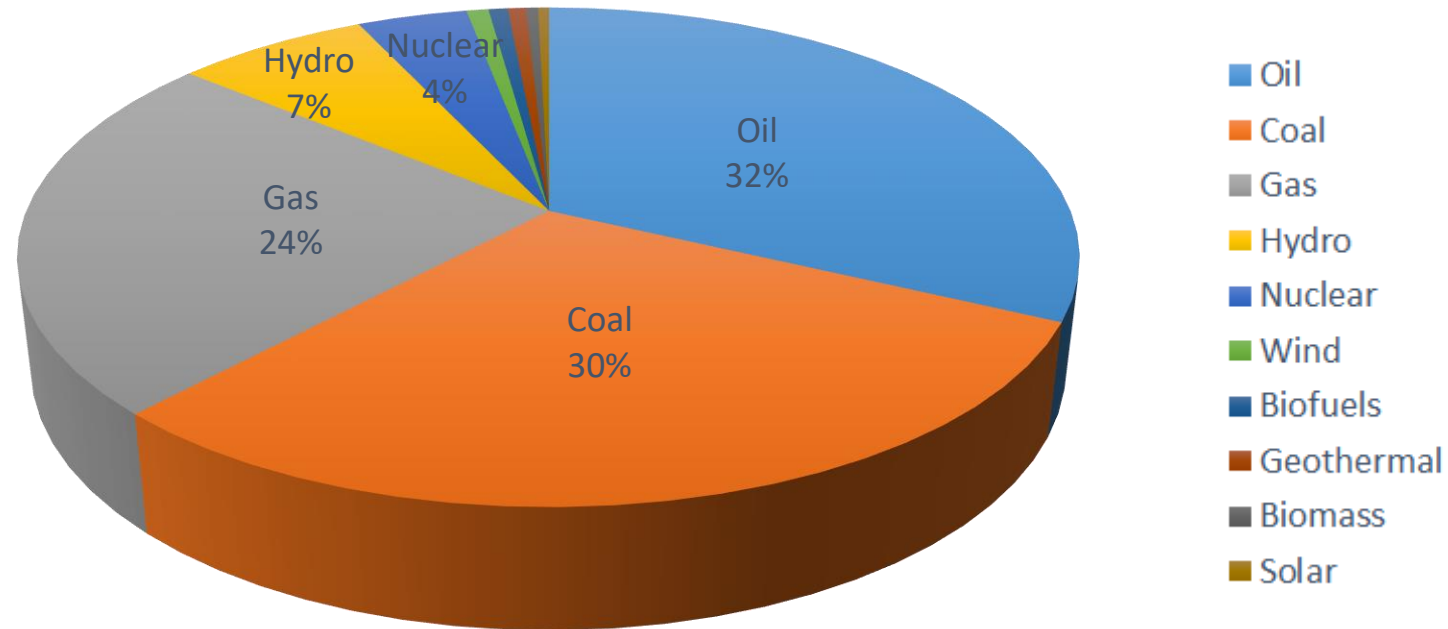


FOSSIL FUELS

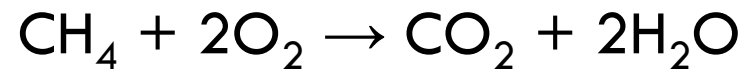


At present most of the energy used is generated by non-renewable sources. Figure shows world energy sources used annually as of the year 2014. The predominance of fossil fuel -petroleum, natural gas, and coal- are obvious.

- ? Types of fossil fuels
- ? Characteristics of fossil fuels
- ? Composition of fossil fuels
- ? Theories of origin of fossil fuels



- Fossil fuels are hydrocarbons, formed from the remains of dead plants and animals.
- The three major fossil fuels are oil, coal, and natural gas, which is composed mostly of methane.



- The effects of pressure and temperature can change organic matter into fossil fuels. This does not happen quickly. The transformation takes millions of years.
- Millions of years ago, the remains of plants and animals decayed and built up in thick layers. Over time, the sand and silt changed to rock, covered it, and trapped it beneath the rock. Pressure and heat changed some of this matter into coal and oil. Some of it was trapped as pockets of gases known as natural gas.
- In both cases, heat and pressure are critical to the formation of the fossil fuel.
- In the case of oil and natural gas, the organic material is marine in origin, whereas coal is formed from ancient peat forests.
- In both cases, the dead organisms are buried over time and the extreme heat and pressure converts these dead organisms into either coal, natural gas, or oil.

- Without fossil fuels, the economies of industrialized countries would quickly grind to a halt.

Oil provides gasoline for cars and diesel fuel for trucks as well as heating fuel for many homes. Oil is also an important ingredient of plastic, meaning that it is used in the manufacture of thousands of products.

Natural gas is used for home heating and industrial purposes.

Coal is used for cooking, heating, and making pottery as far back as the 1300s. By the 1800s coal was employed to heat buildings, provide energy for factories, and fire the engines of locomotives.

- Today most buildings are no longer heated by coal, most trains run on electricity, and most factories use other forms of energy as well. Still, coal remains an important energy source. It is widely used to make electricity.

Disadvantages of Fossil Fuels

- Getting them out of the earth requires considerable engineering prowess—coal must be mined, either in deep mines that burrow thousands of feet into the earth, or in surface-mining operations that strip the coal away from mountainsides. To extract oil and natural gas from the earth, deep holes must be drilled into the planet.

- Removing fossil fuels from the ground and burning them emit greenhouse gases, most notably carbon dioxide, that contribute to climate change. According to the Intergovernmental Panel on Climate Change (IPCC), an organization created by the United Nations Environment Programme and the World Meteorological Organization, if fossil fuel use continues at its current pace, the planet's temperature could rise by as much as 6.4°C by the end of the twenty-first century. The IPCC drew its conclusions after assessing the research of more than 2000 scientific studies.

Advantages of Fossil Fuels	Disadvantages of Fossil Fuels
Available in Plenty	Contribute to Global Warming
Easier to Find	Non-Renewable
Extremely Efficient	Unsustainable
Easier to Transport	Environmental Hazards
Generate Thousands of Jobs	Effect on Human Health
Easy Set Up	Accidents Happen

- Because fossil fuels take such a long time to form, the supply we have on Earth today will one day run out. Our current way of life relies heavily on the use of fossil fuels. We must be wise in our use of this energy source (conserve energy) and develop other energy sources (alternative energy) to meet our current and future energy needs.

