

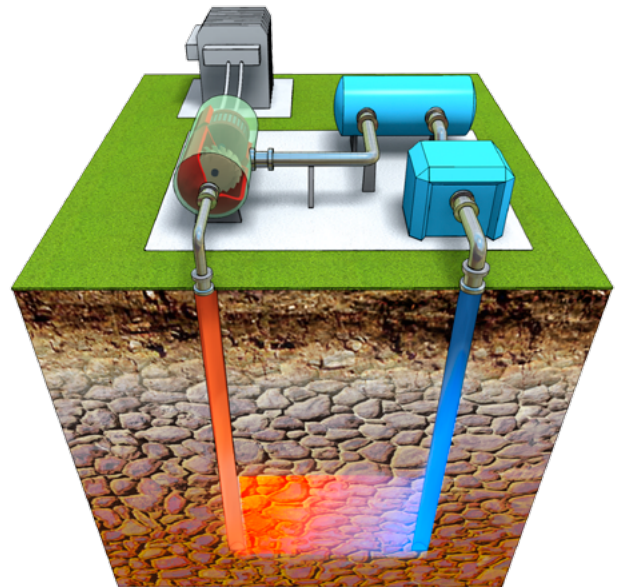


RENEWABLE ENERGY IN AUSTRALIA

Geothermal energy

Geothermal energy uses the internal heat from the Earth to generate electricity. The heat is stored in granite rocks deep below the surface (sometimes called 'hot rocks') or trapped in liquids in underground aquifers.

To reach the heat-producing granite, wells are drilled to a depth of 3-5 kilometres. Water is pumped from a storage tank down into the wells and through cracks in the rocks. The heat of the rocks causes the water to be heated to a temperature of approximately 300°C and turn to steam. Pressure causes the steam to rise up a second well shaft, where it turns a turbine. The turbine drives a generator which produces electricity. The steam is condensed back into water, returned to the storage tank, and used again and again. See page 2 for a diagram showing this process.

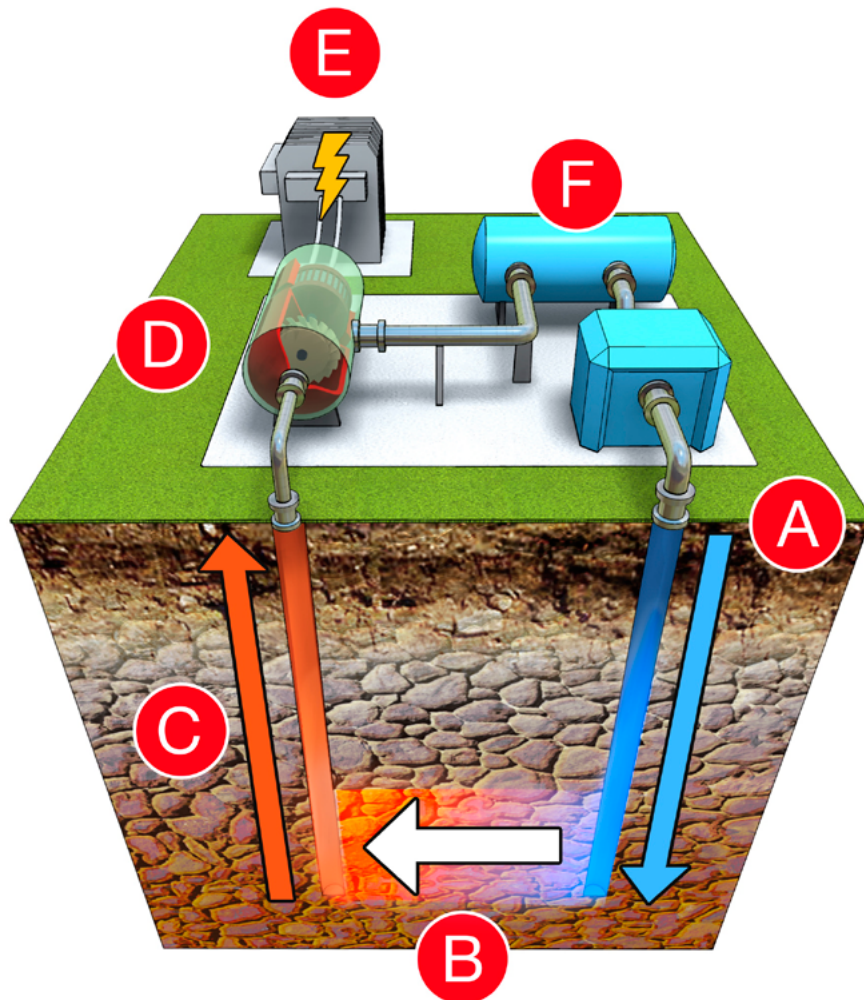


Facts about geothermal energy

- Would you believe that, according to Geoscience Australia, hot rocks within five kilometres of the Earth's surface contain enough energy to provide 2.6 million years-worth of energy to Australia? Now that's a lot of energy!
- Australia has a lot of excellent geothermal resources, but they are mostly located far away from the power grid.
- The geothermal power industry is still in the early stages of development, with only one plant currently operating in Birdsville (Qld).



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Geothermal power in action

- A. Water is pumped down a well (from a storage tank) to hot rock areas under the Earth's surface.
- B. The heat from the rocks converts the water to steam.
- C. Pressure causes the steam to rise up a second well.
- D. The steam passes through a turbine which operates a generator.
- E. Electricity produced by the generator is fed into the electricity grid via a substation.
- F. The steam is condensed back into water to be returned to the system and used again.