

# Energy in All Its Forms

**Do you know all the different forms of energy?**

Let's start with **primary energy**.

This refers to all **natural** energy "sources" that humans subsequently **convert** into forms of energy that are **easier to use**.

Primary energy includes: **fossil fuels/low-carbon energy sources**

**fossil fuels**

Fossil fuels are formed from the **transformation of organic matter buried in the ground** for several millions of years. Coal/Oil/Natural Gas

**low-carbon energy sources**

These sources can be harnessed while emitting little-to-no CO<sub>2</sub>.

**nuclear energy**

This refers to using the heat released from splitting uranium or plutonium atoms to generate electricity.

**renewable energy**

This energy can come from sources that will almost never run out **solar/geothermal**

or be produced from movements generated by nature **wind/hydro**

or from burning natural or man-made resources **waste/biomass**

All of these primary energy sources are then converted into **secondary energy** and **energy carriers**, before being used by humans **electricity/heat/fuel/hydrogen**

**Summary:**

**2 categories of primary energy:**

- **Fossil fuels** (coal, oil, natural gas)

- **Low-carbon energy sources**

**Low-carbon energy sources = nuclear + renewables** (solar, geothermal, wind, hydro, waste and biomass)

Primary energy converted into **secondary energy**: electricity, heat, fuel and hydrogen.