

ENERGY IN SOCIETY

RENEWABLE ENERGY

NONRENEWABLE ENERGY

ORGANIZATIONS

ALTERNATIVE FUEL VEHICLES

Biofuel

Solar Power

Geothermal

Wind Energy

Hydropower

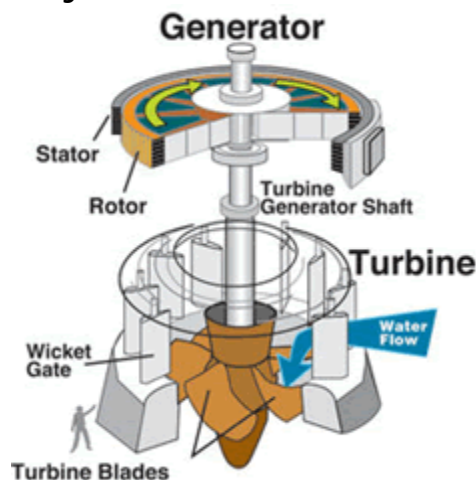


Hydropower is energy that has originated from moving water and can be transformed into electrical energy or mechanical energy. Historically, people have built waterwheels next to rivers and connected grinding mills to the wheel. Nowadays the most economical and useful way to harness the power of water is by building dams.

There are a couple different ways to use water to produce energy. They are each similar with the main difference being the economical factor.

- Waterwheels- used for hundreds of years to power mills and machinery
- Hydroelectric energy- a term usually reserved for hydroelectric dams.
- Tidal power- which captures energy from the tides in horizontal direction
- Tidal stream power- which does the same vertically
- Wave power- which uses the energy in waves

Hydro Electric Generator



PICTURE FROM
[HTTP://EN.WIKIPEDIA.ORG/WIKI/HYDROELECTRICITY](http://en.wikipedia.org/wiki/Hydroelectricity)

Hydroelectric power is most easily gathered when the land elevation drops drastically. For example the Hoover dam is in a canyon, on one side of the dam there is a lake on the other side there is a steep drop off that turns into a river. One of the obstacles to the idea of higher elevations is that in the places where dams can be most easily built is either already being utilized or there are environmental reasons for not building there. Due to this fact most nations are not looking at hydropower as the way to stop global warming.

Tidal Stream Power

Tidal stream power is a newer technology in the world of energy. It uses generators to gather energy from underwater currents. This technique is more effective than waterwheels because the turbine is completely submerged, which due to the higher density of water than air makes the possibility of more friction on the turbine a reality. The much higher density of water means that there is the potential for a single generator to provide significant levels of power.

Tidal stream technology is at the very early stages of development, if it is to be a means of alternative energy that will change the world it will require significantly more research. There have been some attempts to use the power of underwater currents, in the UK in 2003, a 300 kW propeller type turbine was tested off the north coast of Devon, and a 150 kW oscillating hydroplane device, was tested off the Scottish coast. All of these tests have shown that there is so much that we don't know about water power but has also shown that the wealth of knowledge in this subject area and the amount of energy available is limitless.

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