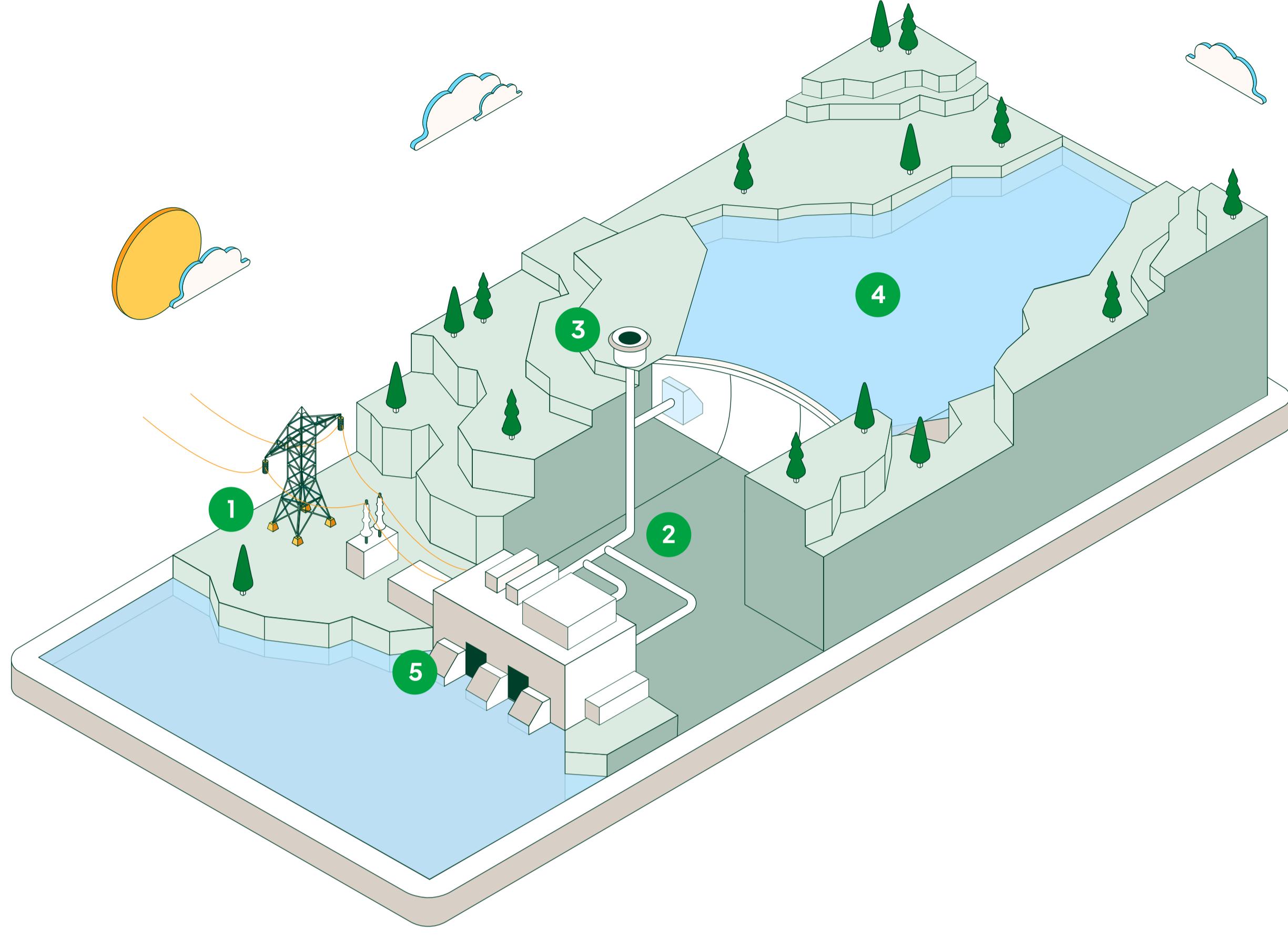


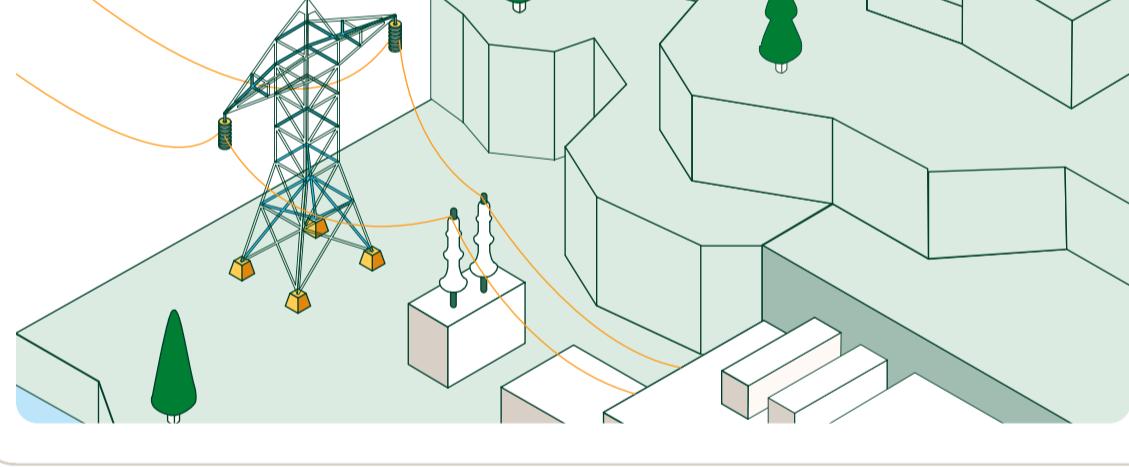
How does a pumped-storage hydroelectric power plant work?

Pumped-storage hydroelectric power plants have two reservoirs at different elevations that allow water to be stored by taking advantage of periods when energy demand is lower than renewable generation. Click on each of the numbers below to find out how this type of facility operates:



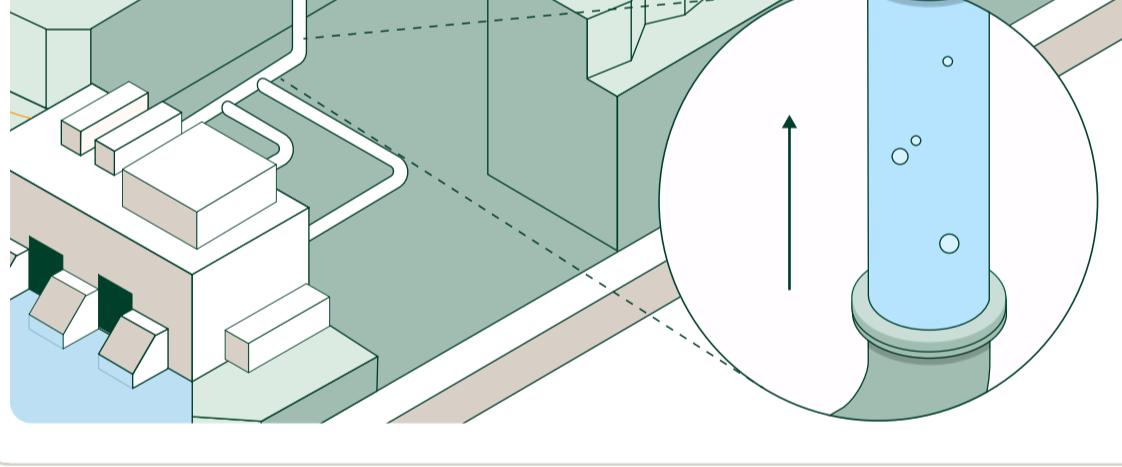
1 Excess renewable energy

When non-dispatchable renewable generation (photovoltaic or wind, which must be consumed when generated) exceeds electrical demand, **the pumped-storage plant begins operating to make use of that surplus energy.**



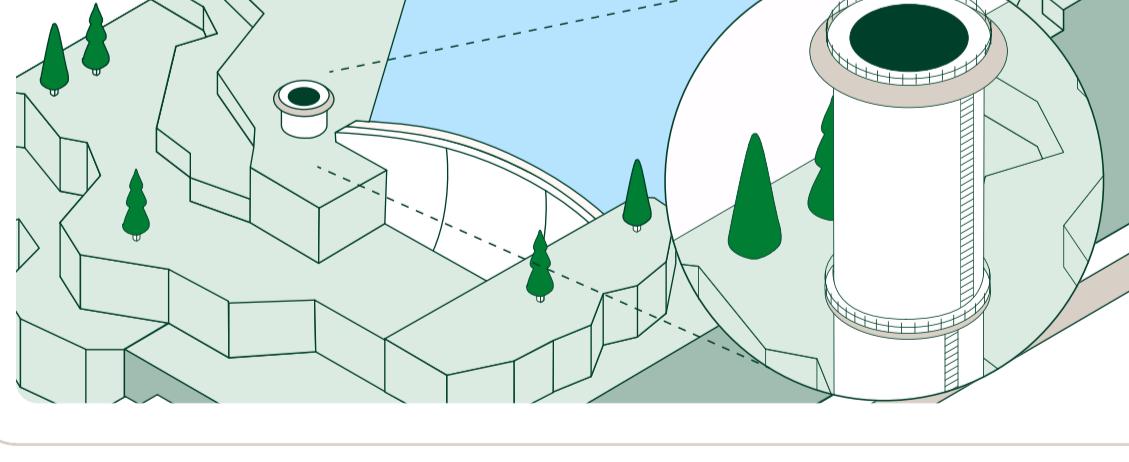
2 Pumping the water

Hydraulic pumps drive water from the lower reservoir up to the upper reservoir through a pressurised pipe and a conveyance tunnel.



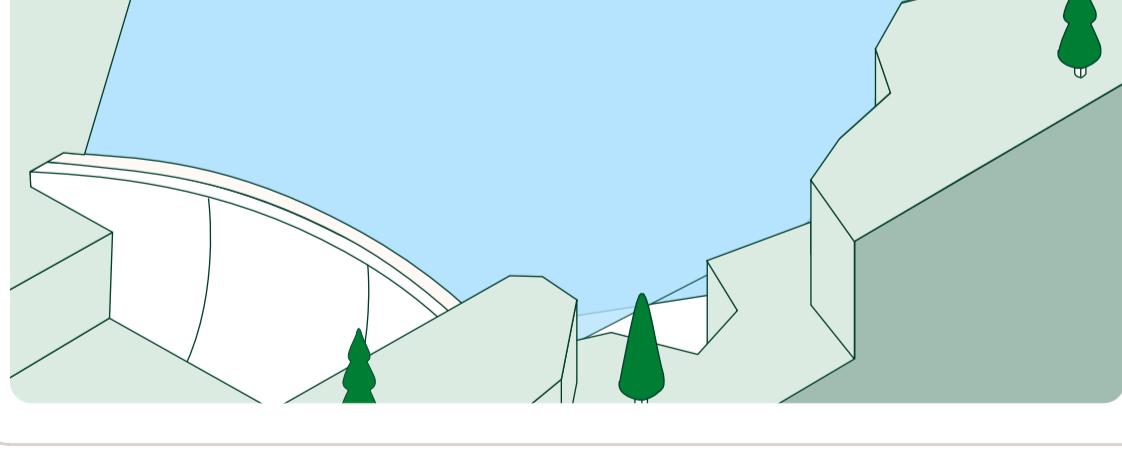
3 Hydraulic system regulation

To control water pressure during pumping and avoid overpressure, **some plants feature a surge shaft or pressure-relief valve systems.**



4 Storage in the upper reservoir

The pumped water accumulates in the upper reservoir, which acts as a large store of potential energy ready to be used when electricity generation is required.



5 Ready to generate power

Once the water is stored, the plant can remain idle until the power system needs more energy. **At that point, the flow is reversed and the facility operates like a conventional [hydroelectric power plant](#).**

