

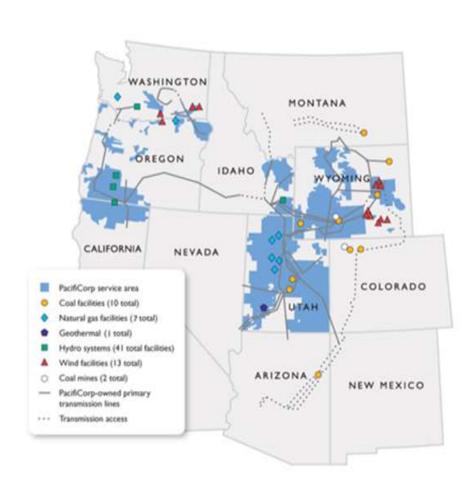
# Advanced Nuclear in Coal Communities of Wyoming

**PacifiCorp** 

#### **PacifiCorp Overview**



- Six-state service territory
- Rocky Mountain Power
  - Serves Utah, Idaho and Wyoming
- Pacific Power
  - Serves Oregon, Washington and California
- 4,800 employees
- 2 million electricity customers
- 141,400 square miles of service territory
- 17,000 transmission line miles
- 11,830 MW owned power capacity
  - See map for power plant and transmission locations
  - Note: Four coal power plants in Wyoming



## Natrium Nuclear Plant - TerraPower Project (3)



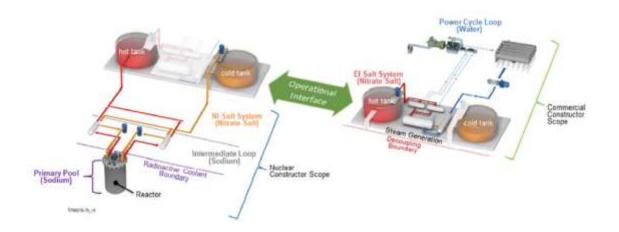


## **Natrium Project Advantages**



#### Natrium offers many design advantages

- ➤ The system features a 345 MWe reactor and can be boosted to 500 MWe for 5.5 hours through its innovative thermal storage system (molten salt tanks), maximizing market opportunities, specifically renewables
- Design will use High-Assay Low-Enriched Uranium (HALEU) fuel providing lower fuel costs with higher energy content maximizing burn-up and reducing wasted fuel
- Sodium fast reactors are inherently safer than light water designs due to higher boiling temperatures and lower operating pressures, which reduce risk and emergency plan requirements including the boundary (limited to site boundary)
- The Nuclear Island (NI) vs. Energy Island (EI) separation (shown below) reduces Nuclear Regulatory Commission oversight, which in-turn significantly reduces capital and on-going O&M costs (NI footprint expected to fit on 1-acre)



# Natrium Project (Coal Plant Advantages)



#### Re-purposed coal plant opportunities with Natrium

- Uses coal plant workforce to benefit the plant and community
- Transmission and distribution lines (including current easements) infrastructure already in place
- ➤ Water rights potential to transfer from coal plant. For the Kemmerer, WY project, the water usage for Natrium (6500 acre-foot/year) is forecast to be 2/3 of current coal plant requirements
- Multiple environmental permits provide advantages to meeting Nuclear Regulatory Commission siting requirements (data). This includes items like meteorological data, site access, construction workforce support, socioeconomic inputs, etc.
- Community, state, and federal support

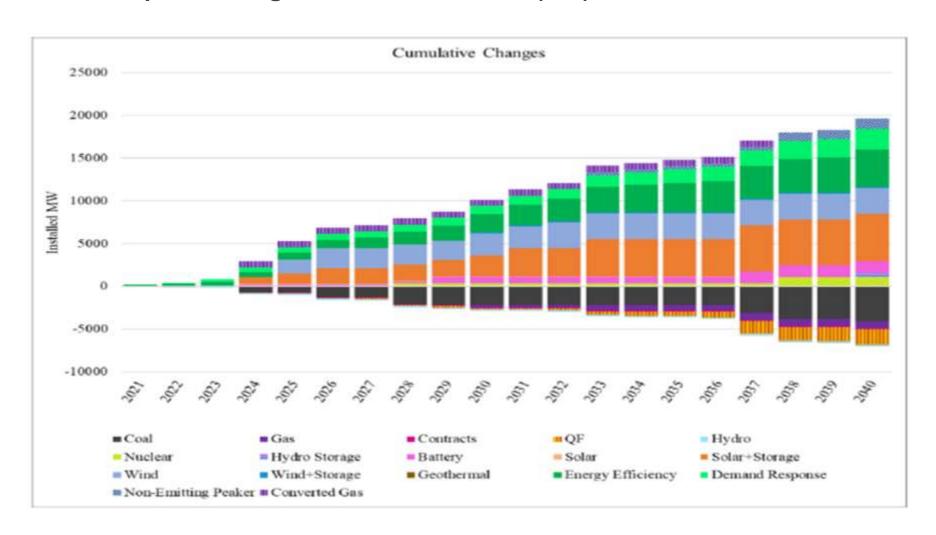




## **Changing Portfolio**



PacifiCorp 2021 Integrated Resources Plan (IRP)



## **Renewable Overproduction??**



#### United States Energy Association

# The Transmission Imperative and the New DOE Initiative

Friday, January 28, 2022 at 11:00 a.m. ET

On January 12, the Department of Energy launched its "Building a Better Grid" initiative, designed to set in motion a huge expansion of the nation's electric grid with upgrades and new transmission lines.

In announcing this initiative, DOE said: "Independent estimates indicate that we need to expand electricity transmission systems by 60 percent by 2030, and may need to triple it by 2050."

Utilities across the West with large solar installations are battling overproduction during the day with no way to utilize the excess power, producing a so-called duck curve. That electricity is going to waste because it can't move to markets.

The Biden administration, through various programs, will be deploying more than \$20 billion to expand and upgrade transmission.

How will the funds be applied? What will the federal role be? How soon will new construction start? How will rights-of-way be secured when they have met fierce, local opposition in the past? What will be the balance between DOE, the Federal Energy Regulatory Commission (FERC), and the utilities - and who will coordinate?

USEA has assembled a panel of experts to talk about this new DOE initiative. They will be questioned by a panel of knowledgeable reporters. USEA Acting Executive Director Sheila Hollis will give opening remarks, and Llewellyn King, who organized this briefing, will moderate.

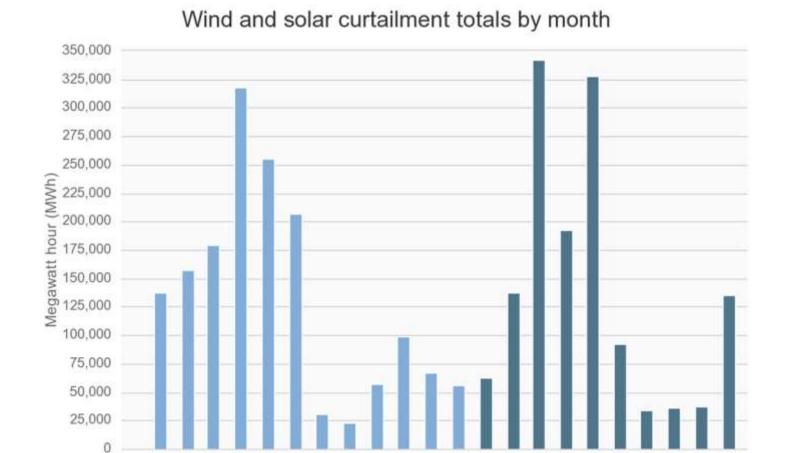
## **Market Opportunities**



#### CAISO Lost Renewable Opportunities

Jan '20

May '20



Sep '20

May '21

Sep '21

Jan '21



