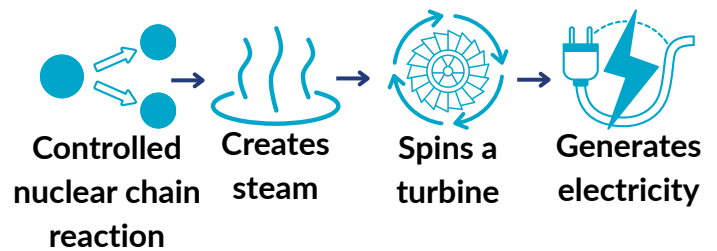


HOW DOES A REACTOR WORK?

Nuclear reactors produce energy through fission, the process of splitting atoms. Fission occurs when a neutron strikes a larger atom, causing it to split into two smaller atoms. The heat produced during fission creates steam, which spins a turbine to generate electricity.



Because reactors create steam through fission, they don't burn anything to generate power. This means they don't release carbon or pollutants into the air. The large concrete towers visible at some nuclear plants are cooling towers. The white clouds coming from these towers are water vapor.

Nuclear reactors are designed to sustain and control nuclear fission. Inside the reactor, nuclear fuel rods are immersed in water, which acts as both a coolant and a moderator. Control rods are inserted or withdrawn to control the rate of the nuclear chain reaction.



Nuclear fuel rod



Nuclear reactor



Nuclear containment dome

Within and around the reactor, there are multiple layers of physical barriers to protect against accidental radiation release. These include fuel rods that encase the fuel, the reactor that contains the fuel rods and the steel-reinforced concrete building that houses the reactor.



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