

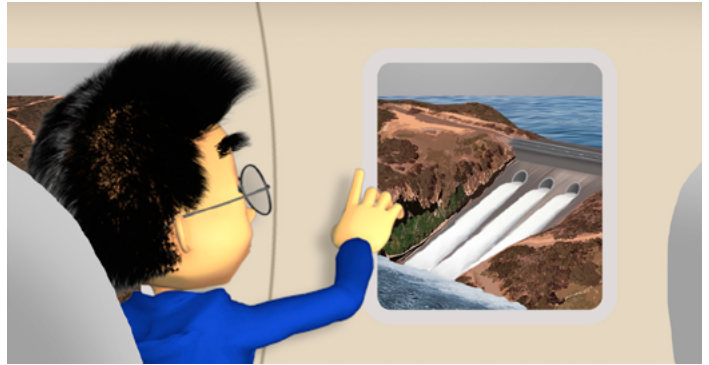


RENEWABLE ENERGY IN AUSTRALIA

Hydropower

Hydropower uses the energy of flowing water to produce electricity via a hydroelectric power station.

Hydroelectric power stations are usually powered by water that has been captured in a dam or reservoir. The water from the dam is released into a pipeline and over a turbine. The force of the water causes the turbine to spin, operating a generator. The generator produces electricity which is transferred through a substation into the grid. Excess water is released back into the waterways. See page 2 for a diagram showing this process.

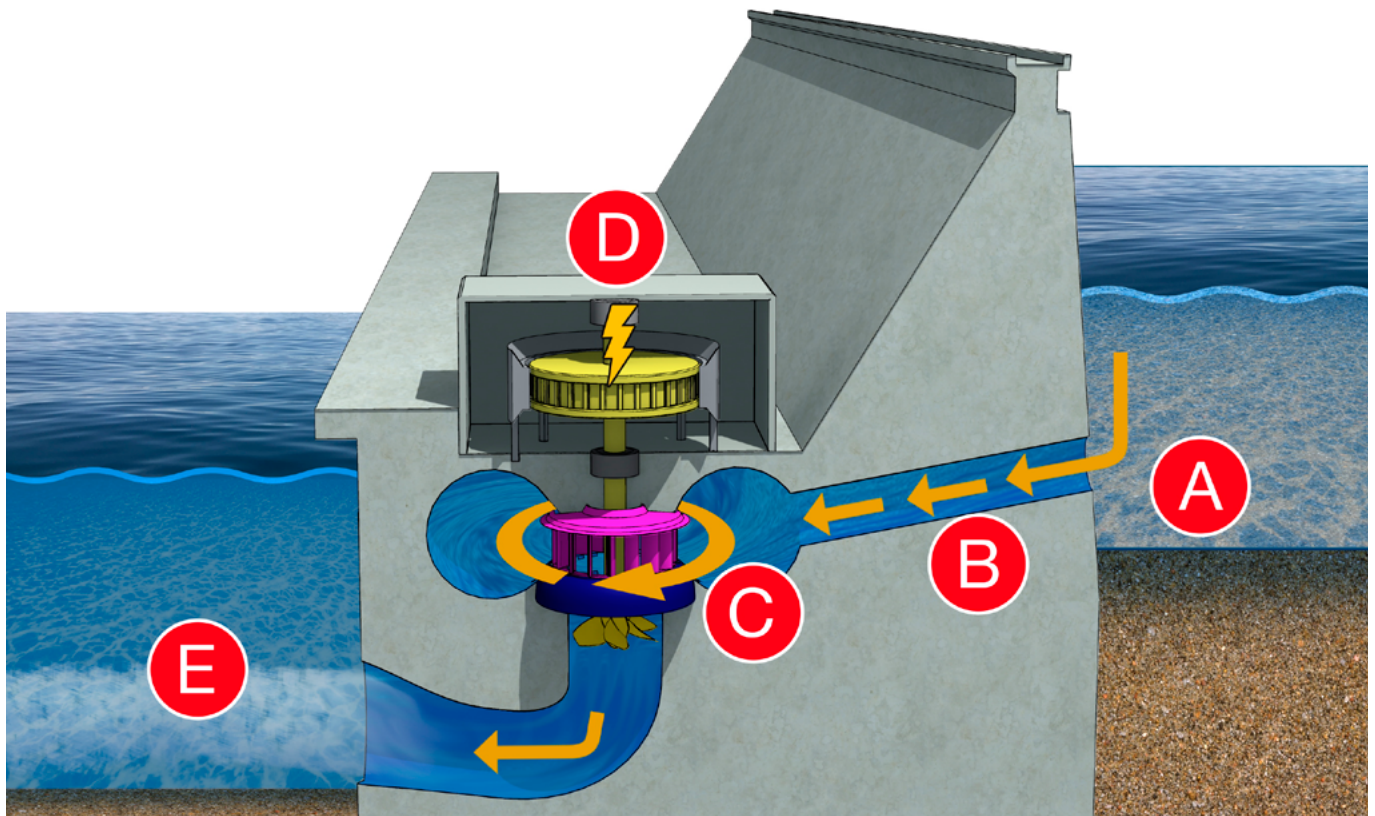


Facts about hydropower

- As you know, large hydroelectric power stations use dams to store the water needed to produce electricity. Sometimes, the dams were originally built to provide drinking water or water for irrigation and the power station was added later. What a great way to ensure that maximum value is extracted from the water!
- Mini and micro hydroelectric power stations can be built in naturally flowing water bodies such as streams, and are often used as stand-alone systems. These small stations can be useful in remote or rural areas that are not connected to the main electricity grid.
- Hydro generators can start up and begin supplying maximum electricity within 90 seconds. Now that's fast!
- Did you know that hydroelectric power stations deliver the majority of Australia's renewable energy? In 2013, Australia had over 120 operating hydroelectric power stations which produced about 8% of Australia's total energy and about 42% of our renewable energy.
- Australia's most well-known hydroelectricity plant is the Snowy River Hydro Scheme in New South Wales. This, along with plants in Tasmania, generates the majority of Australia's hydropower.
- Hydropower provides electricity generation in more than 160 countries worldwide.



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Hydropower in action

- A. Water (from rain or pump stations) is captured for storage (usually in a dam or other waterway).
- B. The stored water is released into a pipeline.
- C. The water passes through a turbine causing it to spin.
- D. The spinning motion causes a generator to produce electricity.
- E. The water returns to the waterway to be fed into the system again.