

## What is Coal?

It is a black sedimentary rock, carbon-rich, and variable amounts of elements such as hydrogen, sulfur, oxygen and nitrogen. It can be easily burn and it is one of the most used fossil fuels.

## How is it formed?

It is a blend of organic component decomposition accumulated in swamps, lagoons or marinas, shallowness, covered or buried by sediments that trough time increase pressure conditions and temperature, producing progressive coal enrichment, known as coalification and gives rise to the formation of different kinds of coal.

## Main kinds of coal

*Lignite or brown coal: soft brown coal, with low heat content.*

*Anthracite or black coal: it has the highest carbon content; is the hardest and has a higher luster.*

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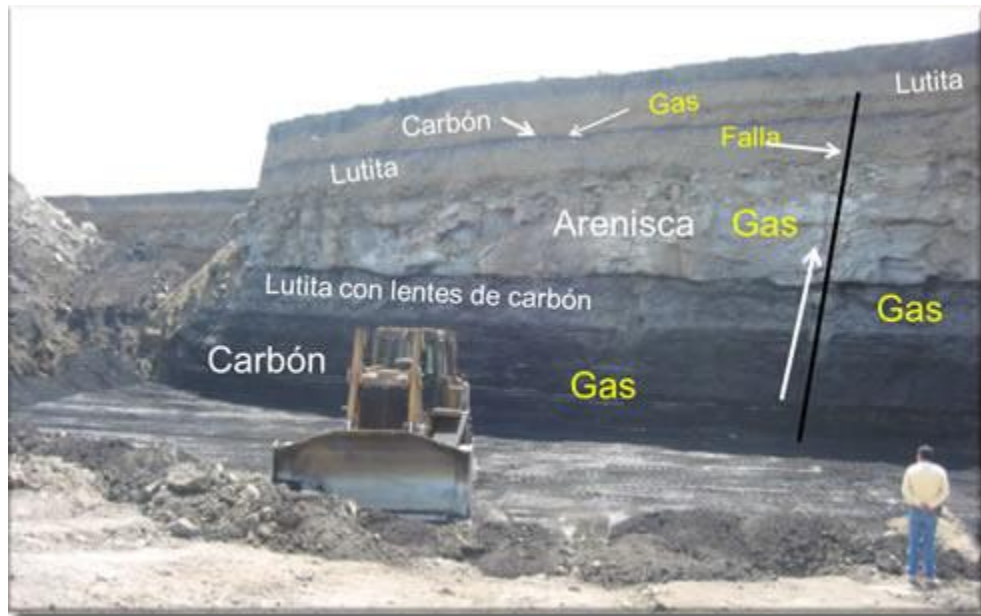


### Coal types

How is it found?

It is located in shaped horizontal or inclined forms, called "mantles", placed in depressions or old basins.

"Mantles" has large extension and could reach 1200 meters depth. Thicknesses are variable and can range from a few centimeters up to 100 meters. In Mexico, it can reach a maximum of 3 meters of thicknesses.



Sabinas sub-basin, Coah.

### Most commonly used coal exploitation methods

*Open pit:* this type of mining is used in Mexico to recover fuel up to 50 meters depth maximum. It involves removing sterile materials to regain coal.

*Underground mines:* are used to recover coal up to 300 meters depth. Ramps are used in the process, which goes from the surface to reach the mantle. Once coal is cut out, it is transported to the outside on a conveyor belt. Mining developments over coal mantles, reach several length kilometers.

*Mine shafts:* rudimentary system consisting in a vertical shaft about 2 meters diameter and with a depth of 30 to 70 meters.

It makes mantle cutting easy to develop upon a series of 50 meters length galleries reticle shaped where coal is extracted; the coal is taken to the outside using wheelbarrows and a little winch.

This type of mining is very insecure and it could disappear.



Different types of coal mining (pit and underground mine and "well")

How is it used?

- Electricity generation. Coal currently supplies 39% of electric power all around the world.
- Steel industry. Mixing iron ores with coal an alloy is obtained, where iron enriches coal gaining more resistance and elasticity.
- Cement. Furnaces usually burn coal as a powder, and consume nearly 450g of coal per 900g of produced cement.

Which are the main producer countries?

China, 3520mt (million tons).

USA, 993mt.

India, 589mt.

EU, 576mt.

Australia, 416mt.

Where is it? And how much coal does Mexico produced??



Main coal deposits are located in the states of Coahuila (where more coal is obtained), Sonora and Oaxaca; nowadays Mexico produces about 13 million tons a year, according to INEGI data.