

# POWERING

OUR CLEAN ENERGY FUTURE



**ENERGY NORTHWEST**

**CLEAN, RELIABLE  
RESPONSIBLE  
POWER**



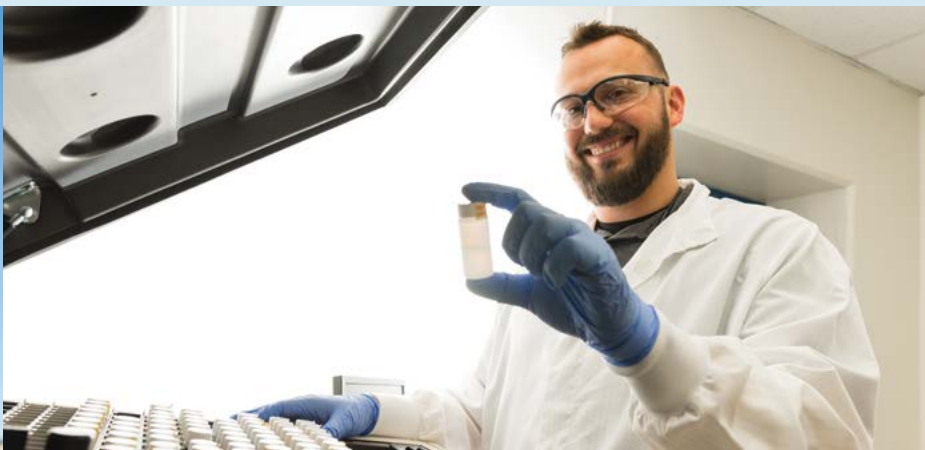
**INNOVATIVE  
ENERGY AND  
BUSINESS SOLUTIONS**

**Energy Northwest is leading the clean energy transformation  
in the Pacific Northwest.**

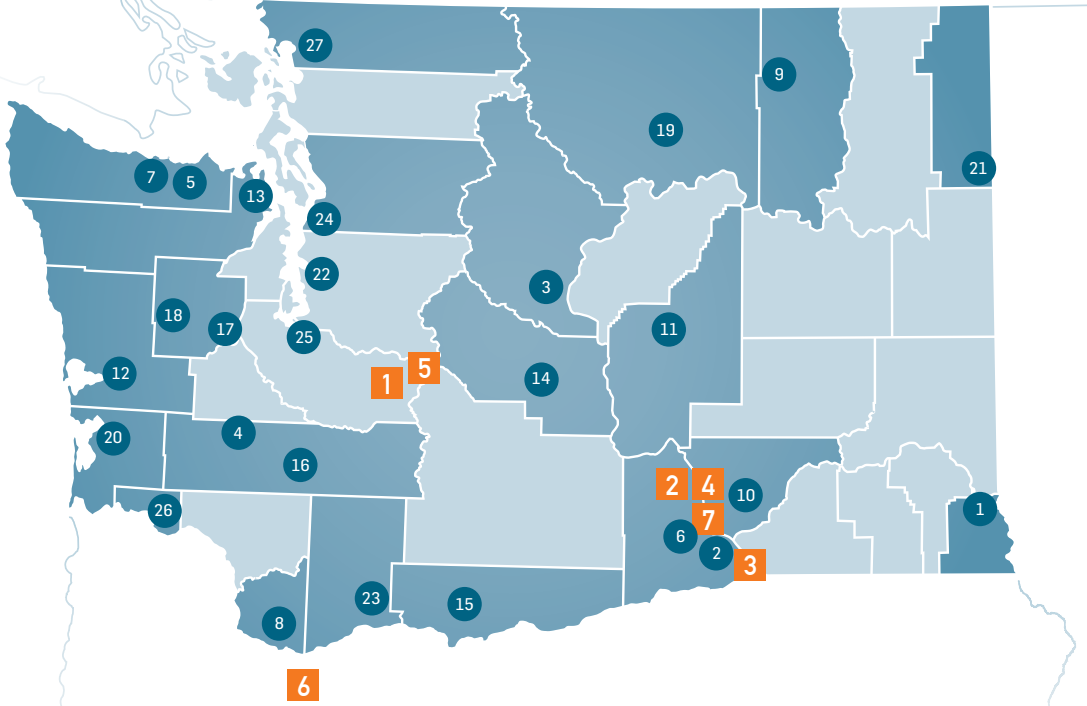
Formed in 1957 by the Washington Legislature, Energy Northwest is a joint operating agency serving a consortium of 27 public utility districts and municipalities across the state. We help our members take advantage of economies of scale and share services to boost efficiency and effectiveness and provide carbon-free power at a low cost to more than 1.5 million public power customers.

**Safety. Pride. Service. Excellence. Leadership.**

Our core values drive our commitment to safe operations, our dedication to providing value to our members, and our pursuit of innovation in the clean energy business.



# OUR PUBLIC POWER MEMBERS & PROJECTS



## Our public power members

- |  |                               |                             |
|--|-------------------------------|-----------------------------|
| 1. Asotin County Public Utility District | 10. Franklin PUD              | 19. Okanogan County PUD     |
| 2. Benton PUD                            | 11. Grant PUD                 | 20. Pacific County PUD 2    |
| 3. Chelan County PUD                     | 12. Grays Harbor County PUD 1 | 21. Pend Oreille PUD        |
| 4. Centralia City Light                  | 13. Jefferson County PUD      | 22. Seattle City Light      |
| 5. City of Port Angeles                  | 14. Kittitas County PUD       | 23. Skamania County PUD     |
| 6. City of Richland Energy Services      | 15. Klickitat County PUD      | 24. Snohomish County PUD    |
| 7. Clallam County PUD                    | 16. Lewis County PUD          | 25. Tacoma Public Utilities |
| 8. Clark Public Utilities                | 17. Mason County PUD 1        | 26. Wahkiakum PUD           |
| 9. Ferry County PUD                      | 18. Mason County PUD 3        | 27. Whatcom County PUD 1    |

## Energy projects

- |  |  |
|--|--|
| 1. Packwood Lake Hydroelectric Project | 5. Tieton Hydroelectric Project                  |
| 2. Columbia Generating Station         | 6. Portland Hydroelectric Project                |
| 3. Nine Canyon Wind Project            | 7. Horn Rapids Solar, Storage & Training project |
| 4. White Bluffs Solar Station          | 8. Stone Creek Hydroelectric Project             |



# OUR CLEAN ENERGY FUTURE

As Washington state implements the Clean Energy Transformation Act (CETA) – requiring 100% carbon-free electricity by 2045 – new sources of reliable, affordable and emissions-free electricity will be needed across the region.

Through our mission, Energy Northwest will continue to provide invaluable carbon-free electricity to the grid, develop new generation for our members, and explore solutions for reducing carbon emissions in the transportation sector.

Energy Northwest is not just a leader in producing safe, reliable, carbon-free and cost-effective nuclear power. We are leading the region in new energy solutions: From battery storage to the state’s first utility-scale solar project, to expanding the electric vehicle charging network and being on the cutting edge of advanced nuclear reactors.

Meeting our region’s growing energy needs responsibly and cost-effectively requires a mix of existing nuclear, renewable energy and new nuclear developments.

As the region’s only operator of a nuclear power plant, and a premiere provider of carbon-free electricity, Energy Northwest is a reliable partner, providing more than six decades of experience in clean energy.

experience
environmental

**PUBLIC POWER**

renewables

hydroelectric research

TECHNOLOGY

**efficient**

power

**NEW NUCLEAR**

**CARBON-FREE**

**Wind** reliability

battery storage **SOLAR**

**CLEAN ENERGY**

transportation electrification

**nuclear energy**

generation

BASE LOAD



# INNOVATIONS IN NUCLEAR POWER

## Energy Innovation

Innovation is driving the nuclear industry forward and building upon years of groundwork for the next generation of nuclear technology.

In 2020, Energy Northwest partnered with two advanced nuclear energy companies – X-energy LLC and TerraPower-GE Hitachi – on their applications to the Department of Energy’s Advanced Reactor Demonstration Program. The DOE selected both companies in October 2020 for initial funding to build advanced nuclear reactors.

Advanced nuclear energy will have a vital role in our state’s clean energy future: it provides numerous benefits essential to grid reliability, does not emit greenhouse gases, is available around-the-clock, and pairs well with renewables.

X-energy, Grant County Public Utility District, and Energy Northwest formed the TRi Energy Partnership in 2021 to evaluate, develop and build a commercial Xe-100 advanced reactor in central Washington. Through the DOE’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.



# REIMAGINING THE ENERGY GRID

## NEW SOLAR + STORAGE SOLUTIONS

In 2020, Energy Northwest brought the Horn Rapids Solar, Storage and Training project online. This 4-megawatt utility-scale installation pairs solar energy with a 1-megawatt battery storage system. The project was created in partnership with Tucci Energy Services and the City of Richland. In addition to filling local energy needs, the Horn Rapids project provides training for solar technicians throughout the region.

Now we're moving forward with Tucci Energy Services to develop a 300-acre utility-scale solar project next to Horn Rapids. Ruby Flats Solar Project will bring additional clean energy resources to the Tri-Cities.

### Supporting electric vehicles

Our strategy to reduce carbon emissions includes supporting the electrification of transportation. The Electric Vehicle Infrastructure Transportation Alliance (EVITA) is a partnership with utilities, private vendors and the Washington Department of Transportation to grow the network of charging stations across the Pacific Northwest.

EN has been involved with electric vehicle (EV) infrastructure development since 2016 and has overseen installation of 10 EV charging stations to help bridge the charging gap between eastern and western parts of the state. In 2021, EN received grant funding to install eight EV charging stations along the White Pass Scenic Byway on U.S. Route 12.




# HARNESSING THE POWER OF WIND + WATER


The Packwood Lake Hydroelectric Project was Energy Northwest's first power project, beginning operation in 1964. Since then, we've expanded our network of hydroelectric facilities, offering operations and maintenance services for three additional dams in Washington and Oregon, for a combined 92 megawatts of electricity.

In 2002, we constructed our first wind turbine as part of the Nine Canyon Wind Project south of Kennewick, Washington. Today, more than five dozen turbines provide up to 95.9 megawatts of electricity.

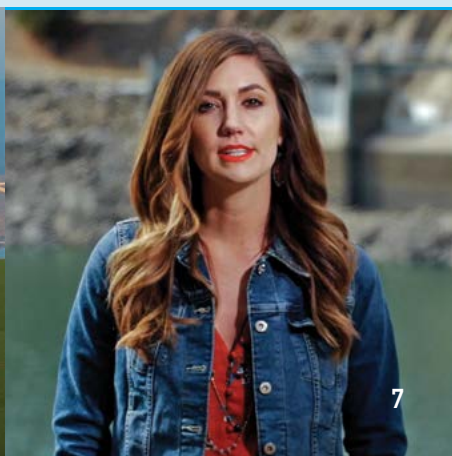
We are committed to expanding renewable resources like solar, wind and hydroelectric – paired with battery storage – and offering our expertise to support our region's growing clean energy needs.



Hydroelectric  
projects produce  
**92 megawatts**




Nine Canyon  
Wind Project  
provides up to  
**95.9mw**



# THE NORTHWEST'S CLEAN ENERGY POWERHOUSE

Columbia Generating Station nuclear facility is the third largest electricity generator in Washington, behind Grand Coulee and Chief Joseph dams. Its 1,207 megawatts of capacity alone could power a city the size of Seattle, and is equivalent to about 10% of the electricity generated in Washington and 4% of all electricity used in the Pacific Northwest.

An operating nuclear energy facility does not release carbon dioxide or result in any other significant air pollutants. On a cold clear day, the public may see from great distance tall thick columns of pure water vapor rising from a nuclear plant's cooling towers.



## **Nuclear power is a reliable energy producer.**

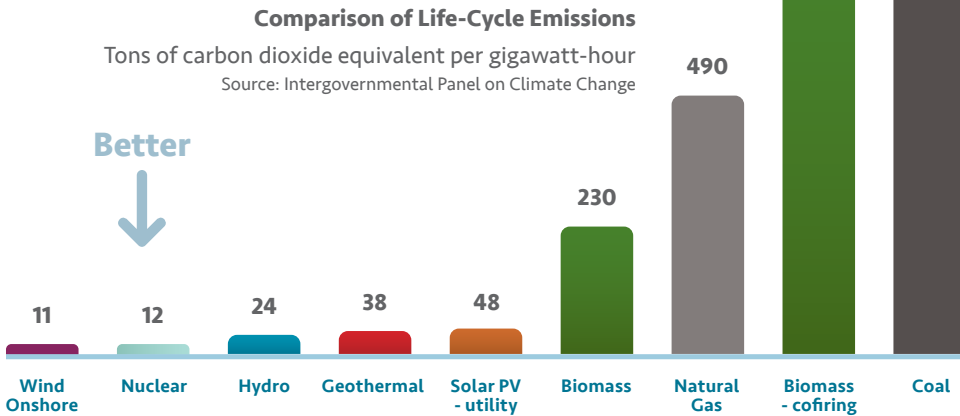
Columbia has an on-site, long term supply of low cost fuel and is not dependent on weather conditions. Nuclear plants produce electricity 24-hours a day, seven days a week rain or shine.



# CLEAN AIR + RELIABLE ENERGY

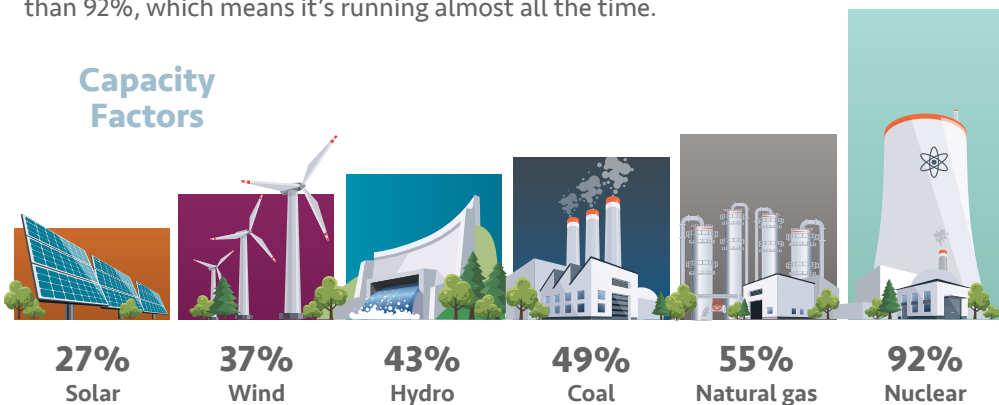
## Carbon-free = Clean air

Nuclear energy has the lowest carbon footprint of any full-time energy resource, and it provides more than 50% of the clean-energy generated in the United States.



## America's most reliable energy source

Nuclear energy is essential to ensuring a reliable energy supply and meeting our growing electricity demands. When demands for electricity spikes in the summer and winter, nuclear energy fills the gap as other energy supplies are exhausted or unavailable. The U.S. nuclear fleet operates at an average capacity factor of more than 92%, which means it's running almost all the time.



# SAFELY STORING USED NUCLEAR FUEL

The uranium fuel used at Columbia Generating Station lasts for many years. Every two years, we refuel a portion of our reactor with fresh fuel assemblies, and prepare used fuel for long-term storage.

Once new fuel assemblies enter Columbia's reactor core, they are used for six years before being moved to the used fuel pool, which removes residual heat from the assemblies. After a minimum of five years in the pool, the used assemblies are moved to Columbia's on-site dry storage at the independent used fuel storage installation (ISFSI).

Used fuel assemblies are leak-proof, solid metal rods, which are then placed in 185-ton concrete and steel dry storage casks. These casks are aircraft-impact resistant and securely stored on a specially made, earthquake-resistant pad.

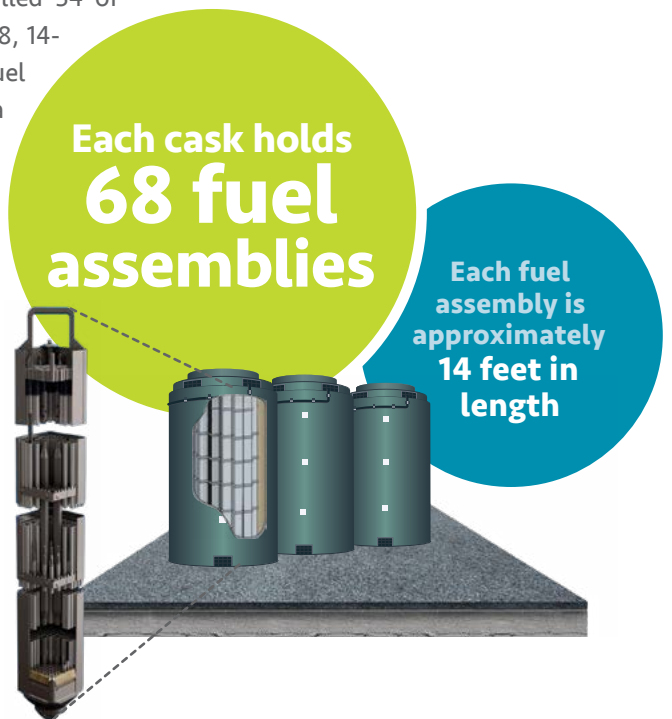
Since beginning operation, we have filled 54 of these dry storage casks; each storing 68, 14-foot long fuel assemblies. The used fuel can be stored safely on-site at Columbia for decades with no risk to the public.

**54**

Number of casks currently loaded and fully processed at Columbia's ISFSI.

**3,672**

Number of fuel assemblies currently stored at Columbia's ISFSI. (68 fuel assemblies per cask; 54 casks;  $68 \times 54 = 3,672$ .)



# ADDITIONAL SERVICES + REGIONAL VALUE

As a joint operating agency, Energy Northwest is committed to supplying our public power members with services that will strengthen their utilities and communities. We also extend these services to other public and private entities.

Our Energy Services & Development group partners with organizations across the region to meet their needs, including:

- Cyber security and information technology services
- Equipment calibration services for technical and medical fields
- Environmental collection and analysis
- Innovative solutions for demand-side management
- Project management and development
- Legal and human resources support
- Facility leasing and business startup support through the Applied Process Engineering Laboratory
- Public power internships and workforce development

Learn more about how we can support your business needs at [energy-northwest.com](http://energy-northwest.com).

**Cyber security and IT services**

**Environmental and calibration services**



# YOUR NEIGHBOR AND PARTNER

**Energy Northwest is an economic partner and a good neighbor for the residents of the Tri-Cities.**

In addition to supplying clean energy 24/7, Energy Northwest supports:

- More than 2,800 jobs in Washington state
- \$475 million in economic output annually
- \$8.9 billion in total economic output from Columbia Generating Station through 2043
- More than 1,000 temporary jobs during biennial refueling outages at Columbia Generating Station.
- Competitive career opportunities in engineering, maintenance, planning, business, finance, operations and administration
- Internships for high school and college students
- Community organizations and education programs



**\$475  
million  
in economic  
output annually**

**2,800 jobs  
in Washington  
state**



## **ENERGY NORTHWEST**

To connect with us and learn more,  
visit our website and follow us on social media:  
[www.energy-northwest.com](http://www.energy-northwest.com)

