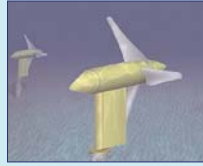


New and conventional hydropower technologies



Wave Energy

Wave energy conversion devices capture mechanical power from the waves and use it to directly or indirectly power a turbine and a generator.



Hydrokinetic Energy

Captures moving energy from the flow of water across or through blades to power a generator, similar to how a wind turbine captures the wind.

Tidal Energy

The flow from the tides of an ocean or stream is captured to make power.



New Hydropower Technologies: Expanding the Possibilities

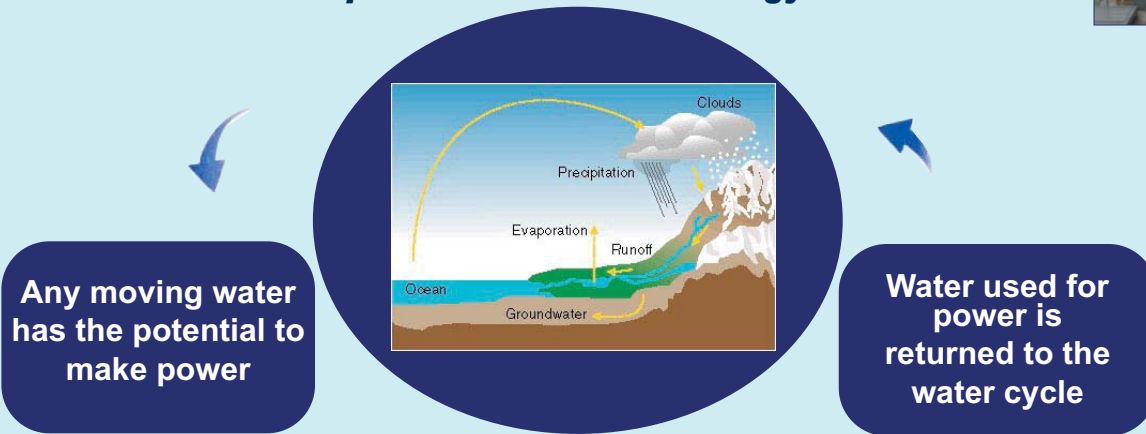
Constructed Waterways

Conduits that use vast amounts of flowing water, like irrigation canals, aqueducts and water supply or effluent streams can be captured for power generation.



HydroPOWER the power of moving water

Clean power for a secure energy future



The hydrologic cycle

source: http://hydropower.inel.gov/hydrofacts/how_hydro_works.shtml

Conventional Hydropower: Harnessing Rivers' Waterpower

Reservoirs

River water is stored in a reservoir behind an impounding structure, typically a dam, prior to use. The water may be released for generation either to meet changing electricity needs on a daily, weekly or seasonal basis or to maintain a reservoir level or other purposes such as flood control, irrigation, water supply or recreation.



Run-of-River

Flowing river water is run through a hydropower turbine and generator, and then returned to the river.



Pumped Storage

Water is pumped using reversible pumping/generating units from a lower reservoir to an upper reservoir when demand for electricity is low (the power for the pumping is supplied from the grid). During periods of high electricity demand, the water from the upper reservoir is released back to the lower reservoir through the reversible units to generate power.

