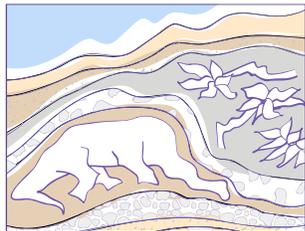


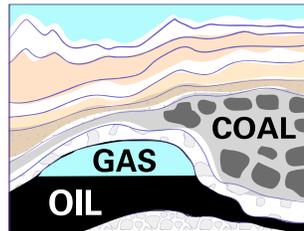
Fossil Fuels



FOSSIL FUELS



Millions of years ago, plants and animals lived on the earth. When they died, they were buried under water, mud, and rock.



Over millions of years, under the pressure of the earth, these plants and animals changed into oil, natural gas, and coal—the fossil fuels.



We use these fossil fuels to make most of the energy we need to run our cars, heat our homes, power our factories and make electricity.

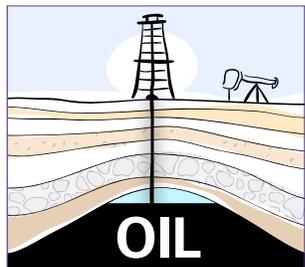


efficient ways to make electricity with fossil fuels - such as changing coal into a gas - or mixing coal and oil byproducts with minerals - to help them burn more cleanly, and produce fewer air emissions.

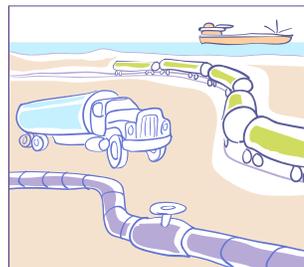
Today scientists are exploring cleaner, more



OIL



Oil is a thick, brown liquid found under land and water. It is often trapped in spaces and cracks in rocks. Holes are drilled deep in the ground to reach the oil; then it is pumped out of the ground through pipes. About one third of the oil we find can be pumped out easily. The rest is more difficult to remove.



The oil that comes out of the ground is called crude oil. Crude oil is sent to refineries through pipes or in tanker trucks, trains, or ships.

At the refinery, crude oil is made into different oils and fuels.



Most oil is used to make gasoline for cars.

Oil is also used to make:

- fuels for airplanes and large vehicles
- heating oil for furnaces in buildings
- chemicals used to make products such as plastics, fabrics, and cosmetics

Some oil is also burned in power plants to produce electricity.



Oil is a very useful energy source, but it won't last forever. There's only so much in the ground, and we can't make more. It is nonrenewable.

Burning oil and fuels made from oil produces gases, such as carbon dioxide (CO₂), carbon monoxide (CO), sulfur dioxide (SO₂) and nitrogen oxide (NO_x), as well as particulate, which is ash. Power companies can install equipment to reduce some of these emissions. Oil can produce reliable electricity and it is less expensive than other fuels.

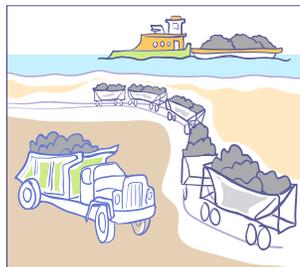
Fossil Fuels



COAL



Coal looks like rough, black rocks when it is dug out of the ground. Some coal is deep under the ground. Some is near the surface. Large machines, equipment and trucks are needed to get the coal out of the ground and to move it.



Coal is difficult to move because it takes up a lot of room. Most coal is hauled in railroad cars. Sometimes large trucks or barges are used.

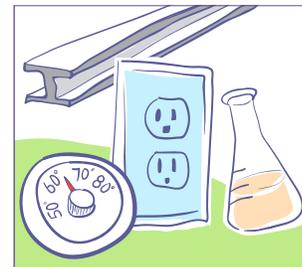
Often coal is sent to a preparation plant to be cleaned and sorted into different sizes.



Most coal is burned in power plants to make electricity. Coal is also burned in:

- steel mills to change iron ore to steel
- factories that make products
- some buildings to provide heat.

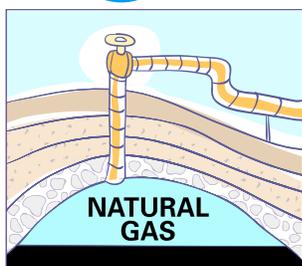
Like all fossil fuels, coal is a nonrenewable source. We have only so much on earth. However, our supply of coal in the United States should last a few



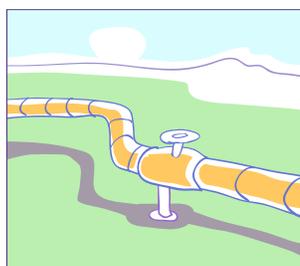
hundred years. Burning coal produces gases, such as carbon dioxide (CO₂), sulfur dioxide (SO₂), and nitrogen oxide (NO_x), as well as particulate, which is ash, and trace amounts of metals, like mercury. Power companies can install equipment to reduce some of these emissions. Using coal produces electricity which is very reliable, and costs less than other types of fuels.



NATURAL GAS

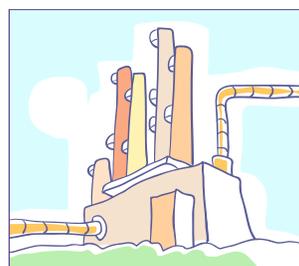


Natural gas is an invisible, odorless gas. It is found underground, sometimes in the same places with oil. Drills are used to reach the natural gas; then it usually rises to the surface by itself through pipes.



The natural gas is sent through pipes to a plant to be cleaned. It also has an odor added to it so you can smell the gas if it leaks.

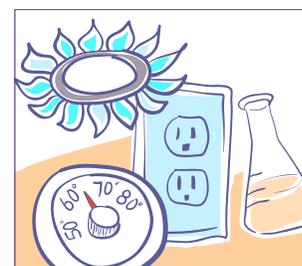
Most natural gas is delivered to homes and businesses through underground pipes and used for heat.



In buildings, it is burned in furnaces, stoves, and water heaters. Sometimes natural gas is used to make:

- electricity in power plants
- chemicals for products, such as ink, glue, and film.

Natural gas is the cleanest burning fossil fuel, but it still produces gases, such as nitrogen oxide (NO_x), carbon dioxide (CO₂) and carbon monoxide (CO).



Power companies can install equipment to reduce some of these emissions.

It is a nonrenewable energy source, but the United States does have a fairly large supply. However, natural gas can be hard to find and its price can go up and down. And we are drilling wells deeper and deeper to reach the natural gas.