

# TRi Energy Partnership

X-energy | Energy Northwest | Grant County PUD



## TRi Energy Partnership

X-energy, Grant County Public Utility District (Grant PUD), and Energy Northwest are partnering to evaluate, develop and build a commercial Xe-100 advanced reactor at a previously licensed site north of Richland, Washington. Through the U.S. Department of Energy's Advanced Reactor Demonstration Program, this will be the nation's first commercial advanced nuclear reactor and is vital to maintaining and strengthening global U.S. energy and climate leadership. Grant PUD is joining the partnership to help meet the carbon-free energy needs of their growing customer base in Grant County, Washington.

Washington has mandated 100% carbon-free electricity by 2045 and the TRi Energy Partnership will provide invaluable carbon-free electricity to the grid, create new jobs and economic growth, establish the foundation for new renewable energy projects, and help achieve our climate goals with affordable, reliable clean energy.

### What is the Advanced Reactor Demonstration Program (ARDP)?

The U.S. Department of Energy launched ARDP in May 2020 to help domestic private industry demonstrate advanced nuclear reactors in the U.S. The program will speed the deployment of advanced reactors through cost-shared partnerships with the private sector. By rapidly developing these advanced reactors that hold so much promise, ARDP will expand access to clean energy, help power the carbon-free electric grids of the future, and maintain the U.S. as a global leader in nuclear energy innovation and technology.

***Improving on previous nuclear energy technologies, advanced reactors have enhanced safety features, modular designs and a smaller footprint compared with traditional reactors.***

The DOE awards were announced Oct. 13, 2020. X-energy was awarded \$80 million in initial funding to build an advanced nuclear reactor that can be operational within seven years.





## Sized for the Future

Xe-100 is a 80 MWe reactor that can be scaled into a 'four-pack' 320 MWe power plant—with a modular design, the scale can grow even larger as needed.

The X-energy base model is 80 MWe



## Geographic Flexibility

As a leading entry in a class of advanced reactors, the X-energy design brings nuclear power within reach for countries, utilities and communities.

Deployment @ point of need



## Affordability

This elegant and simple design maximizes the use of off-the-shelf components manufactured and shipped to site using existing road and rail.

Smart design = simplified effort

## Why Advanced Reactors?

Improving on previous nuclear energy technologies, advanced reactors have enhanced safety features, modular designs and a smaller footprint compared with traditional reactors. Their smaller size and ability to quickly ramp up and down makes them a perfect complement to intermittent renewable resources such as wind and solar, which rely on weather conditions to generate power. As more states adopt policies to decarbonize the electric grid, advanced reactors can provide the system with on-demand carbon-free energy that is safe, reliable and flexible – ideal attributes to keep the lights on as we transition away from fossil fuels.

## X-energy and the Xe-100

With an elegant and simple design, the Xe-100 is an 80 megawatt electric reactor that can be deployed as a 'four-pack' 320 MWe power plant, and with a modular design, the scale can grow even larger as needed.

Developed with a focus on safety, the result is a design that eliminates the possibility of a meltdown.

Utilizing TRi-structural ISOtropic (TRISO) particle fuel – the most robust encapsulated fuel – the Xe-100 is meltdown-proof and "walk-away safe." The more energy dense high-assay low enriched uranium (HALEU) fuel also allows for longer periods of operation, which greatly reduces fuel costs. This fuel also allows the plant to have a much smaller footprint and safety perimeter, compared to traditional plants.

The Xe-100 is also cost-competitive and affordable. Module size and weight allows transportability using existing road and rail infrastructure, leading to groundbreaking timeline and cost controls.

