



Petroleum

WHAT IS PETROLEUM?

Petroleum is a **fossil fuel**. Petroleum is often called crude oil, or oil. It is called a fossil fuel because it was formed from the remains of tiny sea plants and animals that died millions of years ago.

When the plants and animals died, they sank to the bottom of the oceans. Here, they were buried by thousands of feet of sand and silt. As the layers increased, they pressed harder and harder on the decayed remains at the bottom. The heat and pressure changed the remains, and eventually, petroleum was formed.

Petroleum deposits are locked in porous rocks almost like water is trapped in a wet sponge. When crude oil comes out of the ground, it can be as thin as gasoline or as thick as tar.

Petroleum is called a **nonrenewable** energy source because it takes millions of years to form. We cannot make new petroleum reserves.

HISTORY OF OIL

People have used petroleum since ancient times. The ancient Chinese and Egyptians burned oil to light their homes.

Before the 1850s, Americans used whale oil to light their homes. When whale oil became scarce, people skimmed the oil that seeped to the surface of ponds and streams. The demand for oil grew, and in 1859, Edwin Drake drilled the first oil well near Titusville, Pennsylvania.

At first, the crude oil was refined or made into kerosene for lighting. Gasoline and other products made during refining were thrown away because people had no use for them. This all changed when Henry Ford began mass producing automobiles in the 1890s. Everyone wanted an automobile, and they all ran on gasoline.

Today, Americans use more petroleum than any other energy source, mostly for transportation. Petroleum provided over 38 percent of the energy we used in 2000.

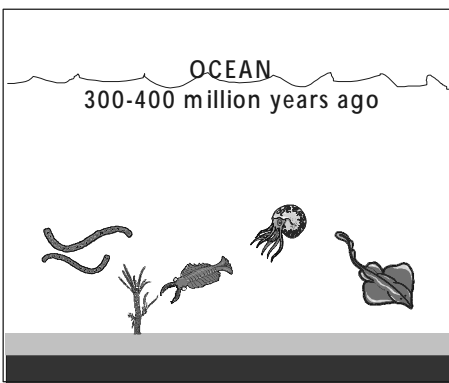
PRODUCING OIL

Geologists look at the types of rocks and the way they are arranged deep within the earth to determine whether oil is likely to be found at a location. Even with new technology, oil exploration is expensive and often unsuccessful. Of every 100 new wells drilled, only about 44 produce oil.

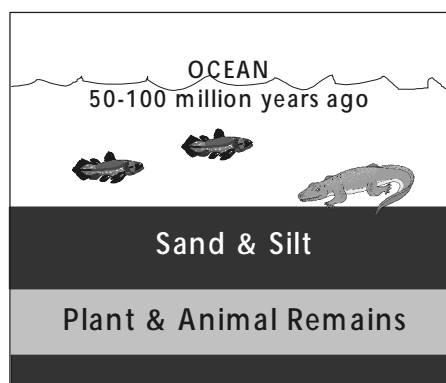
When scientists think there may be oil in a certain place, a petroleum company brings in a **drilling rig** and raises an **oil derrick** that houses the tools and pipes they need to drill a well. The typical oil well is about one mile deep. If oil is found, a pump moves the oil through a pipe to the surface.

Nearly one-fourth of the oil the U.S. produces comes from off-shore wells. Some of these wells are a mile under the ocean. Some of the rigs used to drill these wells float on top of the water. It takes a lot of money and technology to find oil and drill under the ocean.

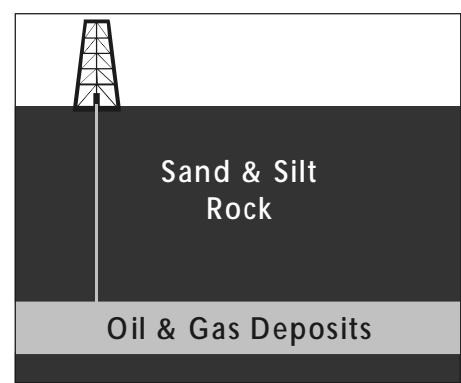
PETROLEUM & NATURAL GAS FORMATION



Tiny sea plants and animals died and were buried on the ocean floor. Over time, they were covered by layers of silt and sand.

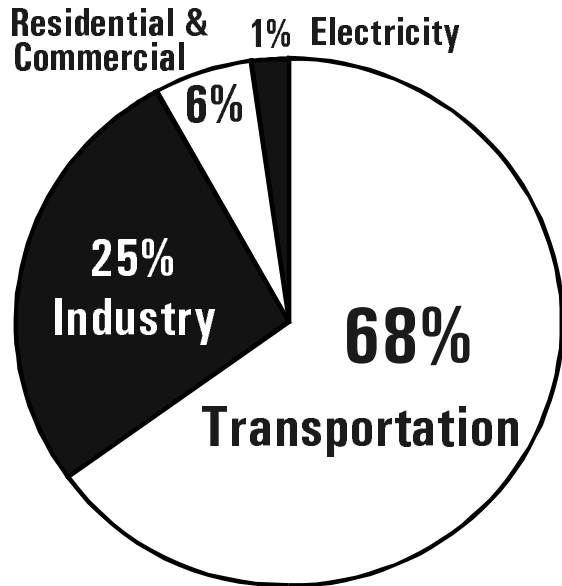


Over millions of years, the remains were buried deeper and deeper. The enormous heat and pressure turned them into oil and gas.



Today, we drill down through layers of sand, silt, and rock to reach the rock formations that contain oil and gas deposits.

PETROLEUM USE



Petroleum Products

Ink	Hand lotion	Nail polish
Heart valves	Toothbrushes	Dashboards
Crayons	Toothpaste	Luggage
Parachutes	Guitar strings	LP records
Enamel	Movie film	Balloons
Antiseptics	Aspirin	Paint brushes
Purses	Sunglasses	Footballs
Deodorant	Glue	Dyes
Pantyhose	Artificial limbs	Antihistamines
Oil filters	Ballpoint pens	Skis
Pajamas	Golf balls	Perfumes
Cassettes	Contact Lenses	Shoe polish
Fishing rods	Dice	Fertilizers
Electrical tape	Trash bags	Insecticides
Floor wax	Shampoo	Cold cream
Tires	Cameras	Detergents

Texas produces more oil than any other state, followed by Alaska, California, Louisiana, and Oklahoma—in that order. Americans use much more oil than we produce. Today, the U.S. buys about two-thirds (66 percent) of the oil it uses from foreign countries.

FROM WELL TO MARKET

We can't use crude oil as it comes out of the ground. We must change it into fuels that we can use. The first stop for crude oil is at an **oil refinery**. A refinery is a factory that processes oil.

The refinery cleans and separates the crude oil into many fuels and products. The most important one is gasoline. Some other petroleum products are diesel fuel, heating oil, and jet fuel.

SHIPPING PETROLEUM

After the refinery, most petroleum products are shipped out through pipelines. There are about 230,000 miles of underground pipelines in the United States. Pipelines are the safest and cheapest way to move big shipments of petroleum. It takes about 15 days to move a shipment of gasoline from Houston, Texas to New York City.

Special companies called jobbers buy petroleum products from oil companies and sell them to gasoline stations and to other big users such as industries, power companies, and farmers.

OIL AND THE ENVIRONMENT

Petroleum products—gasoline, medicines, fertilizers, and others—have helped people all over the world. But there is a trade-off. Petroleum production and petroleum products may cause air and water pollution.

Drilling for oil may disturb fragile land and ocean environments. Transporting oil may endanger wildlife if it's spilled on rivers and oceans. Burning gasoline to fuel our cars pollutes the air. Even the careless disposal of motor oil drained from the family car can pollute streams and rivers.

The petroleum industry works hard to protect the environment. Oil companies have cleaned up their refineries. Gasolines and heating oils have been changed to burn cleaner. And oil companies are making sure that they drill and transport oil as safely as possible.

TOP PETROLEUM PRODUCING STATES

