)	56	149
Caribbean America	---	8,368	---	---	---	---	8,368
South America	1,667	4,248	---	189	22	31	6,157
Europe:							
Communist [3]	---	5	808	913	---	---	1,726
Non-Communist	---	37	460	849	---	10	1,356
Africa	78	10	118	501	---	6	713
Non-Communist Asia	---	---	4	76	1,176	249	1,505
Oceania	---	---	---	230	---	391	621
Total	1,831	12,668	1,390	2,765	1,198	743	20,595
1966:							
United States	9	XX	---	7	---	47	63
Caribbean America	---	8,466	---	---	---	(2)	8,466
South America	1,605	4,744	---	208	22	58	6,637
Europe:							
Communist [3]	---	---	1,124	966	---	10	2,100
Non-Communist	---	40	425	984	---	6	1,455
Africa	---	10	---	545	---	6	561
Non-Communist Asia	---	(2)	---	206	1,212	366	1,784
Oceania	---	---	---	148	214	33	395
Total	1,614	13,260	1,549	3,064	1,448	526	21,461

XX Not applicable.
[1] Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania, U.S.S.R. and Yugoslavia.
[2] Less than ½ unit.
[3] Hungary and Yugoslavia.

Table 38.—World trade in unrefined and refined copper by major producers

(Thousand metric tons)

Sources	Destinations									
	United States	Belgium-Luxembourg	France	West Germany	Italy	U.S.S.R.	United Kingdom	Japan	Other and unreported	Total
1965:										
Canada	64	1	10	3	1	-------	96	-------	6	181
United States	XX	1	35	31	48	-------	65	20	114	314
Chile	184	6	18	73	24	-------	82	-------	104	491
Peru	34	-------	-------	1	-------	-------	-------	-------	3	38
Belgium-Luxembourg	(1)	XX	93	54	11	-------	4	-------	101	263
Germany, West	2	5	5	XX	2	1	16	-------	73	104
U.S.S.R [2]	-------	-------	-------	-------	-------	XX	-------	-------	93	93
United Kingdom	(1)	3	2	8	1	-------	XX	-------	33	47
Congo (Kinshasa) [3]	NA	NA	NA	NA	NA	NA	NA	NA	278	278
Zambia	3	1	53	101	62	2	274	91	96	683
Other countries [4]	14	11	3	15	(1)	-------	10	-------	13	66
Total	301	28	219	286	149	3	547	111	914	2,558
1966:										
Canada	77	-------	8	1	(1)	-------	83	-------	4	173
United States	XX	1	32	29	47	-------	40	22	85	256
Chile	181	13	34	117	40	-------	99	10	54	548
Peru	34	-------	-------	-------	-------	-------	-------	-------	-------	34
Belgium-Luxembourg	1	XX	102	36	12	-------	4	1	107	263
Germany, West	10	3	20	XX	4	XX	29	(1)	86	152
U.S.S.R [2]	-------	-------	-------	-------	-------	-------	-------	-------	120	120
United Kingdom	5	2	7	9	2	-------	XX	-------	27	52
Congo (Kinshasa) [3]	NA	NA	NA	NA	NA	NA	NA	NA	311	311
Zambia	-------	8	54	83	56	3	199	89	107	599
Other countries [4]	7	12	9	16	1	-------	17	2	25	89
Total	315	39	266	291	162	3	471	124	926	2,597

NA Not available. XX Not applicable.
[1] Less than ½ unit.
[2] Source: Trade returns of the U.S.S.R.
[3] Source: Trade returns of the Republic of the Congo (Kinshasa).
[4] Australia, Austria, France, Japan, Mexico, Netherlands and Sweden.
Source: Except as otherwise noted, Metallgesellshaft Aktiengesellschaft. Metal Statistics 1957–66. 54th Annual Issue Frankfurt am Main. 1967, pp. 143–197.

Table 39.—World trade in iron ore, concentrates, and agglomerates

(Thousand metric tons)

Sources	Destinations													
	Canada	United States	European Economic Community				Communist Europe			Other Europe		Japan	Other countries	Total
			Belgium-Luxembourg	West Germany	Italy	Other	Czechoslovakia	Poland	Other [1]	United Kingdom	Other			
1965:														
Canada	XX	24,136	541	893	577	383	-------	-------	-------	2,962	-------	1,801	-------	31,293
United States	4,633	XX	XX	93	-------	-------	-------	-------	-------	-------	-------	2,470	2	7,198
Brazil	361	2,323	756	3,377	1,396	937	357	106	321	635	464	841	858	12,732
Chile	------	2,766	50	708	-------	-------	-------	-------	-------	-------	-------	6,891	315	10,730
Peru	------	684	157	1,102	266	207	-------	-------	-------	-------	-------	3,958	-------	6,374
Venezuela	20	12,317	64	1,903	773	59	-------	-------	-------	1,740	-------	129	-------	17,005
France	------	-------	14,673	5,984	-------	-------	-------	-------	-------	89	-------	-------	2	20,748
Sweden	------	57	5,740	10,059	90	1,097	153	778	43	6,224	643	-------	-------	24,884
U.S.S.R	------	-------	-------	447	-------	-------	7,966	7,353	6,590	511	1,243	-------	28	24,138
Liberia	------	3,170	991	5,776	1,841	1,613	-------	-------	-------	1,654	362	261	-------	15,668
Mauritania	------	139	576	1,181	996	1,490	-------	-------	-------	1,554	-------	-------	30	5,966
India	24	22	169	615	277	137	747	309	661	-------	406	7,868	27	11,262
Malaysia	------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	6,648	92	6,740
Other	------	73	130	3,586	1,923	1,569	197	596	132	3,355	1,311	5,516	365	18,753
Total	5,038	45,687	23,847	35,724	8,139	7,492	9,420	9,142	7,747	18,724	4,429	36,383	1,719	213,491
1966:														
Canada	XX	24,672	85	709	1,152	594	-------	-------	-------	2,257	-------	1,717	-------	31,186
United States	4,451	XX	28	70	-------	1	-------	-------	-------	-------	-------	4,300	1	8,851
Brazil	391	3,025	437	2,976	771	816	395	279	-------	733	452	1,839	796	12,910
Chile	------	2,433	104	572	-------	-------	-------	-------	-------	-------	-------	7,873	106	11,088
Peru	------	704	-------	430	262	306	-------	-------	-------	-------	-------	4,606	-------	6,308
Venezuela	17	13,115	36	1,606	876	87	-------	-------	-------	1,300	-------	-------	-------	17,037
France	------	-------	13,373	4,758	-------	-------	-------	-------	-------	63	-------	-------	-------	18,194
Sweden	------	79	5,289	9,260	498	787	207	687	57	5,154	487	-------	39	22,544
U.S.S.R	------	-------	-------	532	-------	-------	7,662	7,850	7,594	956	1,263	196	65	26,118
Liberia	------	3,298	961	6,251	1,674	2,135	-------	-------	-------	1,630	548	325	-------	16,822
Mauritania	------	120	773	1,214	1,305	1,847	-------	15	-------	1,596	100	165	-------	7,135
India	------	-------	160	649	23	52	753	210	551	-------	335	10,925	-------	13,658
Malaysia	------	-------	-------	-------	-------	-------	-------	-------	-------	-------	-------	5,697	75	5,772
Other	------	48	110	2,524	1,292	1,395	285	501	109	2,171	1,469	8,359	336	18,599
Total	4,859	47,494	21,356	31,551	7,853	8,020	9,302	9,542	8,311	15,860	4,654	46,002	1,418	216,222

XX Not applicable.

[1] Albania, Bulgaria, East Germany, Hungary, Rumania and U.S.S.R. (excludes Yugoslavia).

Table 40.—Major world trade in steel ingots and semimanufacture in 1965, by areas

(Thousand metric tons)

Exporting country and area	Destinations [1]														
	North America		Latin America [2]	Europe				Africa	Near East [4]	South Asia and Far East			Oceania	Unallocated	Total
				European Economic Community	European Free Trade Association	Other Non-Communist	Communist [3]			Non-Communist		Communist [5]			
	United States	Canada								Japan	Other				
North America:															
Canada	569.9	XX	144.8	7.9	10.2	50.9	-------	13.2	5.0	.2	10.4	.1	21.3	-----	833.9
United States	XX	539.8	533.2	81.6	46.7	199.8	.8	87.4	69.9	7.3	690.8	-----	17.8	-----	2,275.1
Total	569.9	539.8	678.0	89.5	56.9	250.7	.8	100.6	74.9	7.5	701.2	.1	39.1	-----	3,109.0
Europe:															
European Economic Community:															
Belgium-Luxembourg	1,517.0	330.0	442.0	4,887.0	917.0	480.0	70.0	302.0	301.0	1.0	215.0	12.0	42.0	-----	9,516.0
France	809.5	144.3	259.8	2,749.7	988.1	352.9	128.0	617.9	283.4	----	104.6	86.6	42.9	-----	6,567.7
Germany, West	1,105.9	238.1	340.8	3,904.6	1,742.5	873.5	383.0	276.9	331.8	1.2	255.6	77.7	15.2	-----	9,546.8
Italy	232.4	58.3	47.0	588.3	176.3	217.1	286.6	462.6	232.4	----	82.5	48.8	3.0	-----	2,435.3
Netherlands	95.5	79.6	37.8	800.4	417.4	327.5	11.7	51.1	23.9	1.1	54.7	3.6	.3	-----	1,904.6
Subtotal	3,760.3	850.3	1,127.4	12,930.0	4,241.3	2,251.0	879.3	1,710.5	1,172.5	3.3	712.4	228.7	103.4	-----	29,970.4
European Free Trade Association:															
Austria	3.8	4.4	14.3	573.2	145.1	31.8	290.9	1.9	51.6	.1	10.2	-----	1.2	7.2	1,135.7
Denmark	-------	-------	.4	40.1	95.2	2.0	1.5	.6	.6	----	1.3	-----	-----	-----	141.7
Norway	23.2	-------	2.0	81.4	194.9	22.7	7.4	3.9	1.5	----	1.7	.2	.1	-----	339.0
Portugal	.8	-------	-------	.8	.3	8.2	-------	15.2	.5	----	-------	-----	-----	-----	25.8
Sweden	64.5	10.8	35.3	300.4	336.1	103.8	73.3	8.8	8.0	1.1	15.0	3.5	5.1	-----	965.7
Switzerland [6]	6.3	2.3	.6	38.5	18.8	2.6	.1	1.0	.5	----	.5	-----	.1	.1	71.4
United Kingdom	650.9	219.0	287.3	451.5	516.7	441.5	132.7	466.4	147.0	1.9	321.8	32.3	256.9	-----	3,925.9
Subtotal	749.5	236.5	339.9	1,485.9	1,307.1	612.6	505.9	497.8	209.7	3.1	350.5	36.0	263.4	7.3	6,605.2
Other non-Communist Europe:															
Finland	-------	-------	1.4	1.8	19.1	-------	1.0	-------	1.2	----	2.1	-----	-----	-----	26.6
Greece	-------	-------	-------	3.8	-------	14.1	6.5	9.4	1.3	----	-------	-----	-----	-----	35.1
Spain	-------	-------	4.9	8.9	1.7	1.0	-------	.3	.1	.3	-------	-----	-----	-----	17.2
Subtotal	-------	-------	6.3	14.5	20.8	15.1	7.5	9.7	2.6	.3	2.1	-----	-----	-----	78.9

See footnotes at end of table.

Table 40.—Major world trade in steel ingots and semimanufacture in 1965, by areas—Continued

(Thousand metric tons)

Exporting country and area	Destinations [1]														
	North America		Latin America [2]	Europe				Africa	Near East [4]	South Asia and Far East			Oceania	Unallocated	Total
				European Economic Community	European Free Trade Association	Other Non-Communist	Communist [3]			Non-Communist		Communist [5]			
	United States	Canada								Japan	Other				
Europe—Continued															
European Communist Countries:															
Czechoslovakia	--------	22.4	1.9	179.6	178.9	60.6	1,355.5	69.7	96.3	----	79.7	-----	-----	-----	2,044.6
Germany, East [7]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	84.0	84.0
Hungary	-------	-------	.3	142.7	76.0	18.7	355.7	32.0	130.0	----	38.2	7.1	-----	-----	800.7
Poland	77.5	-------	15.1	13.9	74.8	34.0	548.6	36.7	37.3	----	63.2	37.6	-----	-----	938.7
Rumania	-------	-------	.4	66.5	6.7	-------	620.2	2.7	9.6	18.0	.8	25.0	-----	-----	749.9
U.S.S.R	-------	-------	188.9	130.5	27.2	116.3	3,928.0	89.3	194.6	----	87.0	201.0	-----	24.2	4,987.0
Yugoslavia	.1	-------	3.7	35.7	8.1	.6	83.7	6.9	7.0	----	9.4	-----	-----	-----	155.2
Subtotal	77.6	22.4	210.3	568.9	371.7	230.2	6,891.7	237.3	474.8	18.0	278.3	270.7	-----	108.2	9,760.1
Total	4,587.4	1,109.2	1,683.9	14,999.3	5,940.9	3,108.9	8,284.4	2,455.3	1,859.6	24.7	1,343.3	535.4	366.8	115.5	46,414.6
Africa:															
South Africa Republic of	-------	-------	.1	--------	.4	-------	-------	96.3	-------	----	.3	-----	.1	-----	97.2
South Asia and Far East:															
India [7]	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	179.0	179.0
Japan	4,122.0	238.0	770.0	160.0	26.0	170.0	275.0	437.0	245.0	XX	2,242.0	260.0	599.0	202.0	9,746.0
Total	4,122.0	238.0	770.0	160.0	26.0	170.0	275.0	437.0	245.0	----	2,242.0	260.0	599.0	381.0	9,925.0
Oceania: Australia	28.0	10.7	13.2	.6	17.0	.3	-------	8.9	4.1	12.1	45.3	1.8	185.5	4.5	332.0
Grand total	9,307.3	1,897.7	3,145.2	15,249.4	6,041.2	3,529.9	8,560.2	3,098.1	2,183.6	44.3	4,333.1	797.3	1,190.5	501.0	59,877.8

NA. Not available. XX Not applicable.

[1] Because of the practice of some countries of not reporting destinations for a portion of exports (see Unallocated column below), figures given for distribution of those countries' exports by continental area are not exactly correct. However, such unallocated quantities are sizable only in the cases of East Germany, U.S.S.R., India and Japan.

[2] All western hemisphere except United States and Canada.

[3] Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania, U.S.S.R. and Yugoslavia.

[4] Aden, Bahrain, Cyprus, Iran, Iraq, Israel, Jordan, Kuwait, Muscat and Oman, Lebanon, Qatar, Saudi Arabia, Syria, Trucial Oman, Turkey and Yemen.

[5] Mainland China, North Korea and North Viet-Nam; Mongolia included under Other Non-Communist South Asia and Far East because it is inseparable in source.

[6] Source: Statistical Office of the United Nations.

[7] Source: Trade returns of the exporting company.

Source: Except where otherwise noted: United Nations. Economic Commission for Europe. Statistics of World Trade in Steel 1965. New York, 1966, 52 pp.

Table 41.—Major world trade in steel ingots and semimanufactures in 1966, by areas

(Thousand metric tons)

Exporting country and area	Destinations [1]														
	North America			Europe				Africa	Near East [4]	South Asia and Far East			Oceania	Unallocated [5]	Total
	United States	Canada	Latin America [2]	European Economic Community	European Free Trade Association	Other Non-Communist	Communist [3]			Non-Communist: Japan	Non-Communist: Other	Communist [5]			
North America:															
Canada	555.6	XX	164.1	9.0	20.3	21.9	------	15.9	4.0	(6)	10.8	.3	9.3	-----	811.2
United States	XX	386.4	473.3	92.0	39.2	16.2	2.6	98.3	58.3	5.1	401.7	------	13.7	-----	1,586.8
Total	555.6	386.4	637.4	101.0	59.5	38.1	2.6	114.2	62.3	5.1	412.5	.3	23.0	-----	2,398.0
Europe:															
European Economic Community:															
Belgium-Luxembourg	1,273.0	199.0	329.0	5,193.0	794.0	402.0	93.0	262.0	297.0	1.0	159.0	37.0	12.0	-----	9,051.0
France	723.3	93.7	261.8	2,800.6	934.0	375.1	135.2	546.0	266.6	----	109.0	68.0	15.7	-----	6,329.0
Germany, West	1,098.6	236.9	315.8	4,419.4	1,588.2	706.1	396.4	214.4	325.8	2.6	187.5	157.8	5.8	0.2	9,655.5
Italy	176.4	2.1	73.6	675.6	142.3	140.1	245.7	142.6	271.9	----	42.4	159.3	4.9	49.7	2,126.6
Netherlands	55.7	2.8	44.2	1,181.7	452.7	264.6	22.3	47.2	20.2	.7	29.5	11.0	.4	6.6	2,139.6
Subtotal	3,327.0	534.5	1,024.4	14,270.3	3,911.2	1,887.9	892.6	1,212.2	1,181.5	4.3	527.4	433.1	38.8	56.5	29,301.7
European Free Trade Association:															
Austria	4.0	2.7	13.7	590.2	180.7	31.8	308.8	2.1	43.7	.2	3.6	.1	1.1	4.7	1,187.4
Denmark	------	.1	.1	42.0	100.0	3.0	1.8	.6	1.2	----	------	------	-----	-----	148.8
Norway	13.4	.7	6.4	92.3	208.8	42.6	6.7	2.7	1.4	----	.3	1.3	(6)	.1	376.7
Portugal	.4	.1	(6)	5.8	.3	1.8	------	11.9	4.0	----	.1	------	-----	.2	24.6
Sweden	72.3	12.4	31.2	319.3	406.0	86.8	78.7	8.9	4.1	1.5	14.9	9.9	4.7	-----	1,050.7
Switzerland [7]	8.5	2.4	1.2	58.0	16.7	3.5	.4	1.5	.7	(6)	.4	------	.3	-----	93.6
United Kingdom	123.1	679.5	280.2	357.2	530.4	487.1	108.1	285.1	173.9	2.2	275.6	87.0	179.8	-----	3,569.2
Subtotal	221.7	697.9	332.8	1,464.8	1,442.9	656.6	504.5	312.8	229.0	3.9	294.9	98.3	185.9	5.0	6,451.0
Other Non-Communist Europe:															
Finland	------	------	.6	8.4	20.1	------	.5	------	.1	----	2.0	------	-----	-----	31.7
Greece	------	------	------	9.6	(6)	10.5	2.6	3.0	.5	----	(6)	------	-----	-----	26.2
Spain	.8	------	5.4	14.5	19.2	1.2	.7	4.7	.2	----	(6)	------	-----	.2	46.9
Subtotal	.8	------	6.0	32.5	39.3	11.7	3.8	7.7	.8	----	2.0	------	-----	.2	104.8

See footnotes at end of table.

Table 41.—Major world trade in steel ingots and semimanufactures in 1966, by areas—Continued

(Thousand metric tons)

Exporting country and area	Destinations [1]														
	North America			Europe						South Asia and Far East					
	United	Canada	Latin America [2]	European Economic Community	European Free Trade Association	Other Non-Communist	Communist [3]	Africa	Near East [4]	Non-Communist Japan	Non-Communist Other	Communist [5]	Oceania	Unallocated [5]	Total
Europe—Continued															
European Communist countries:															
Czechoslovakia	.1	70.9	9.0	271.1	206.8	60.2	1,113.6	51.0	116.9	----	38.1	(8)	.6	-----	1,938.3
Germany, East	-------	------	9.0	9.0	11.0	4.0	125.0	7.0	24.0	----	8.0	4.0	-----	[9] 61.0	262.0
Hungary	-------	------	.6	110.4	73.0	33.0	302.5	22.7	105.6	----	25.6	6.7	-----	-----	680.1
Poland	83.3	12.9	56.2	27.2	124.5	46.1	537.7	30.5	59.6	----	76.7	------	-----	-----	1,054.7
Rumania	-------	------	------	148.0	11.3	-----	656.5	2.1	70.8	----	(6)	23.6	-----	-----	912.3
U.S.S.R	-------	------	162.7	35.3	74.5	173.3	3,487.3	50.5	235.6	----	120.8	63.6	-----	6.4	4,410.0
Yugoslavia	1.3	------	1.8	56.6	11.0	(6)	155.8	1.5	5.1	----	9.2	------	-----	.1	242.4
Subtotal	84.7	83.8	239.3	657.6	512.1	316.6	6,378.4	165.3	617.6	----	278.4	97.9	.6	67.5	9,499.8
Total	3,634.2	1,316.2	1,602.5	16,425.2	5,905.5	2,872.8	7,779.3	1,698.0	2,028.9	8.2	1,102.7	629.3	225.3	129.2	45,357.3
Africa: South Africa, Republic of	47.5	(6)	.2	.3	10.2	.1	------	------	------	(6)	.1	------	1.6	138.7	198.7
South Asia and Far East:															
India	10.5	------	------	-------	1.1	------	11.8	34.1	100.0	4.5	99.5	------	2.2	-----	263.7
Japan	4,416.9	233.5	638.7	268.1	15.4	110.6	248.2	219.7	220.6	XX	2,202.7	664.0	240.0	(6)	9,478.4
Total	4,427.4	233.5	638.7	268.1	16.5	110.6	260.0	253.8	320.6	4.5	2,302.2	664.0	242.2	(6)	9,742.1
Oceania: Australia	43.7	26.1	19.0	23.4	33.1	32.3	------	3.3	0.4	15.4	107.1	5.7	244.9	5.8	560.2
Grand total	8,708.4	1,962.2	2,897.8	16,818.0	6,024.8	3,053.9	8,041.9	2,069.3	2,412.2	33.2	3,924.6	1,299.3	737.0	273.7	58,256.3

XX Not applicable.

[1] Because of the practice of some countries of not reporting destinations for a portion of exports (see Unallocated column below), figures given for distribution of those countries' exports by continental area are not exactly correct. However, such unallocated quantities are sizable only in the cases of Italy, East Germany, and the Republic of South Africa.

[2] All western hemisphere areas except United States and Canada.

[3] Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania, U.S.S.R., and Yugoslavia.

[4] Aden, Bahrain, Cyprus, Iran, Iraq, Israel, Jordan, Kuwait, Muscat and Oman, Lebanon, Qatar, Saudi Arabia, Syria, Trucial Oman, Turkey, and Yemen.

[5] Mainland China, North Korea and North Viet-Nam; Mongolia included under Other non-Communist South Asia and Far East because it is inseparable in source.

[6] Less than 50 tons.

[7] Source: Trade returns of the exporting company.

[8] Included with Communist Europe.

[9] All non-Communist Europe, otherwise unspecified.

Source: Except where otherwise noted: United Nations. Economic Commission for Europe. Statistics of World Trade in Steel 1966. New York, 1967, 61 pp.

Table 42.—World trade of lead ores and concentrates [1]

(Thousand metric tons of contained metal unless otherwise specified)

Destination	Exporting regions								
	North America [2]	Latin America [2]	Western Europe [3]	Eastern Europe [3]	Africa	Asia	Oceania	Origin not reported by continent	Total
1965:									
United States	21.7	25.2	---	---	1.1	---	13.6	---	61.6
Western Europe:									
Belgium-Luxembourg [4]	10.6	.4	2.7	---	18.3	---	---	3.1	35.1
France	1.5	.7	7.6	---	20.4	0.5	10.5	---	41.2
Germany, West	10.3	11.0	23.1	5.4	6.6	2.7	---	---	59.1
United Kingdom	4.3	---	---	---	---	.1	4.4	3.0	11.8
Other [5]	---	---	.9	---	5.3	---	---	---	6.2
Total [6]	26.7	12.1	34.3	5.4	50.6	3.3	14.9	6.1	153.4
Japan	---	2.7	---	---	---	4.1	10.6	---	17.4
Grand total	48.4	40.0	34.3	5.4	51.7	7.4	39.1	6.1	232.4
1966:									
United States	49.1	58.9	1.9	---	1.3	.1	20.5	.2	132.0
Western Europe:									
Belgium-Luxembourg [7]	53.7	.4	9.3	---	72.1	---	---	8.6	144.1
France	1.5	7.3	17.5	---	35.1	.5	18.9	---	80.8
Germany, West	22.0	16.7	42.4	9.8	11.7	4.0	.3	---	106.9
United Kingdom	5.1	---	---	---	---	.3	8.1	8.8	22.3
Other [5]	---	---	6.0	---	16.0	---	---	.1	22.1
Total [6]	82.3	24.4	75.2	9.8	134.9	4.8	27.3	17.5	376.2
Japan	17.2	5.1	---	---	---	7.1	16.3	---	45.7
Grand total	148.6	88.4	77.1	9.8	136.2	12.0	64.1	17.7	553.9

[1] Compiled from import data of countries listed in destination column only, therefore incomplete; however imports by countries not listed are regarded as being relatively small with respect to total.
[2] Mexico included with Latin America.
[3] Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania and U.S.S.R.; Yugoslavia is included with Western Europe.
[4] Data are for gross weight of ores and concentrates rather than contained metal, and cover January through October only.
[5] Austria and Italy.
[6] Data are for gross weight of ores and concentrates rather than contained metal, and cover January through April only.
[7] Total of listed figures, including gross weight of ores and concentrates for Belgium-Luxembourg and contained metal weight for all other countries.

Source: International Lead and Zinc Study Group. Lead and Zinc Statistics. v. 6, No. 11, November 1966, p. 24 and v. 7, No. 5, May 1967, p. 24.

Table 43.—World trade of zinc ores and concentrates [1]

(Thousand metric tons of contained metal unless otherwise specified)

Destination	Exporting regions								
	North America [2]	Latin America [2]	Western Europe [3]	Eastern Europe [3]	Africa	Asia	Oceania	Origin not reported by continent	Total
1965:									
United States	93.9	92.6	---	---	9.7	---	1.9	0.3	198.4
Western Europe:									
Belgium-Luxembourg [4]	64.6	---	---	---	29.3	---	9.0	27.5	130.4
France	21.4	11.9	31.8	---	37.8	3.2	4.2	---	110.3
Germany, West	5.3	4.0	10.3	0.8	4.1	3.7	---	---	28.2
United Kingdom	5.3	---	---	---	---	1.0	42.5	6.2	55.0
Other [5]	1.2	.6	19.1	---	2.5	.4	3.4	.2	27.4
Total [6]	97.8	16.5	61.2	.8	73.7	8.3	59.1	33.9	351.3
Japan	2.6	77.3	---	---	---	13.5	9.0	.5	102.9
Grand total [6]	194.3	186.4	61.2	.8	83.4	21.8	70.0	34.7	652.6
1966:									
United States	247.6	190.4	12.8	---	18.2	(7)	3.9	---	472.9
Western Europe:									
Belgium-Luxembourg [8]	237.1	---	83.9	---	70.8	---	24.2	56.2	472.2
France	44.0	22.5	61.7	---	62.9	7.1	4.2	---	202.4
Germany, West	27.6	8.5	30.6	1.2	7.6	5.4	---	---	80.9
United Kingdom	6.8	.1	---	---	---	3.5	84.3	17.5	112.2
Other [5]	16.3	1.0	66.2	---	3.9	1.4	8.1	---	96.9
Total [6]	331.8	32.1	242.4	1.2	145.2	17.4	120.8	73.7	964.6
Japan	16.5	169.8	---	---	---	25.0	20.5	---	231 8
Grand total [6]	595.9	392.3	255.2	1.2	163.4	42.4	145.2	73.7	1,669.3

[1] Compiled from import data of countries listed in destination column only, therefore incomplete; however, imports by countries not listed are regarded as being relatively small with respect to total.
[2] Mexico included with Latin America.
[3] Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania, and U.S.S.R., Yugoslavia is included with Western Europe.
[4] Data are per gross weight of ore and concentrates rather than for contained metal, and cover January through April only.
[5] Austria, Netherlands, and Norway.
[6] Total of listed figures, including gross weight of ores and concentrates for Belgium-Luxembourg and contained metal weight for all other countries.
[7] Less than 50 tons.

Source: International Lead and Zinc Study Group. Lead and Zinc Statistics. v. 6, No. 11, November 1966, p. 25, and v. 7, No. 5, May 1967, p. 25.

Table 44.—World movement of solid fuels [1]

(Thousand metric tons, standard coal equivalent)

Destinations	Exporting regions						
	North America	Western Europe	Africa	Far East	Oceania	Other countries [2]	Total [3]
1965:							
North America	15,540	15	----------	----------	----------	----------	15,550
Caribbean America	250	130	----------	----------	----------	130	510
Other America	1,840	150	----------	----------	----------	140	2,130
Western Europe	22,600	36,380	540	----------	----------	21,800	81,330
Africa	5	80	2,430	----------	----------	500	3,010
Near East	----------	20	----------	----------	----------	----------	20
Far East	7,760	55	340	1,250	6,990	2,650	19,050
Oceania	5	20	15	----------	310	----------	350
Other countries [2]	210	450	----------	----------	----------	35,890	36,560
Total [3]	48,230	37,430	3,340	1,250	7,330	61,220	158,810
1966:							
North America	15,830	----------	----------	----------	----------	----------	15,830
Caribbean America	300	100	----------	----------	----------	110	530
Other America	2,410	100	----------	----------	----------	250	2,760
Western Europe	20,710	34,800	310	----------	----------	21,430	77,260
Africa	15	110	1,970	----------	----------	420	2,520
Near East	----------	10	----------	----------	----------	----------	10
Far East	8,060	260	250	580	7,990	4,060	21,190
Oceania	15	----------	10	15	380	----------	420
Other countries [2]	230	310	----------	----------	----------	36,030	36,560
Total [3]	47,610	35,770	2,660	600	8,380	62,320	157,340

[1] Data based on general trade system (including reexports among exports). Lignite, lignite briquets and coke are reduced to standard coal equivalent. Bunker loadings excluded.

[2] Includes Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania, and U.S.S.R. among others.

[3] Reported totals, details do not add to listed totals because of inclusion in totals of quantities shipped to or received from areas not listed separately.

Source: Statistical Office of the United Nations. World Energy Supplies 1963–66, Series J, No. 11, New York 1968, pp. 40–45.

Table 45.—World movement of crude petroleum [1]

(Thousand metric tons)

Destinations	Exporting regions								
	North America	Caribbean America [2]	Other America [2]	Western Europe	Africa [3]	Near East [3]	Far East	Other countries [4]	World [7]
1965:									
North America	14,590	39,440	----------	----------	3,580	23,230	3,030	----------	83,870
Caribbean America [2]	45	59,270	----------	----------	15	4,550	----------	3,510	67,395
Other America [2]	--------	6,590	290	----------	880	5,920	----------	2,760	16,415
Western Europe	50	24,230	125	445	92,250	192,680	160	14,730	324,630
Africa [3]	--------	----------	----------	----------	2,210	11,160	----------	1,700	15,070
Near East [3]	--------	----------	----------	----------	----------	23,480	----------	----------	23,480
Far East	40	450	30	----------	----------	33,000	11,430	2,460	97,410
Oceania	--------	----------	----------	----------	----------	13,570	4,890	----------	18,460
Other [5]	--------	----------	----------	----------	285	[6] 770	----------	18,600	19,660
World [7]	14,730	129,970	450	450	99,220	358,350	19,510	43,720	666,390
1966:									
North America	16,710	36,010	160	----------	6,830	21,610	2,460	----------	83,780
Caribbean America [2]	30	60,660	----------	----------	710	3,800	----------	3,840	69,040
Other America [2]	--------	6,180	230	----------	2,450	7,400	----------	2,210	18,480
Western Europe	60	22,750	140	720	113,600	219,310	250	18,210	375,040
Africa [3]	--------	----------	----------	----------	1,760	12,990	----------	2,090	16,840
Near East [3]	--------	----------	----------	----------	490	23,720	----------	----------	24,210
Far East	110	480	20	----------	----------	98,960	12,230	3,000	114,800
Oceania	--------	30	----------	----------	80	15,290	4,840	----------	20,240
Other [5]	--------	----------	----------	30	680	[6] 1,830	----------	21,260	23,920
World [7]	16,910	126,110	550	750	126,720	404,910	19,780	50,620	746,360

[1] Data based on general trade system (Reexports included with exports).
[2] Colombia and Venezuela are included with Caribbean America rather than with Other America.
[3] Libya, Sudan and United Arab Republic, formerly included under Near East in both the source publication and in proceeding editions of this table in Minerals Yearbook, V. IV, are included in Africa in this table; thus data are not comparable to that in previous editions of the Minerals Yearbook.
[4] Almost entirely from the U.S.S.R.
[5] Chiefly Bulgaria, Czechoslovakia, East Germany, Hungary and Poland, although other countries, not identified in source, are also included.
[6] Reported in source not as shipments to other countries, but as shipments to unspecified destinations.
[7] Reported totals, details do not add to listed totals because of inclusion in totals of data for other areas not listed separately.

Source: Statistical Office of the United Nations. World Energy Supplies 1963–66, Series J., No. 11, New York, 1968, pp. 76–83.

Table 46.—Refined petroleum fuel trade by continental areas [1]

(Million metric tons)

Continental areas	1965			1966		
	Exports	Imports	Bunkers	Exports	Imports	Bunkers
North America	5.53	67.87	14.72	5.72	73.62	16.06
Caribbean America [2]	105.41	11.75	12.80	105.59	11.60	12.68
Other America	1.06	4.42	1.46	1.32	4.28	1.36
Western Europe	57.46	97.33	34.45	67.48	108.52	36.10
Africa [3]	5.34	11.92	6.35	4.75	10.84	6.30
Near East [3]	45.05	2.37	15.15	47.79	2.51	15.92
Far East	13.04	30.93	16.81	16.10	32.34	18.13
Oceania	1.24	2.90	2.43	1.37	3.05	3.02
Other [4]	29.72	7.18	NA	31.67	6.93	NA
World [5]	263.86	236.66	104.21	281.79	253.66	109.60

NA Not available.

[1] The apparent discrepancy between export, import and bunker totals is evidently largely the result of practices regarding reporting of bunkering materials. Many areas do not record the import of liquid fuels destined for international bunkers, and virtually without exception, bunker loadings are not counted among the imports of the nation to which the vessel receiving the bunker loading belongs.

[2] Colombia and Venezuela are included in Caribbean America rather than Other America.

[3] Libya, Sudan and United Arab Republic are included in Africa rather than Near East. This departs from previous practice in source publication.

[4] Albania, Bulgaria, Czechoslovakia, East Germany, Hungary, Poland, Rumania and U.S.S.R.

[5] Reported totals; details do not add because of rounding.

Source: Statistical Office of the United Nations. World Energy Supplies 1963–66. Series J., No. 11, New York, 1968, pp. 56–75.