

Coal producers

The largest coal producing countries are not confined to one region - the top five hard coal producers are China, the USA, India, Australia and Indonesia. Much of global coal production is used in the country in which it was produced; only around 15% of hard coal production is destined for the international coal market.

Mining methods

Coal is mined by two methods: **surface** or 'opencast' mining and **underground** or 'deep' mining.

The choice of mining method depends on the geology of the coal deposit. Underground mining takes a bigger share of world coal production than opencast; although in several important coal producing countries surface mining is more common.

- Surface Mining

Surface mining is convenient when the coal is near the surface. This method recovers a higher part of the coal deposit than underground mining as all coal deposits are fully extracted. Large opencast mines can cover an area of many square kilometres and use very large pieces of equipment, such as draglines, power shovels, large trucks.

The first layer of soil and rock is broken up by explosives; it is then removed by draglines or by shovel. Once the coal is exposed, it is drilled, fractured and mined in strips. The coal is then loaded on to large trucks for transport to the coal preparation plant or directly where it will be used.

- Underground mining

There are two main methods of underground mining: room-and-pillar and longwall mining.

Room-and-pillar mining

Coal deposits are mined by cutting a network of 'rooms' into the coal and leaving behind 'pillars' of coal to support the roof of the mine. These pillars can be up to 40% of the total coal in the cave.

Longwall mining

Longwall mining involves the extraction of coal from a section of the deposit, or 'face' using special machines. The coal 'face' can vary in length from 100-350m. Many supports are used to temporarily hold up the roof while the coal is extracted. When coal has been extracted from the area, the roof is allowed to collapse. Over 75% of the coal in the deposit can be extracted from panels of coal.