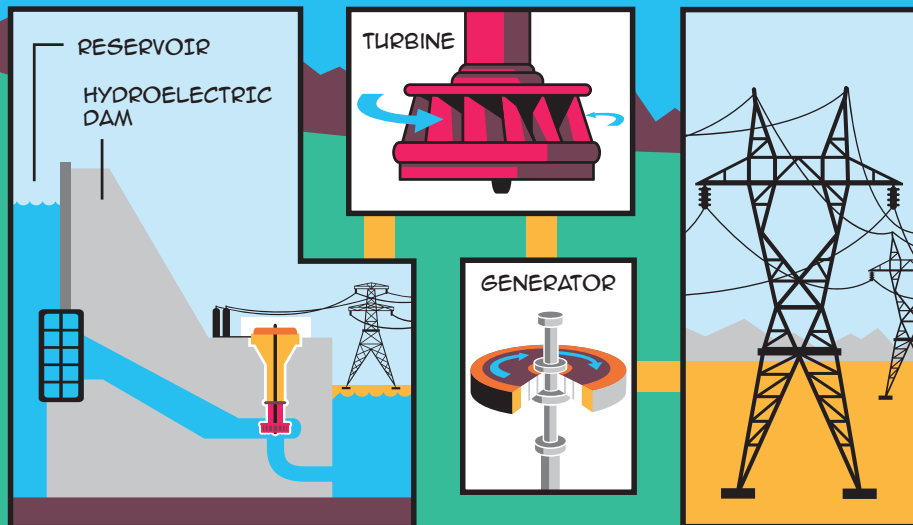


# HYDROELECTRICITY

FOR BIG HYDRO PROJECTS, A DAM IS BUILT ON A RIVER TO STORE WATER IN A RESERVOIR. WHEN THE WATER IS RELEASED, ITS KINETIC ENERGY PASSES THROUGH A PENSTOCK (A SET OF CHANNELS OR PIPES). THE WATER TURNS THE BLADES OF A TURBINE, CREATING MECHANICAL ENERGY, WHICH IS THEN CONVERTED INTO ELECTRICITY BY A GENERATOR.



IN A PUMPED STORAGE SYSTEM, WATER IS RELEASED WHEN THERE IS PEAK DEMAND. WHEN DEMAND IS LOW, THE WATER IS PUMPED BACK UP TO THE RESERVOIR USING ELECTRICITY FROM OTHER ENERGY SOURCES. IN RUN-OF-THE-RIVER INSTALLATIONS, THE NATURAL FLOW OF THE RIVER PROVIDES THE NECESSARY KINETIC ENERGY.

HYDROELECTRICITY IS A RENEWABLE SOURCE OF ENERGY BECAUSE WATER IS NOT USED UP IN THE ENERGY PRODUCTION PROCESS.

