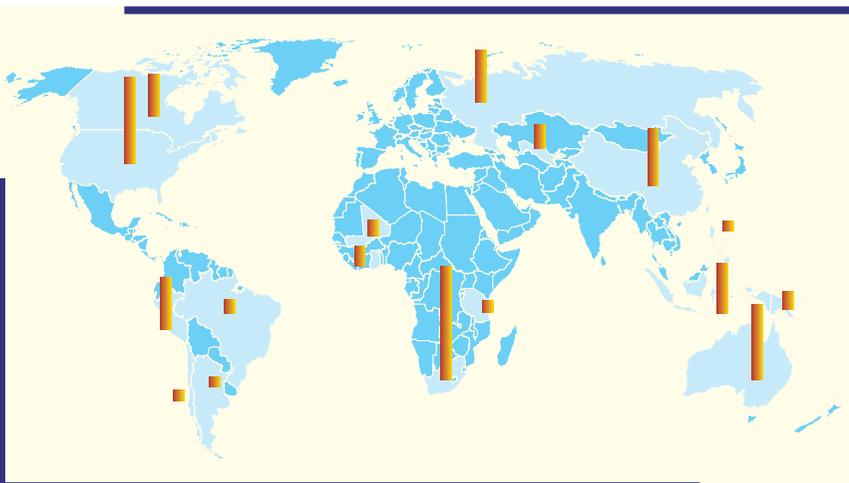


Tons, situation in 2002.



Production of gold.

The United Nations SITC (revision 2) defines gold as gold, non-monetary, unwrought or semi-manufactured SITC code 971.01.

Gold is used mainly as a means of storing value and for decorative purposes. It also has important industrial applications, particularly in electronics, where its high electrical conductivity makes it a preferred material. A distinctive characteristic of gold is that, unlike other metals, most of the gold ever produced in the world (an estimated 150,000 metric tons) is still available in usable form, since it does not corrode and is too valuable to discard.

### Central bank stocks: a potential worry for gold producers

A large portion of the world's gold – about 30,000 metric tons, or the equivalent of 12 years' gold mine production – is held by central banks as part of their reserves. In the late 1990s, several central banks sold part of their gold reserves, which led to price drops and complaints from producers. Under an agreement reached in 1999 and renewed for five years in 2004, central banks have committed themselves to limit their sales of gold to 2,500 metric tons over the next five-year period.

### Technology

Since gold does not easily combine chemically with other elements, it is usually found in pure form in nature, although it is sometimes associated with other minerals and produced as a by-product of mining for other metals such as copper. Gold is produced in both open-pit and underground mines, with the gold mines in South Africa being the deepest at close to 4,000 metres. Gold is separated from rock using techniques such as flotation or leaching with cyanide, after which it is smelted and cast into bars. Small-scale miners often use amalgamation with mercury to extract gold, after which the mercury is boiled off.

### Environmental issues

The significant environmental concerns associated with gold mining range from the typical problems of large-scale metal mining (such as disposal of waste rock and security of retained residues from mineral processing) to mercury pollution and deforestation resulting from small-scale informal mining operations.



Extraction of gold from rivers can create major environmental problems such as riverbank erosion and siltation. The picture shows a gold dredging operation on the Kayhan River, Central Kalimantan, Indonesia.

### World gold supply and demand, 2003 (in metric tons)

	Supply		Demand	
Mine production	2,601	Jewellery	2,547	
Official sales	591	Electronics, other uses	507	
Old gold scrap	940	Hoarding, investment*	1,079	
Total supply	4,133	Total demand	4,133	

\*Includes net producers' de-hedging corresponding to a demand of 310 metric tons. Source: GFMS Ltd.

### Production

World gold production has grown relatively slowly over the past decade. Gold is produced in numerous countries, and for some developing countries (such as Mali, Papua New Guinea, South Africa and Tanzania), it is a major source of export earnings. Industry concentration is relatively low, and the leading companies are based in developed countries or in South Africa but operate all over the world.



Small-scale gold mining constitutes an important and sometimes the only source of cash income for millions of people in developing countries. The photograph shows artisanal gold mining in Guinea.

### 10 largest gold companies 2002

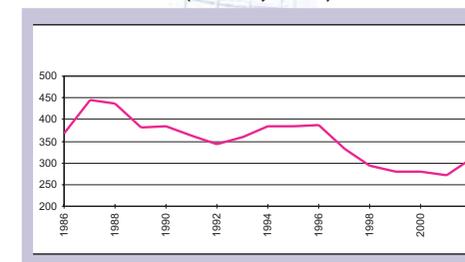
Company	Country production	Controlled world production (metric tons)	Share of (%) <sup>c</sup>
1 Newmont Mining Corp.	United States	235	9.0
2 Anglo American plc	United Kingdom	196	7.5
3 Barrick Gold Corp.	Canada	178	6.8
4 Gold Fields Ltd.	South Africa	137	5.2
5 Harmony Gold Mining Co. Ltd.	South Africa	100	3.8
6 Placer Dome Inc.	Canada	100	3.6
7 Rio Tinto plc	United Kingdom	87	3.3
8 Freeport McMoran Copper & Gold Inc.	United States	74	2.8
9 Navoi Mining & Metallurgical Combine	Uzbekistan	62	2.3
10 Ashanti Goldfields Co. Ltd.	Ghana	50	1.9
Total for 10 largest companies		1215	46.7
China		190	

Source: Raw Materials Group, Stockholm, 2003.

### Prices

The commonly accepted reference price for gold is set at the twice-daily London Bullion Market gold fix. Gold is traded both on a spot basis (for immediate delivery) and in the form of futures contracts (for delivery at a later date) at futures exchanges, of which the most important are the New York Mercantile Exchange (Nymex) and the Tokyo Commodity Exchange (TOCOM). Buyers and sellers use futures contracts to protect themselves against unexpected price movements, since the price of gold is quite volatile.

### Gold price 1985–2002, annual average (US\$/troy ounce)



### To learn more

Canadian Minerals Yearbook 2002. [mmsd1.mms.nrcan.gc.ca/mmsd/minstatistics\\_e.asp](http://mmsd1.mms.nrcan.gc.ca/mmsd/minstatistics_e.asp)

US Geological Survey minerals.usgs.gov/minerals/pubs/commodity/gold

World Gold Council [www.gold.org](http://www.gold.org)

International Council for Mining and Metals [www.icmm.com](http://www.icmm.com)