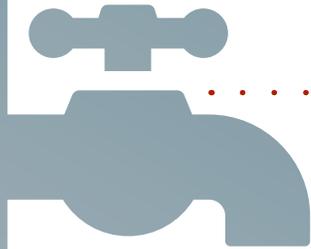


Water Use and the Carbon Free Power Project

About the Carbon Free Power Project

The Utah Associated Municipal Power Systems (UAMPS) Carbon Free Power Project would construct a **720 megawatt** NuScale nuclear power plant at the Idaho National Laboratory Site. Commercial electricity generation would begin in **2026**.



How much water would the CFPP plant use?

It depends.

NuScale and UAMPS are currently working out the final design, which could be water-cooled, air-cooled, or some combination of the two.

Water-cooled CFPP plant:
an estimated 21,000 acre-feet per year

Air-cooled CFPP plant:
an estimated 1,500 acre-feet per year

How does NuScale technology compare to other thermal power generation technologies?

Water-cooled CFPP plant:
740 gallons of water per megawatt hour

Conventional water-cooled nuclear, coal, oil, natural gas, solar-thermal and biofuel power plants:
600 to 800 gallons of water per megawatt hour

What's that coming out of the cooling tower?

Water vapor! Like most nuclear power plants, NuScale's design does not produce greenhouse gas emissions — carbon dioxide, nitrogen, sulfur oxides, etc. — produced by coal, oil or gas-powered power plants.

The turbines are housed in a separate building from the reactors. Heat from the fission reaction is transferred to water that boils without ever coming in contact with radioactive nuclear fuel, all but eliminating the chance release of radiation into the atmosphere.

What keeps radioactive water from leaking into the aquifer?

NuScale's design consists of multiple, individually sealed, small modular reactors submerged in a common pool. The pool is made of very thick, steel-reinforced concrete with an impermeable steel liner designed to withstand seismic conditions in the area.



130 Monitoring wells



The Snake River Aquifer

The Snake River Aquifer is roughly the size of Lake Erie. Estimated volume: 200 billion cubic feet or 4,591,375 acre-feet

Water Quality Monitoring

More than 130 water quality monitoring wells, up to 1,200 feet deep, exist on the 890-square-mile INL Site. They are monitored and maintained by DOE contractors and the Interior Department's U.S. Geological Survey.

The results are shared with several federal and state agencies including the Idaho Department of Environmental Quality (DEQ). The DEQ collects duplicate samples to independently verify results and laboratory performance.

Would UAMPS use DOE's existing water right?

No. UAMPS would need to purchase a water right from an existing user.

