

| 1 Resource | 2 Identified Resources ^a | 3 Hypothetical ^b plus Speculative ^c Resources | 4 1970 Production ^d | 5 Static Resource Index ^e (Years) | | 6 Projected Growth Rate ^f (%/Year) | | 7 Exponential Resource ^g Index (Years) | |
|---------------|--|---|--|--|-------|---|------|---|-----|
| | | | | LOW | HIGH | LOW | AVE. | HIGH | LOW |
| Aluminum | 1.2 × 10 ¹⁰ tons ^h | 2.4 × 10 ¹⁰ tons ⁱ | 1.1 × 10 ⁷ tons | 110 | 340 | 5.1 | 6.4 | 7.7 | 33 |
| Chromium | 4.9 × 10 ¹⁰ tons ^j | 4 × 10 ¹⁰ tons ^k | 6.7 × 10 ⁶ tons ^l | 730 | 1,300 | 2.0 | 2.6 | 3.3 | 115 |
| ✓ Coal | 9.5 × 10 ¹² tons | 7.3 × 10 ¹² tons ^m | 3.1 × 10 ¹⁰ tons ⁿ | 3,100 | 5,100 | 3.0 | 4.1 | 5.3 ^o | 132 |
| Cobalt | 9.9 × 10 ⁶ lbs | 12 × 10 ⁶ lbs ^p | 5.2 × 10 ⁷ lbs | 190 | 420 | 1.0 | 1.5 | 2.0 | 90 |
| Copper | 3.4 × 10 ¹⁰ tons | 4 × 10 ¹⁰ tons ^q | 6.6 × 10 ⁷ tons ^r | 52 | 160 | 3.4 | 4.6 | 5.8 | 27 |
| Gold | 3.5 × 10 ¹⁰ troy oz ^s | 3.2 × 10 ¹⁰ tons ^t | 4.8 × 10 ⁷ troy oz ^u | 7 | 25 | 3.4 | 4.1 | 4.8 ^v | 6 |
| Iron | 7.1 × 10 ¹¹ tons ^w | 8.5 × 10 ¹⁰ troy oz ^x | 8.5 × 10 ⁶ tons ^y | 840 | n.a. | 1.3 | 1.8 | 2.3 | 154 |
| Lead | 1.4 × 10 ¹⁰ tons ^z | 1.7 × 10 ¹⁰ tons ^{aa} | 3.7 × 10 ⁷ tons ^{ab} | 38 | 1,400 | 1.7 | 2.0 | 2.4 | 28 |
| Manganese | 1.4 × 10 ¹⁰ tons ^{ac} | 1 × 10 ¹⁰ tons ^{ad} | 2.0 × 10 ⁷ tons ^{ae} | 710 | 2,200 | 2.4 | 2.9 | 3.5 | 106 |
| Mercury | 7.2 × 10 ⁶ flasks ^{af} | 2.2 × 10 ⁷ flasks ^{ag} | 2.9 × 10 ⁷ flasks ^{ah} | 25 | 84 | 2.2 | 2.6 | 3.1 | 19 |
| ✓ Molybdenum | 6.3 × 10 ¹⁰ lbs | 1.7 × 10 ¹¹ lbs ^{ai} | 1.7 × 10 ⁷ lbs ^{aj} | 390 | 1,400 | 4.0 | 4.5 | 5.0 | 65 |
| Natural gas | 1.1 × 10 ¹⁵ ft ³ ^{ak} | 1 × 10 ¹⁵ ft ³ ^{al} | 3.8 × 10 ¹² ft ³ ^{am} | 30 | 300 | 3.9 | 4.7 | 5.5 | 58 |
| Nickel | 9.0 × 10 ⁷ tons | 1.5 × 10 ⁸ tons ^{an} | 6.9 × 10 ⁶ tons ^{ao} | 130 | 350 | 2.8 | 3.4 | 4.0 | 23 |
| ✓ Petroleum | 6.3 × 10 ¹¹ bbls ^{ap} | 1.2 × 10 ¹² bbls ^{aq} | 1.7 × 10 ¹² bbls ^{ar} | 38 | 110 | 2.9 | 3.9 | 4.9 | 23 |
| Platinum | 4.2 × 10 ⁶ troy oz | 1.9 × 10 ⁷ troy oz ^{as} | 4.2 × 10 ⁶ troy oz ^{at} | 100 | 140 | 3.1 | 3.8 | 4.5 | 31 |
| Silver | 5.4 × 10 ⁶ troy oz ^{au} | 4.2 × 10 ⁶ troy oz ^{av} | 3.0 × 10 ⁶ troy oz ^{aw} | 18 | 32 | 1.5 | 2.7 | 4.0 | 15 |
| Tin | 2.3 × 10 ⁷ tons | 1 × 10 ⁷ tons ^{ax} | 2.6 × 10 ⁶ tons ^{ay} | 88 | 160 | 0 | 1.1 | 2.3 | 62 |
| Tungsten | 2.9 × 10 ⁶ lbs ^{az} | no estimate available | 7.6 × 10 ⁷ lbs | 39 | n.a. | 2.1 | 2.5 | 2.9 | 27 |
| Zinc | 1.7 × 10 ¹⁰ tons | 3.9 × 10 ¹⁰ tons | 6.0 × 10 ⁶ tons | 280 | 930 | 2.5 | 2.9 | 3.3 | 76 |

where R = average rate of growth from column 6

S = high or low static indices from column 5.

^aKnown reserves of bauxite, expressed in aluminum equivalent, from U.S. Bureau of Mines, *Mineral Facts and Problems*, 1970.

^bPotential (conditional, hypothetical, and speculative) resources of bauxite, expressed in aluminum equivalent (bauxite assumed to yield 25 percent aluminum by weight).

Chromite ore.

^cBureau of Mines contingency forecasts, based on assumptions that coal will be used to synthesize gas and liquid fuels.

^dUnited States only.

^eKnown reserves from U.S. Bureau of Mines, *Mineral Facts and Problems*, 1970.

^fPotential (conditional, hypothetical, and speculative) resources.

^gIncludes Bureau of Mines estimates of gold demand for hoarding.

From ore.

^hKnown reserves from U.S. Geological Survey, *United States Mineral Resources*.

ⁱManganese ore.

^jEstimate of mercury recoverable at 400 dollars per flask.

^kEstimate of mercury recoverable at 1,000 dollars per flask.

^lThe platinum group metals, consisting of platinum, palladium, iridium, osmium, rhodium, and ruthenium.

^mConditional and hypothetical silver resources in the United States only.

Figure 5.1 The geologic availability of world nonrenewable resources