Nuclear Energy

Nuclear Energy in Wyoming

Energy Leader

Wyoming is known as the “Energy State,” and for good reason. Wyoming consistently ranks high in traditional, emerging, and renewable energy sources. In November 2021 TerraPower and Rocky Mountain Power announced the selection of the Naughton Plant in Kemmerer, Wyoming as the site of the NatriumTM advanced nuclear reactor demonstration project.

Environment

Wyoming has been a leader in energy for more than 100 years and is home to a highly-skilled, well-trained workforce. Wyoming knows what it takes to support major energy projects, and the state has a history as the nation’s leader on energy issues. Many utilities have made making significant investments in Wyoming’s grid. Our state is pleased to be the home of this next generation in nuclear power facility.

Advanced Reactor Technology

The project features a 345 MW sodium-cooled fast reactor with a molten salt-based energy storage system. The storage technology can boost the system’s output to 500 MW of power for more than five and a half hours when needed, which is equivalent to the energy required to power around 400,000 homes. The technology’s novel architecture separates and simplifies major structures, reducing complexity, cost, and construction schedule. The technology provides dispatchable power at a scale that can support electricity diversification and decarbonization.

LOW TAX BURDEN

NO corporate or personal state income tax

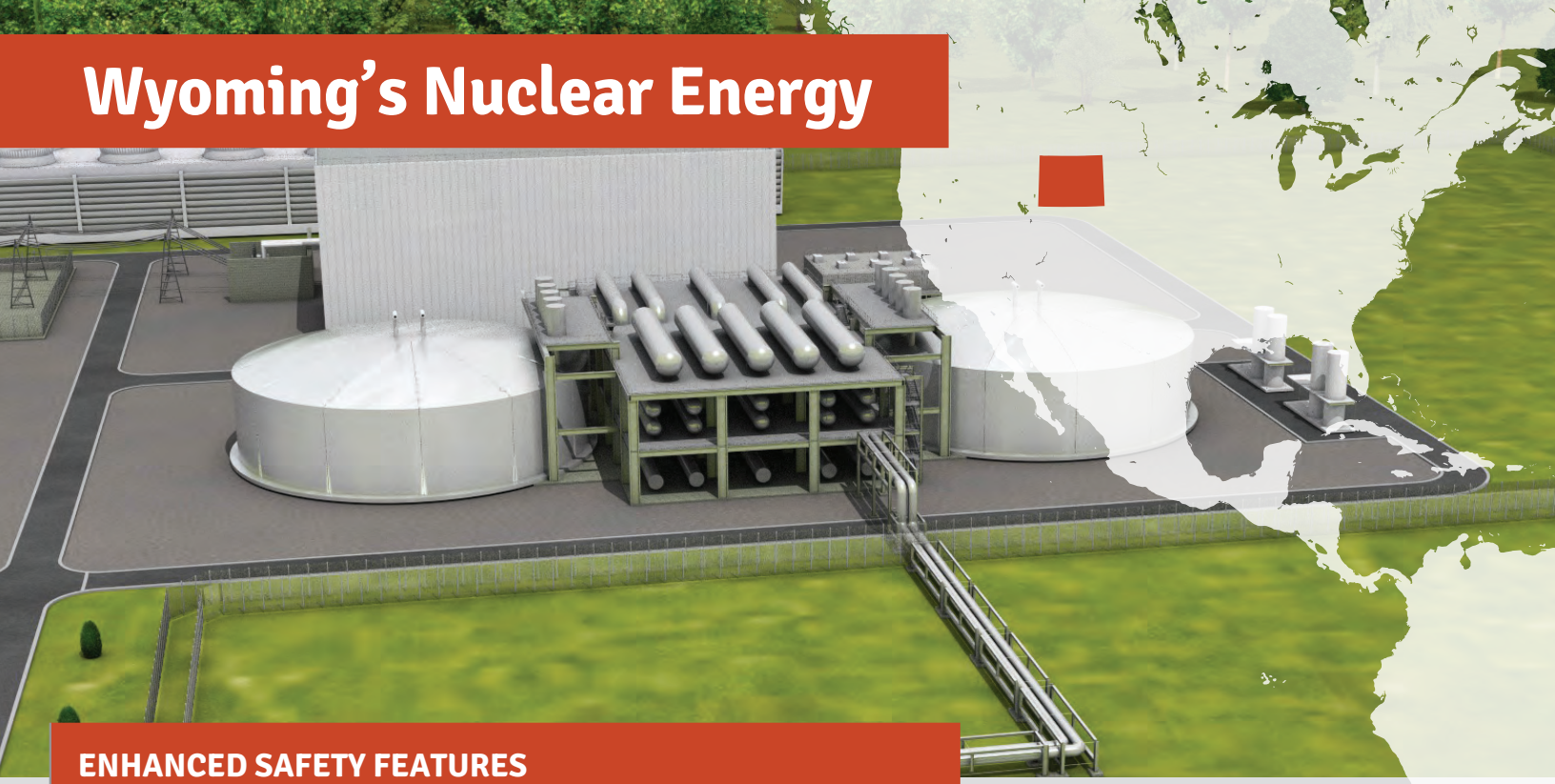
NO inventory tax

NO franchise tax

NO occupation tax

NO value-added tax

Wyoming's Nuclear Energy



ENHANCED SAFETY FEATURES

The Natrium technology enhances safety, relying on natural forces and advanced design. The reactor has a net negative power coefficient, which means that if the temperature goes up, the reactor will naturally respond by reducing power. In addition, the Natrium reactor operates at atmospheric pressure and uses sodium, instead of water, as its coolant. The reactor operates at a temperature more than 350 degrees C below the boiling point of sodium. This gives the operator plenty of time to respond to any unusual event. Further, the Natrium reactor is a pool-type reactor, so there are no penetrations in the reactor vessel below the upper closure, which eliminates the possibility of a leak or loss of coolant accident. The design also relies on natural forces, like gravity and hot air rising, to cool the reactor if an unexpected shutdown occurs.

"I am thrilled to see Wyoming selected for this demonstration pilot project, as our great state is the perfect place for this type of innovative utility facility and our coal experienced workforce is looking forward to the jobs this project will provide. I have always supported an all-of-the-above energy portfolio for our electric utilities. Our state continues to pave the way for the future of energy, and Wyoming should be the place where innovative energy technologies are taken to commercialization."
– Wyoming Gov. Mark Gordon

DEMONSTRATION SITE

The demonstration plant is intended to validate the design, construction, and operational features of the Natrium technology. The energy storage capability allows the plant to integrate seamlessly with renewable resources. Along with PacifiCorp and GE Hitachi Nuclear Energy, members of the demonstration project team include engineering and construction partner Bechtel, Energy Northwest, Duke Energy, and nearly a dozen additional companies, universities, and national laboratories.

Learn more about Wyoming's nuclear economy at
WhyWyoming.org
WyoEnergy.org

Wendy Lopez
Business Recruitment Manager,
Wyoming Business Council
wendy.lopez@wyo.gov | 307.777.2806

Anja Bendel
Program Director,
Wyoming Energy Authority
anja.bendel@wyo.gov | 307.635.3573