

ENERGY KNOWLEDGE JUNIOR

All organisms need energy to live and energy is connected to all human activities. Energy illuminates and heats our houses, takes care of us, allows us to move about and powers the instruments with which we work and study. Whatever produces energy is an “energy source”. Energy sources can be divided into primary and secondary. Primary sources are those that can be used directly just as they are found in nature, like carbon, oil, natural gas and wood. Secondary sources are those that derive from a transformation of primary sources (such as electric energy that is obtained from wind or water) or that are obtained burning them.

Some energy sources are renewable, i.e. they supply energy that is constantly replenished and that therefore is potentially inexhaustible. Renewable energy sources include the Sun, biomass, water, geothermal sources and wind.

Non renewable sources, instead, have such long periods of regeneration that once they have been exploited, they are considered used up. These sources were formed in the course of millions of years, like fossil fuels, or even when our planet was created, like uranium. The Sun is Earth’s primary source of energy: the Earth, in fact, receives an uninterrupted flow of energy that powers the water cycle from sea to atmosphere, moves the wind and is at the base of every food chain. Plants transform solar energy into chemical energy and we obtain this energy when we eat a plant or an animal that has eaten plants. Therefore, when we eat and drink, we free the energy that was stored in foodstuffs and we use it to think, move and play: in short, to live. Muscles transform the chemical energy obtained from food into the mechanical energy necessary to complete a task. At first, man used his own muscles for hunting, building and collecting; then even those of animals that were trained to carry weights, plough, grind...