

Unlocking Local Grid Resilience: Microgrids for Oregon Cities

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Pendleton Micro-Grid BESS Project

April 2026

Pendleton WWTRRF



The solar canopy covers the chlorine contact chamber, providing three key benefits to the WWTRRF and its stakeholders: the production of power for the facility, shading the chamber reduces the amount of chlorine chemical lost due to UV degradation, and the cooling effects from the shading on the water.

Project Overview

Communities Served:

~17,107 people urban growth boundary (UGB)

+/- 300 connections Confederated Tribes of Umatilla Indian Reservation (CTUIR)

+/- 65 connections Reith Sanitary Sewer District (unincorporated in Umatilla County)

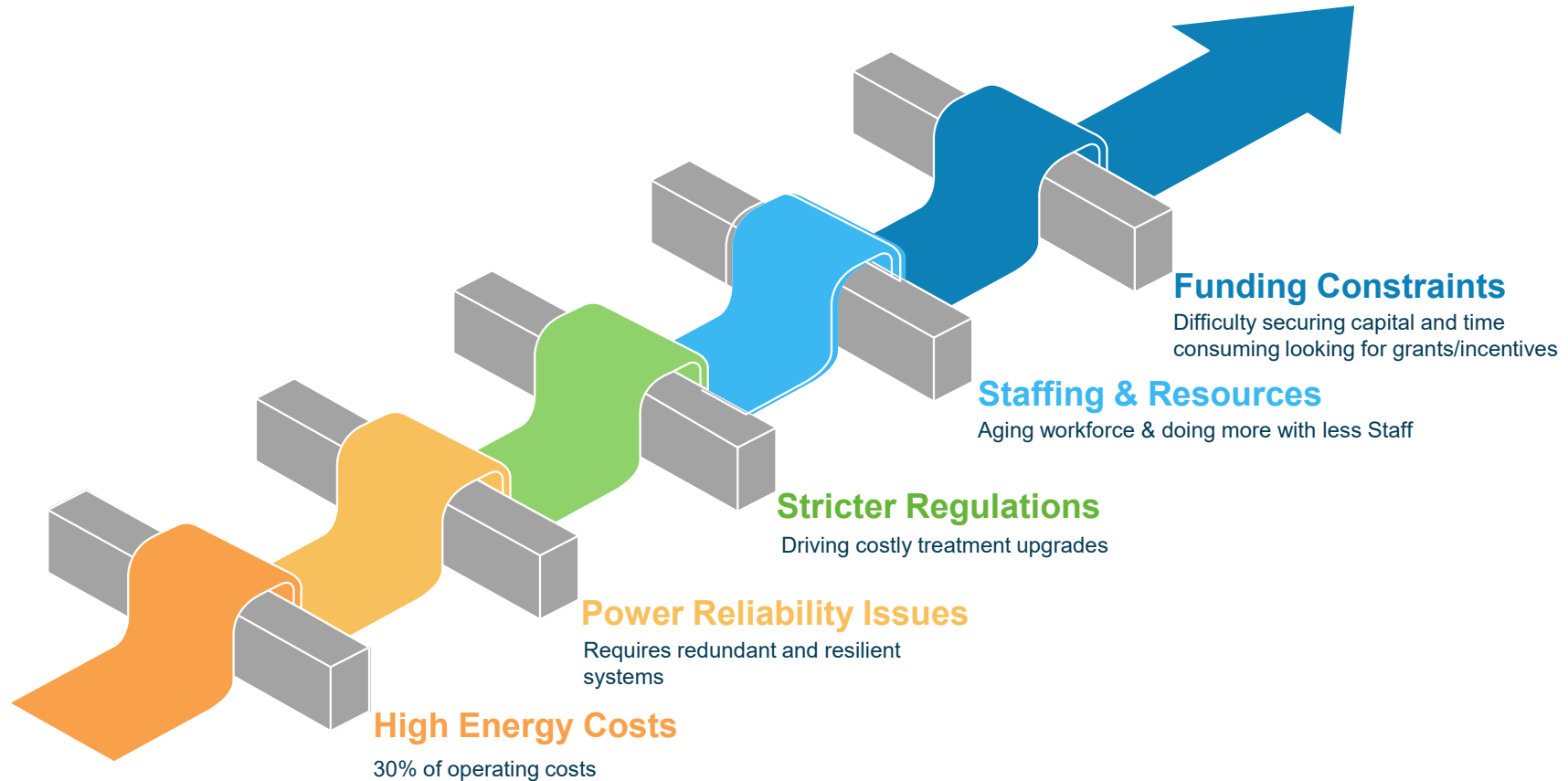
Peak flow: 5 million gallons per day (MGD)

Average flow: 2.3 MGD

Permit: 5.5 MGD

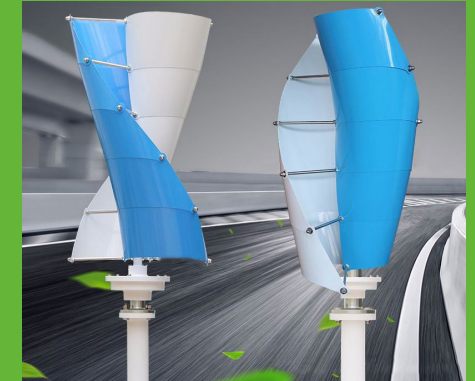
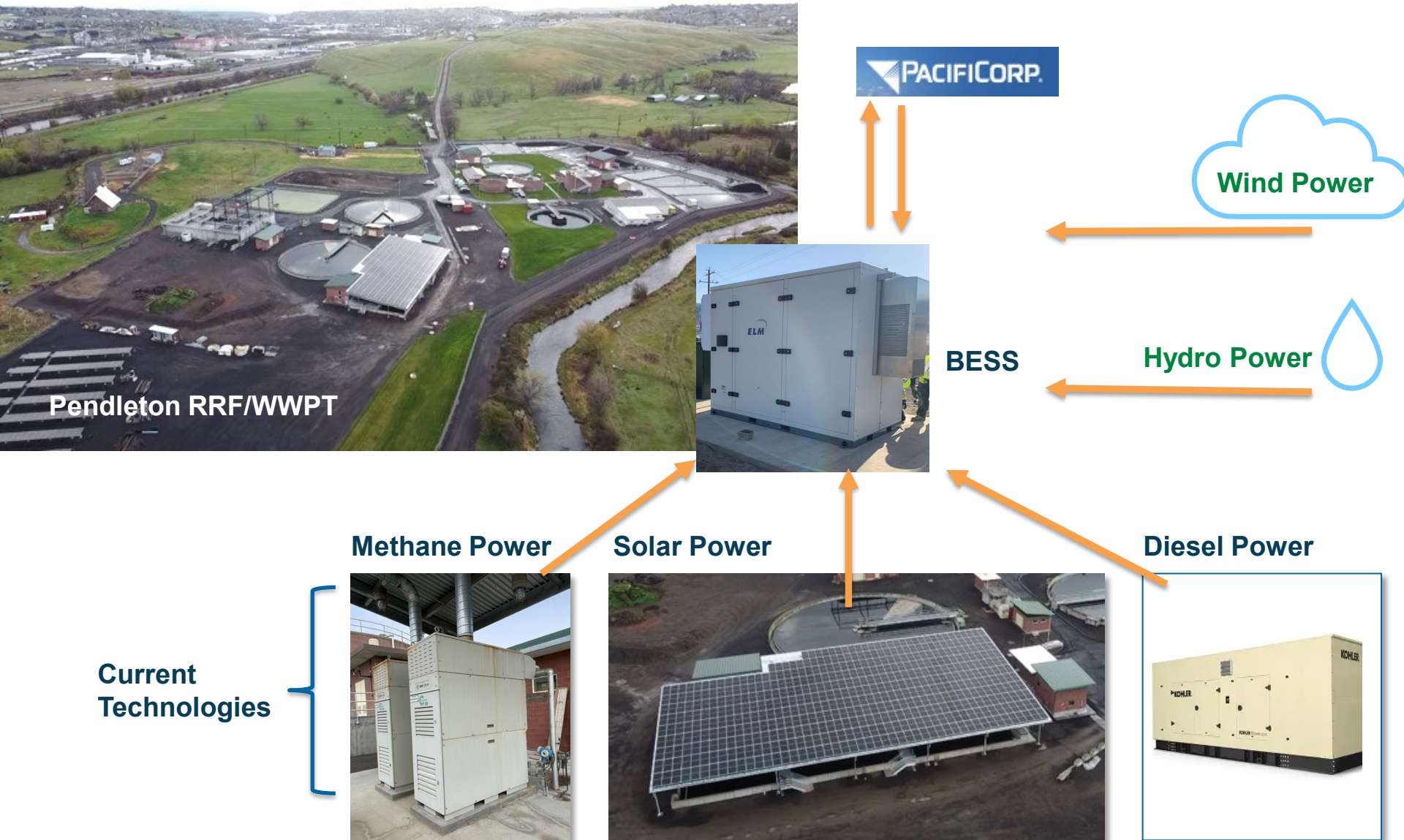
Design capacity: 12 MGD w/expansion

Challenges Facing Wastewater Utilities



Pendleton Energy Flow Diagram

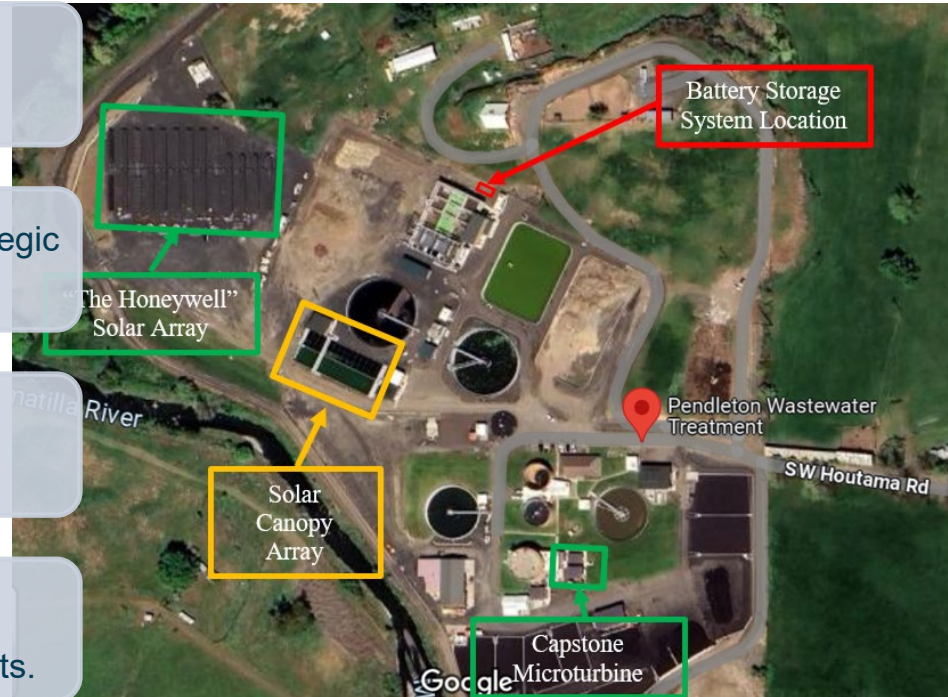
Phase 4 Plan
2027-2028



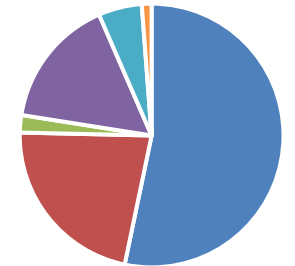
Phase 3: Battery Energy Storage System (BESS)

Project Strategy

<p>Maximize Renewable Energy Utilization</p>	<p>Store and optimize solar and biogas-generated power for increased onsite consumption.</p>
<p>Reduce Demand Charges</p>	<p>Lower operational costs through strategic energy discharge.</p>
<p>Enhance Grid Stability</p>	<p>Support regional energy resilience by improving load balancing.</p>
<p>Leverage Available Incentives</p>	<p>Utilize ODOE C-REP award, secure federal Investment Tax Credits (ITC), plus additional programs to offset costs.</p>



Funding Strategy:
Anticipated Cost is
75% of Possible
Funds



- ODOE C-REP Grant
- Investment Tax Credit (ITC)
- Energy Trust of Oregon
- DOE ITAC funds
- Pacific Power BESS incentive
- ENEL

Phase 3 BESS – Under Construction

Project Highlights

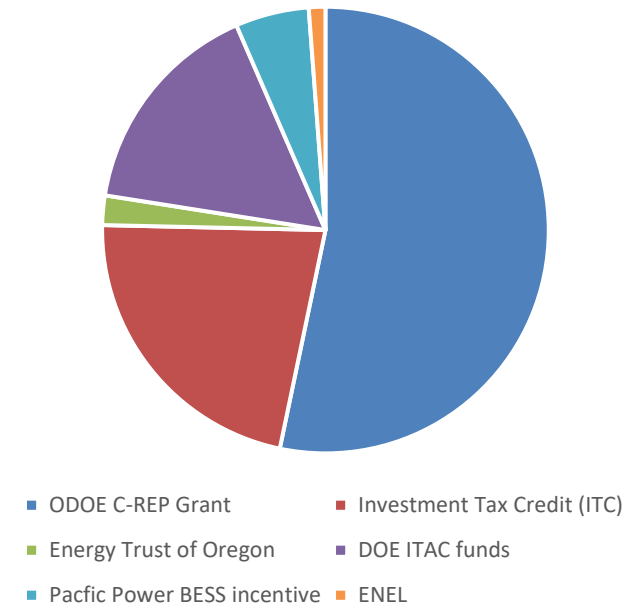
- **500 kW BESS with microgrid controller**
- **Integrates with existing on-site energy systems:**
(2) solar arrays, cogeneration, generator, & electrical grid
- **Smart microgrid control:**
 - **Optimizes charging** with the least expensive energy source available
 - **Provides emergency discharge** for WWTRRF essential loads
- **Grid resiliency & future utility integration:**
 - Supports local utility operations and strengthens overall grid stability



BESS Funding & Financial Strategy

Program	Type	Value
ODOE C-REP Grant	State Grant	\$1,000,000
<i>Investment Tax Credit (ITC)</i>	<i>Federal Incentive</i>	<i>~ \$414,351</i>
<i>Energy Trust of Oregon</i>	<i>Nonprofit Incentive</i>	<i>~ \$40,000</i>
<i>DOE ITAC funds</i>	<i>Federal Grant</i>	<i>TBD</i>
<i>Pacific Power BESS incentive</i>	<i>Utility incentive</i>	<i>~ \$100,000</i>
<i>ENEL</i>	<i>Utility incentive / annual</i>	<i>~ \$22,500</i>

Funding Strategy: Anticipated Cost is 75% of Possible Funds

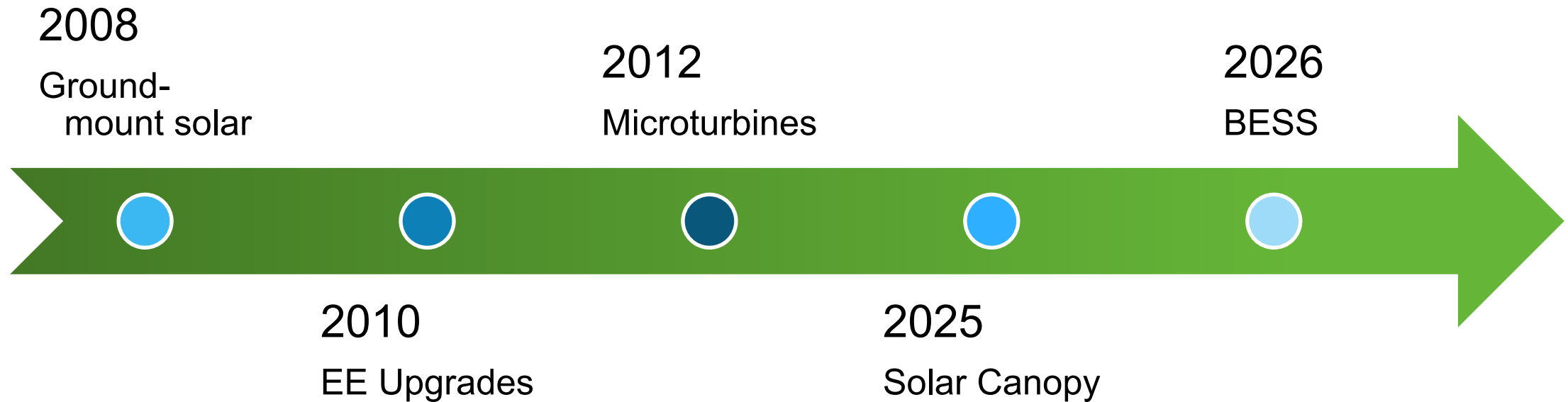


System Benefits



- ✓ Redundant power supply
- ✓ Reduced energy costs
- ✓ Sustainable operations
- ✓ Grid independence capability
- ✓ Resiliency during outages
- ✓ Utilization of waste resources (methane)
- ✓ Environmental stewardship

Timeline: WWTRRF Sustainability Projects



Strong Partnerships for Sustainability

The City of Pendleton and Ameresco have built a long-standing partnership focused on advancing energy efficiency, sustainability, and resiliency. Through multiple phases, this collaboration has delivered impactful projects that enhance the city's infrastructure, reduce costs, and support environmental goals.

ESPC: Maximizing Value & Efficiency

- ✓ No upfront capital required – Pendleton can implement large-scale projects without financial strain.
- ✓ Guaranteed Energy Savings – Projects must demonstrate cost savings, ensuring long-term value.
- ✓ Flexible Prioritization – The City selects projects that provide the most impact.
- ✓ Leveraging Grants & Incentives – ESPC enables stacking of funding sources, optimizing affordability.



What's Next?

Energy Generation & Storage

- **Hydropower** – Expand renewable energy from water
- **Solar PV on Roofs** – Utilize facility rooftops for additional solar
- **Small-Scale Wind Power** – Diversify renewable sources
- **Additional BESS Expansion** – Enhance energy resilience

Dual-Purpose Efficiency Technologies

- **SHARC System** – Capture wastewater heat for hot water loop & lower effluent temps
- **Solar Hot Water Heater** – Reduce natural gas reliance for heating



Fun Facts!

- Birthplace of the Pendleton Whiskey brand, a staple in rodeo and Western culture.
- Home of the World-famous Pendleton Round-up
- The annual Let 'er Buck slogan dates back over a century and is still used today!
- Hosts the Happy Canyon Night Show, Oregon's longest-running outdoor theatrical production.



Thank You

Kyle Willman, Assistant Public Works Director

Let'er Buck