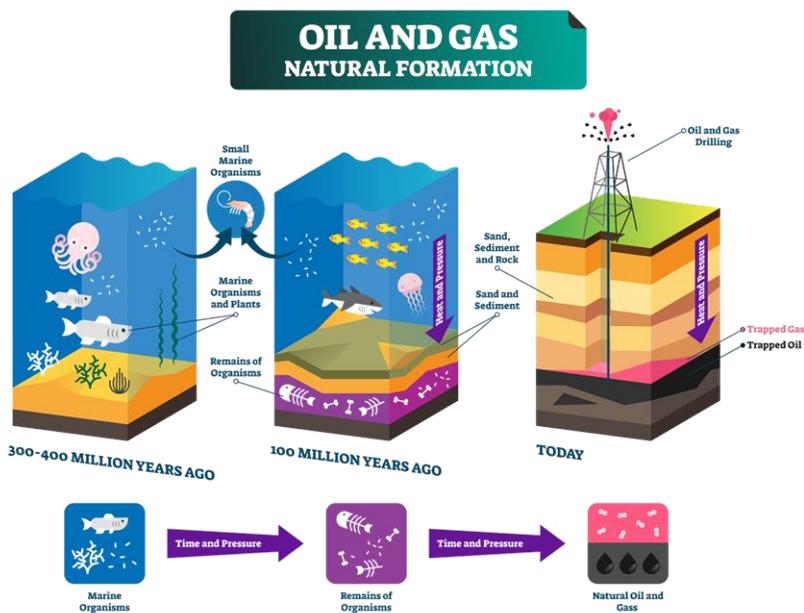


Natural Resources

Section I: Energy & Mineral Resources (Nonrenewable)



Natural resources are materials that exist in nature and are used by humans, such as mineral, energy, and water resources. Most energy sources are **non-renewable**, meaning that they are used up faster than natural processes can replace them within a human time scale. The **fossil fuels** we use today were formed from the remains of plants and animals that were buried and chemically changed millions of years ago. Fossil fuels such as coal, oil, and natural gas are all non-renewable

resources. **Coal** is the most abundant fossil fuel. It's a rock that contains at least 50% plant remains. **Oil** is a thick, black, liquid hydrocarbon, and it's sometimes called petroleum. Oil is formed from buried remains of microscopic marine organisms. **Natural gas** is gaseous hydrocarbon that often forms above oil since gas is a lighter molecule. Fossil fuels are removed from the ground through mining and pumping. The current reserves, or the amount that can be extracted, are decreasing rapidly.

Another non-renewable energy source is nuclear energy. **Nuclear energy** is an alternate energy source produced from the fission or splitting of uranium atoms. First, uranium atoms are split, which releases thermal energy. Then, the thermal energy heats water, producing steam. Next, the steam turns a turbine that is connected to a generator. Finally, electricity is produced as the generator spins. This generally produces a large amount of energy, and a well-run nuclear power plant doesn't pollute the air, soil, or water. However, if a nuclear power plant produces highly radioactive nuclear waste and it gets out of control, it can be harmful to the environment. The waste generated needs to be stored and contained for at least 10,000 years.

Like coal, certain minerals are mined to make useful products. **Mineral resources** are deposits of useful minerals. These minerals are called ores, which are deposits where minerals exist in quantities large enough to extract to be used for a profit. **Non-metallic mineral resources** are any materials that are not used as fuels or as sources of metals. Industrial minerals include sandstone used in glass, halite used in table and road salt, and garnet used in sandpaper. Building materials include aggregate used in concrete, gypsum used in plaster and wall board, and stone like granite, limestone, or sandstone.

Natural Resources

Section I: Energy & Mineral Resources (Nonrenewable)

Review:

1. What is a non-renewable resource?
2. What is the most abundant fossil fuel?
3. What is a mineral resource?