



COAL MINING UNDER SCRUTINY

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Recent fatal accidents at U.S. coal mines have raised questions about the industry's safety record and its future in a period of swiftly changing global energy needs.

While the deaths of 12 coal miners trapped by an explosion in West Virginia, and two more killed from fire, made coal mining seem extraordinarily dangerous, the industry is much safer today than it was 30 years ago.

In 1907, more than 3,200 miners died in accidents nationwide, compared to 22 last year.

New technologies and stricter rules have made accidents less frequent, but Congress and local officials say better rule enforcement and possibly more regulations are necessary to keep miners safe.

“Miners shouldn’t have to get sick or fear death just to go to work every day,” said Senator Tom Harkin, a Democrat from Iowa whose father was a coal miner.

The Senate is holding hearings this week and the governor of West Virginia has proposed safety reforms of his own.

Coal's beginnings

Coal, which heats more effectively than wood, has been used for cooking and heating throughout early history.

Archaeological findings show the ancient Romans used coal for such purposes as far back as 100 A.D.

Emerging methods of steam-powered transportation, such as boats and railroads, created a strong demand for coal during the Industrial Revolution of the early 1800s.

And the demand for coal has been going strong ever since.

Coal use today

The United States possesses the world’s largest known coal reserves. These reserves can supply coal for the next 200-300 years at today’s consumption rates, according to the Energy Information Administration.

Coal mines are located in 27 states across the country. Wyoming produces the highest volume.

While the number of mines in the United States has dropped over the past 20 years, their individual sizes have grown.

More than 90 percent of all coal mined in the United States is used for creating electricity.

The resulting electrical power accounts for more than half of all power produced in the United States.

Other areas in which coal is used include withdrawing certain ingredients from the mineral to make synthetic materials, or baking it to produce a component used in the creation of steel.

Coal is also a big money maker for the United States. In 2004, nearly 4 percent of coal produced by the United States was exported, amounting to \$2.6 billion.

Mining coal

Coal can be extracted from the earth two different ways: surface mining and underground mining.

Surface mining is often used when coal is less than 200 feet from ground level. For this process, layers of topsoil are removed until the bed of coal has been reached. Once the coal is removed the original soil is replaced.

Under the 1977 Surface Mining Control and Reclamation Act, measures were adopted to protect the environment from the adverse effects of this mining process.

Coal deposits further beneath the earth's surface are accessed by drilling large tunnels underground.

At depths which can reach more than 1,000 feet, vertical shafts are cut between the surface and mining area. Certain shafts are used as ventilation for working miners, while others transport tools, coal, and the miners themselves between the surface and coal deposits.

Future markets

As oil and natural gas prices continue to rise, coal offers a cheaper alternative. According to Fitch Ratings, an independent investor research firm, the cost of coal for electrical generation is approximately \$1.50 per British thermal unit, while natural gas is priced at \$10 per British thermal unit.

Spurred by this demand, new coal-fired power plants are being developed for operation in 2010.

Michael Mellish, a member of the coal forecasting team at the Energy Information Administration, has looked at the industry's long-term productivity. "While natural gas has been the fuel of choice for new electric generating capacity in recent years, coal's share of total U.S. electricity generation is projected to increase in our long-term outlook (through 2030), primarily after 2020."

For coals miners that growth has resulted in better job stability, and higher wages.

Where once mining towns were abandoned by young men in search of other work, a new generation of miners is lining up.

Lou Retton, mayor of the West Virginia mining town of Fairmont, told Charles Sheehan of the Chicago Tribune: "We're going to see 800 new coal mine jobs ... the impact on this area is immediate."

In the wake of the recent tragedies, however, officials in West Virginia are working on laws that would require mining companies to install electronic tracking, increase oxygen reserves and improve their rapid response systems.

--Compiled by David Botti for NewsHour Extra

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