



## Fast Facts

### Fast Facts About Minerals

#### **Fast Facts About Coal**

##### **U.S. Demand:**

- Total demand for U.S. coal reached 1.12 billion tons in 2008.
- Half of U.S. electricity is generated from coal.
- 9 out of every 10 tons of coal mined each year in the U.S. is used for domestic electricity generation.
- Each person in the U.S. uses 3.7 tons of coal annually.
- Coal is the most affordable source of power fuel per million Btu, historically averaging less than one-quarter the price of petroleum and natural gas.
- There are approximately 600 coal generating facilities (1,470 generating units) and 1,100 manufacturing facilities using coal in the U.S., according to the U.S. Energy Information Administration (EIA).
- Coal accounts for about 32 percent of U.S. total energy production and 23 percent of total energy consumption.

##### **U.S. Coal Production**

- Nearly 30 percent of U.S. mines are owned by public companies. Public companies produce approximately 75 percent of U.S. coal.
- The U.S. has produced more than 1 billion tons of coal annually for each of the last 15 years.
- Approximately two-thirds of today's coal production results from surface, rather than underground, mining.
- Mountaintop mining in Appalachia contributes approximately 10 percent of all coal mined in the U.S. and is roughly 40 percent of the coal mined in West Virginia and Kentucky.

##### **U.S. Reserves**

- The U.S. has nearly 262 billion tons of recoverable coal reserves, according to the Energy Information Administration.
- That's a 235-year supply at current rates of use.
- Coal accounts for approximately 94 percent of the nation's fossil energy reserve.
- Coal is found in 38 states, under 458,600 square miles-or about 13 percent of the nation's land area.

##### **U.S. Coal Mining Employment**

- U.S. coal mining directly employs nearly 134,000 people;

- For each coal mining job, an additional 3.5 jobs are created elsewhere in the economy.
- The National Mining Association estimates 50,000 new employees will be needed in coal mining over the next 10 years to meet increasing demand and to replace retiring workers.

### **U.S. Coal and the Environment**

- Power plants being built today emit 90 percent less pollutants (SO<sub>2</sub>, NO<sub>x</sub>, Particulates, mercury) than the plants they replace from the 1970s, according to the National Energy Technology Laboratory.
- Regulated emissions from coal-based electricity generation have decreased overall by over 40 percent since the 1970s while coal use has tripled, according to government statistics.
- U.S. coal operations have reclaimed more than 2.3 million acres of mined land over the past 25 years.
- Since 1978, U.S. coal mines have paid more than \$7 billion to reclaim mines that were abandoned prior to laws requiring reclamation.
- Approximately five million acres of land have been mined in the U.S. to produce coal; and most of the land not under active mining has been or is being reclaimed to the standards set by law.

### **U.S. Coal Transportation**

- Railroads move about two-thirds of U.S. coal shipments annually.
- Nearly all coal shipped by railroads is transported by unit trains, and the weighted average number of cars in a coal unit train was 114, according to the 2006 Waybill Statistics.
- Coal is the largest freight commodity moved by barges on the nation's inland waterways.

### **Four Basic Varieties of Coal:**

- **Anthracite:** Sometimes also called "hard coal," anthracite was formed from bituminous coal when great pressures developed in folded rock strata during the creation of mountain ranges. Anthracite has the highest energy content of all coals and is used for space heating and generating electricity. Anthracite averages 25 million Btu per ton.
- **Bituminous:** Bituminous or "soft" coal formed when greater pressure was applied to subbituminous coal. This is the type most commonly used for electric power generation in the U.S.. It has a higher heating value than either lignite or subbituminous, but less than that of anthracite. Bituminous coal averages 24 million Btu per ton.
- **Subbituminous:** Subbituminous coal formed from lignite when it came under higher pressure. This coal is a combustible mineral formed from the remains of trees, ferns and other plants that existed and died during the time of the dinosaurs. A dull black coal with a higher heating value than lignite that is used primarily for generating electricity and for space heating. Subbituminous coal averages 18 million Btu per ton.
- **Lignite:** Increased pressures and heat from overlying strata caused buried peat to dry and harden into lignite. Lignite is a brownish-black coal with generally high moisture and ash content and lower heating value. However, it is an important form of energy for generating electricity, particularly in the American Southwest. Lignite averages 14 million Btu per ton.

See also:

**[Safety Statistics](#)**

**[The Economic Contributions of Mining](#)**

## Fast Facts About Minerals

### U.S. Demand

- Every American uses an average of 43,000 pounds of newly mined materials each year.
- Telephones are made from as many as 42 different minerals, including aluminum, beryllium, coal, copper, gold, iron, limestone, silica, silver, talc and wollastonite. Without boron, copper, gold and quartz, your digital alarm clock would not work.
- A television requires 35 different minerals, and more than 30 minerals are needed to make a computer.
- The construction industry accounts for approximately 51 percent of US copper demand.
- Silver's largest market use is for industrial applications, particularly as an electrical connector. Jewelry is the second largest use of silver.

### U.S. Mineral Production

- The United States produced about 7 percent of the world's nonfuel nonferrous minerals in 2008.
- Processed materials of mineral origin account for about 4 percent of U.S. gross domestic product.
- The United States is the world's second-largest producer of gold, which in addition to jewelry, is used to make computer circuitry.
- America's copper mines rank second only to Chile in production.
- The United States is the world's leading producer of beryllium, soda ash, molybdenum, sodium sulfate and sulphur.

### U.S. Minerals Mining Employment

- The National Mining Association estimates that in the next 5-10 years, the mining industry will need approximately 55,000 new miners across the U.S. to meet demand and to replace retiring mine employees. In addition, according to the Society for Mining Metallurgy & Exploration, at least 300 new mining and minerals engineering graduates are needed annually to keep up with projected growth.
- Nearly 400,000 people work directly in mining throughout the United States. Employment in industries that support mining, including manufacturing, engineer, environmental and geological consultants, accounts for nearly 1.5 million jobs.
- The average miner makes \$72,000 per year in salary, not including overtime, bonuses and benefits.
- U.S. metal/nonmetal miners report 3.7 non-fatal injuries per 100 workers in 2007, a lower rate of occupational injuries than agriculture, forestry & fishing, construction, manufacturing, transportation, and wholesale & retail trade.

### U.S. Minerals Mining Economic Impact

- In 2007, the mining industry paid approximately \$21.6 billion in taxes, royalties and fees to federal, state and local governments combined. Nearly \$64.6 billion was paid to mining industry employees in direct and indirect wages and benefits.
- The total direct and indirect impact of U.S. mining is valued at \$1.9 trillion - mining produced \$98.4 billion of finished mineral, metal and fuel products that were then transformed by consumer industries into goods

creating an additional \$1.8 trillion in value added.

- According to U.S. Geological Survey analysis, the value added to U.S. GDP by major industries that consume processed mineral materials was an estimated \$2.3 trillion in 2008, 16 percent of U.S. GDP..
- Minerals and materials processed from minerals account for exports worth as much as \$102 billion per year (USGS).

### **U.S. Minerals and the Environment**

- Mining has touched less than one-half of one percent of all the land in the United States.
- Only 3 million acres of public land have gone into private ownership from mining, while 94 million acres have been granted to railroads and 288 million acres privatized as agricultural homesteads (BLM).
- Since 1978, more than 2.6 million acres of mined lands have been restored to their original or better condition, as well as more than 285,000 acres of coal mines abandoned long ago.