



INDUSTRIES



PROPERTIES



RESOURCES



LOGISTICS



WORKFORCE



ADVANTAGES

# THIS IS THE PLACE Tri-Cities, Washington Clean Energy Innovation Hub



Hosting New  
Nuclear  
Development



# COMMUNITY CHAMPIONS



**Christy Rasmussen**  
*Commissioner*  
Port of Benton



**Karl Dye**  
*President & CEO*  
TRIDEC



**Jon Amundson**  
*City Manager*  
City of Richland



**Darren Gale**  
*VP, Commercial Ops & ARDP Program Mngr.*  
X-energy



**Rep. Matt Boehnke**  
*8th Legislative District*  
Washington State



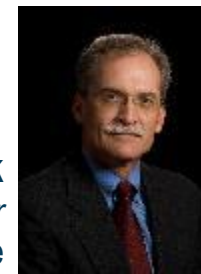
**Jerome Delvin**  
*Commissioner*  
Benton County



**Diahann Howard**  
*Executive Director*  
Port of Benton



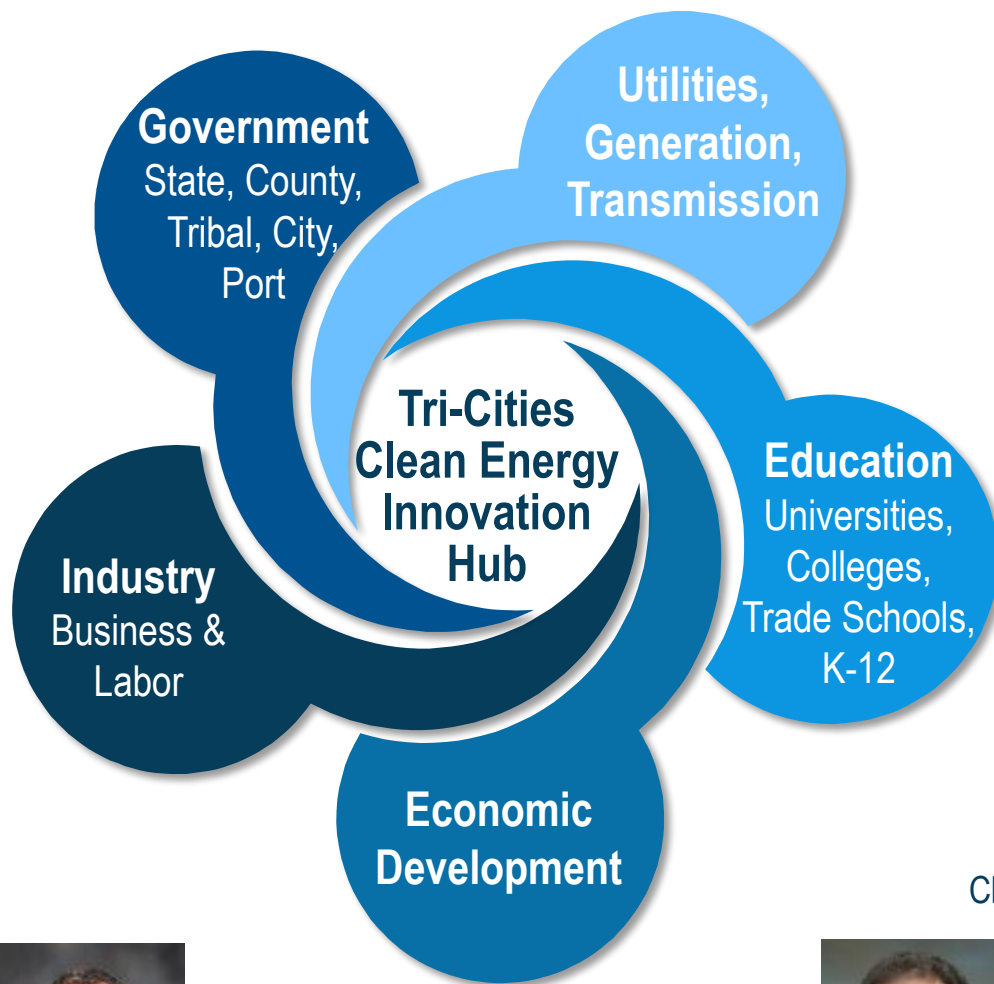
**AJ Fouts**  
*Dir. Of Government Affairs*  
Plumbers and  
Steamfitters 598



**Dave McCormack**  
*Executive Director*  
Clean Energy Supplier Alliance



**David Reeploeg**  
*VP, Federal Programs*  
TRIDEC







# OUR HISTORY

Uniquely Suited to Support Nuclear & Other Clean Energy in the NW



**There's A SITE for your PLANT!**

**PLUS FEATURES OF PORT OF BENTON**

1. 100 acres of land along the Columbia River, 10 miles from the city of Benton, with a 1000-foot wide beach and a 1000-foot wide riverbank.
2. 100 acres of land along the Columbia River, 10 miles from the city of Benton, with a 1000-foot wide beach and a 1000-foot wide riverbank.

**NORTH SHORE SITE**  
 100 acres of land along the Columbia River, 10 miles from the city of Benton, with a 1000-foot wide beach and a 1000-foot wide riverbank.

- All 3000 ft. pier
- Four docks outside
- 5000 ft. long pier
- 7 miles from Air Terminal
- Long or short Term Leases.
- Fresh Water Navigation is the 1000 ft.

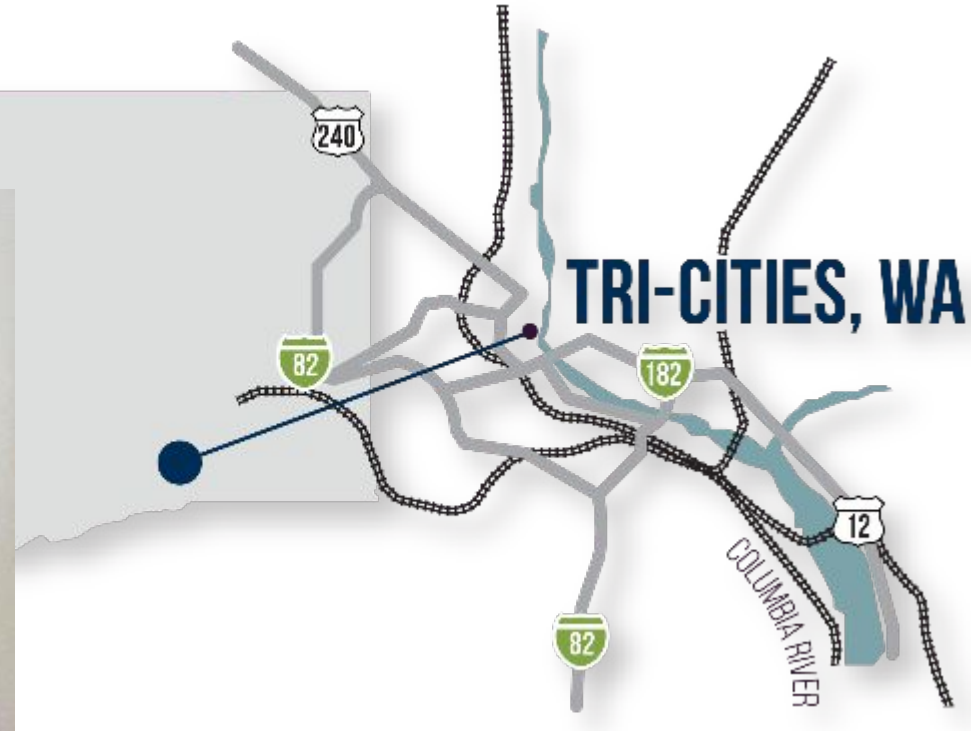
**Richland Air Port Site**  
 100 acres of land along the Columbia River, 10 miles from the city of Benton, with a 1000-foot wide beach and a 1000-foot wide riverbank.

**Patterson Site**  
 100 acres of land along the Columbia River, 10 miles from the city of Benton, with a 1000-foot wide beach and a 1000-foot wide riverbank.

**CONGRESSMAN**  
 Edward Lindberg, President  
 W. Harold Kewey, Director  
 J. E. 214, 11111111  
 Dept. B. 11111111

**Whitcomb Plate Site**  
 100 acres of land along the Columbia River, 10 miles from the city of Benton, with a 1000-foot wide beach and a 1000-foot wide riverbank.

**PORT of BENTON**





# OUR LOCATION & ECONOMY

We're at the Center of It All

- Third fastest growing metro in Washington
- 87% sustainably sourced energy
- Hub for intersection of clean energy, agribusiness and research & innovation

## Major Employers

- Battelle/Pacific Northwest National Laboratory
- Kadlec Regional Medical Center
- Lamb Weston
- K-12 School Districts
- Hanford Contractors



**312k**

**Metro Area  
Population**





# TRANSPORTATION INFRASTRUCTURE

Logistics In-Place to Meet Industry Demand

- **Multimodal to reach domestic markets and major marine seaports quickly**
- **Airports – Pasco, Richland**
- **Major rail line – Class I rail operators (BNSF, Union Pacific)**
- **Interstates, highways, state routes**
- **Barge high and low dock**
- **Foreign Trade Subzone (FTZ 203)**



WASHINGTON  
**VERTical**

**MCEI**  
MID-COLUMBIA ENERGY INITIATIVE



# AVAILABLE LAND & HOUSING

We Have Room to Grow

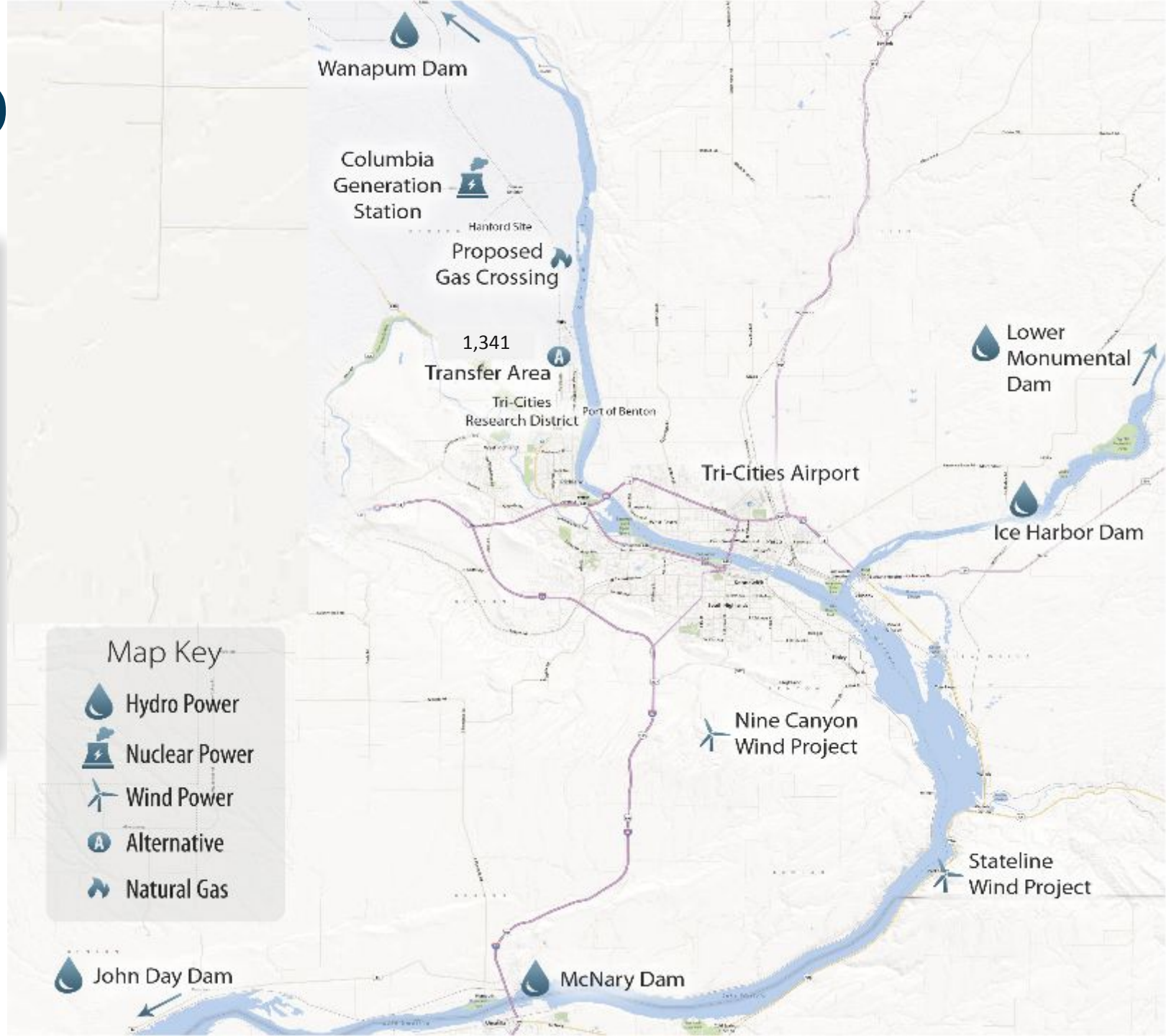
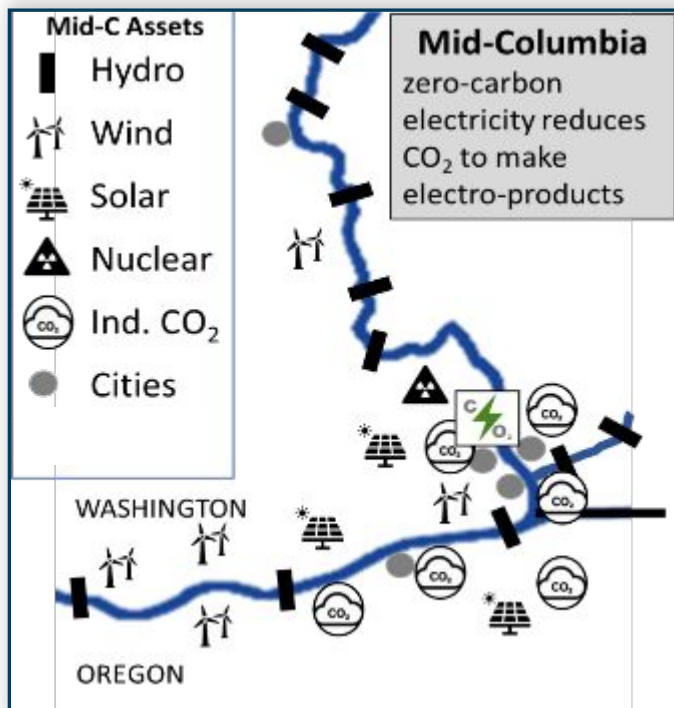
- **Industrial, commercial and residential land**
- **Current and planned housing developments**
- **Mixed-use projects**







# OUR GRID





# NORTHWEST'S CLEAN ENERGY

Our Contribution to Achieving Clean Energy Goals

- Diverse power portfolio including wind, hydro, solar and nuclear
- Leading the state in meeting carbon emission targets
- All three Advanced Reactor & SMR projects have Tri-Cities connections (X-energy, TerraPower & NuScale)

**40%**

State Energy  
Generated Here

**97%**

Carbon Neutral

**73%**

Hydropower

**9.7M**

Megawatt-Hours  
Generated Annually

**90%**

Bi-State Wind  
Generation

**10**

Local Renewables  
Companies

**\$70M**

Private R&D  
Expenditure

**5.1%**

Lower Cost of  
Business Compared  
to National Average



# THE TECHNOLOGY

## Xe-100 Small Modular Reactor

- **Gen-IV High-Temperature Gas-Cooled Reactors (HTGR)**
- **80 MWe reactor that can be scaled into a 'four-pack' 320 MWe power plant**
- **Maximizes the use of off-the-shelf components manufactured and shipped to site using existing road & rail**
- **Advantages in sustainability, economics, reliability and safety**



# Xe-100 APPLICATIONS

 energy Xe-100

200 MWt  
80 MWe  
565°C



Refining Processes



Hydrogen Production



Ammonia Production



Coal Plants



Natural Gas Plants



# OUR STORY

## TRi Energy Partnership

- X-energy, Energy Northwest and Grant Public Utility District partnership agreement
- DOE Advanced Reactor Demonstration Program
- Reactor could be generating energy for the region by 2028



# OUR REGION

For New Nuclear

- **Washington's 2019 Clean Energy Transformation Act requires 100% carbon-free electricity by 2045**
- **Experienced workforce**
- **Proven nuclear operator (Energy Northwest)**
- **Two available sites to support new nuclear**
- **Study Findings: Achieving 100% by 2045 can be accomplished IF firm capacity can be built in the region**



2025  
NO COAL  
STANDARD



2030  
GHG NEUTRAL  
STANDARD



2045  
100% CLEAN  
STANDARD



# OUR PREPARATION

## Mid-Columbia Energy Initiative

- **Drives clarity and alignment around clean energy technology strategies in our community**
- **Mid-Columbia Energy Initiative subcommittees**
  - **Energy Storage/Grid**
  - **Hydrogen**
  - **Transportation/EV**
  - **Nuclear Energy Technology & Fuels**





# OUR ASSETS

1. Manhattan Project National Historical Park
2. LIGO Hanford Facility
3. FMEF/MASF – Existing Utilities
4. Columbia Generating Station (1,207 MW)
5. Energy Northwest Sites 1 & 4
6. Ruby Flats Solar (200 MW, 740 Acres)
7. North Horn Rapids Industrial Park (1,341 Acres)
8. Port of Benton Barge Facility (Nuclear Port)
9. Washington State University Tri-Cities Campus
10. Pacific Northwest National Laboratory Campus
11. Dual Class I Rail
12. Richland Airport
13. Horn Rapids Solar, Storage & Training (4 MW, 20 Acres)
14. HAMMER Federal Training Center
15. Framatome, 50 Years of Fuel Manufacturing







# INDUSTRIAL ROOM TO GROW

Target Sectors & Industry Opportunities



Solar Facility



Electric/Natural Gas/  
Hydrogen Refueling



Energy Storage/  
Hydrogen Production



Advanced Manufacturing



Biofuel/Bioproducts/  
Energy Production Facility



Fuels



Anchor Corporate HQ/  
Joint Research Facilities





# OUR WORKFORCE IS IN PLACE

And We Have a Pipeline for the Future

**147k**

**Strong  
Workforce**

**12k+**

**Nuclear & Energy  
Skilled Workforce**

**3k**

**Engineers  
2.8% of Local Workforce**

**7k+**

**Building & Construction  
Trades Craftspeople**

**60%**

**Professional  
Sector Jobs**

**41%**

**Higher Education  
Graduates**





# OUR EDUCATION & TRAINING PARTNERS

Highly educated and skilled workforce support a rich education system from Pre-K to Ph.D.

- Tri-Tech Skills Center & Delta High School
- Columbia Basin College
- Washington State University Tri-Cities
- Apprenticeship Programs and Trades
- HAMMER Federal Training Center
- Army National Guard Readiness Center (Coming Soon)



VOLPENTEST **HAMMER** FEDERAL TRAINING CENTER







# NUCLEAR IS OUR TECHNOLOGY

We're a Nuclear Community

- **New nuclear means jobs, retention of workforce**
- **“All of the above” approach instead of renewables vs. Nuclear**
- **Advocacy and education is key to building support**



# OUR TIMELINE

**2009**

Mid-Columbia  
Energy Initiative  
Established

**2019**

Washington  
State Clean  
Energy  
Transformation  
Act (CETA)  
Signed Into Law

**2020**

Advanced  
Reactor  
Demonstration  
Program (ARDP)  
Established

Advanced  
Reactor  
Demonstration  
Program Awards  
to X-energy and  
TerraPower

**2021**

TRi Energy  
Partnership Formed

WA Department of  
Commerce  
Innovation Cluster  
Accelerator Program  
Established

Innovation Cluster  
Accelerator Award  
to Washington  
VERTical

**2028**

TRi Energy  
Partnership  
Target Date for  
Commercial  
Operation

# OUR NEXT CHAPTER

Washington VERTical Cluster



***“Washington VERTical, led by the Port of Benton – accelerating the transition to clean, renewable and non-emitting energy production sources by 2025 through advanced nuclear power technologies.”***

*Press Release, WA Commerce 2022*





# CLEAN ENERGY SUPPLIER ALLIANCE

Established to Help Deliver New Nuclear On-Time & On-Budget

## International Innovation Cluster Model

*An innovation cluster is an industry-led consortium that works together to drive innovation, pursue market opportunities and identify and solve challenges that limit growth.*

# CLEAN ENERGY SUPPLIER ALLIANCE

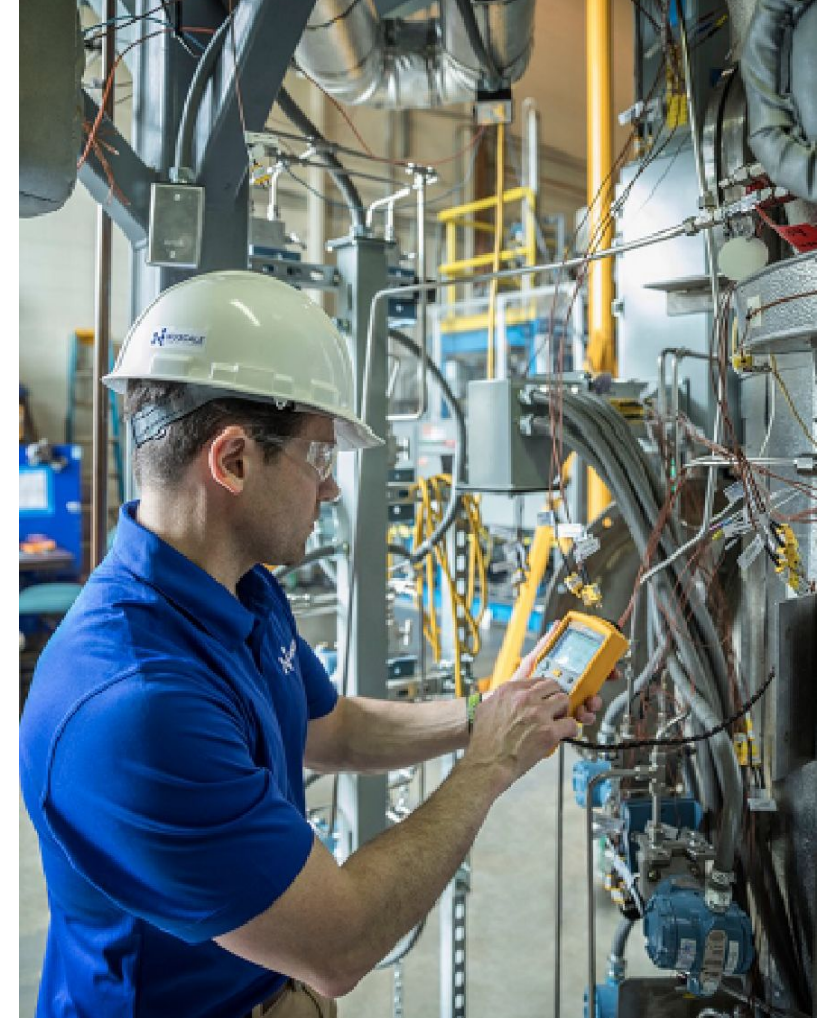
Established to Help Deliver New Nuclear On-Time & On-Budget

## Supply Chain Benefits

- Transparent, qualified and vetted supply chain
- Responsiveness, efficiency and security of domestic resources
- Scalable and deployable model for domestic supply chain

## Member Benefits

- B2B partnering opportunities
- Shared business development resources
- Pathway for attainment of nuclear supplier credentials



# WHAT'S NEXT

We Are Positioning for DOE & Regional Clean Energy Initiatives

- **Federal Facility Clean Energy Executive Order Net Zero**
- **Hydrogen Hub**
- **DOE Energy Asset Repurposing**
- **BPA Transmission Investment**
- **Advanced Reactors (Advanced Reactor Demonstration Program)**
- **Place-Based Initiatives**
- **Transportation EV Federal Fleet and Community**
- **Pacific Northwest National Laboratory – Net-Zero Campus**
- **Professional, Technical and Skilled Workforce**



*“Net-zero carbon emissions by 2050 by advancing cutting-edge clean energy technologies.”*



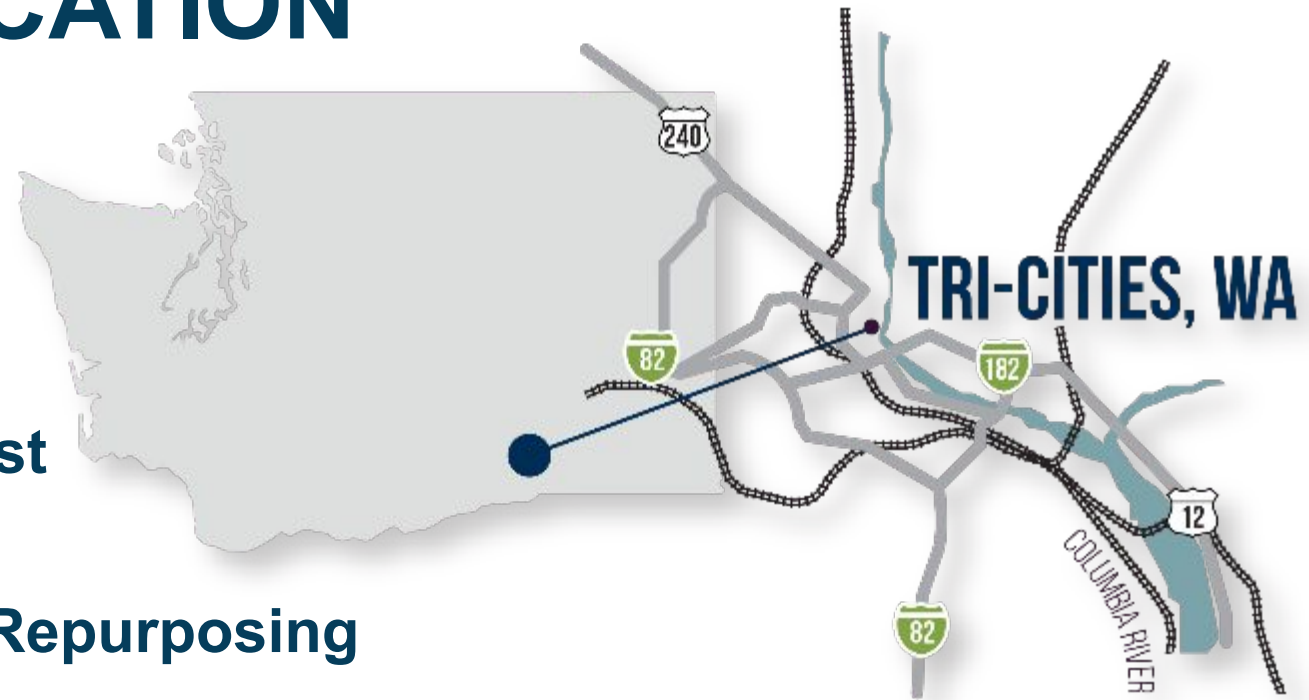


# SOLUTIONS LOCATION

Tri-Cities Is the Place

## Key Opportunities:

- Office of Clean Energy Demonstration West Coast Headquarters
- Advanced Energy Asset Repurposing
- Accelerate local DOE projects to meet national objectives
- Ongoing collaboration with DOE program offices
- Successful Advanced Reactor Development Program deployment and Pacific Northwest Hydrogen HUB



**Clean Energy Innovation Hub  
of the Pacific Northwest**

# THANK YOU

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