ELECTRICAL ENERGY STORAGE

Electricity = the movement of electrons. This can't be stored. So we have to convert it into a different form to store its energy.

Example 1 Batteries

Example 2 Compressed air energy storage (CAES). This is an alternative to batteries, consisting of tanks containing compressed air.

Example 3 Inertia wheels. They convert electrical energy into kinetic energy, then convert it back into electrical energy when needed.

Example 4 Electricity can also be used to produce hydrogen that is stored in a fuel cell.

Another system: pumped storage. Here, the electricity is used to pump water from one reservoir to another, higher one.

When it is sent back down again, the water drives a turbine that generates electricity.

However, these solutions can be expensive or not efficient enough.

So scientists are working to improve them, since global demand is increasing and there is not enough production to meet needs.

Example Individual, “stationary” storage batteries. Used to supply individual households or neighborhoods, they store the electrical energy generated and offset the intermittent nature of renewable power production.

Summary

Several storage methods: Batteries/Compressed air energy storage/Inertia wheels/Hydrogen fuel cells/Pumped storage

They still need to be improved because: Often expensive/Sometimes inefficient/Increasing demand/Intermittency of green energy production