

Pea Patch Community Campus REPORT BACK TO THE COMMUNITY: MARCH 2025



PEA PATCH TEAM



OPAL COMMUNITY LAND TRUST (OPAL)

Steering Committee:

- Lisa Byers, Executive Director
- Eros Belliveau, Board of Trustees
- Bonnie Burg, Board of Trustees

Implementation Team:

- Suzanne Olson, Project Lead
- Jeanne Beck, Site Construction Manager
- Tracey Smith, Project Coordinator

ORCAS ISLAND FOOD BANK (OIFB)

Steering Committee:

- Amanda Sparks, Executive Director
- Jamie Cier, Treasurer, Board of Trustees
- Bob Morris, Board of Trustees (OPAL and OIFB)

ORCAS COMMUNITY RESOURCE CENTER (OCRC)

Steering Committee:

- Lisa Steckley, Secretary, Board of Directors
- Margie Bangs, Treasurer, Board of Directors
- Patricia Benton, Chair, Board of Directors

Subject Matter Expert:

- Erin O'Dell, Executive Director



CONSULTANTS AND CONTRACTORS

- Architect: Environmental Works
- Microgrid Study: Săzän Group
- Fundraising: The Ostara Group
- Cultural Resources: Environmental Science Associates
- Civil Engineering: Coterra Engineering
- Survey: Holman Surveying
- Geotechnical: GeoTest



Pea Patch Campus Progress to Date

- **Community Input and Feedback**
 - April 2024 Design Workshops
 - October 2024 Report to Community
 - Microgrid Survey October 2024
- **Site Plan Readiness**
 - Permitting Submittals
- **Fundraising @ 40% (\$19M / \$48M):**
 - Advocacy in Olympia
 - Community Conversations
 - Focus Groups
 - Campaign Survey
- **Microgrid Feasibility Study**
 - Survey Results





Site Updates:

- **Plat and CUP** permit apps in this week
- **Grant applications** submitted for:
 - Stormwater measures
 - Moving the Curtis Farmhouse
- **Working with Neighbors** on:
 - New Driveway
 - Paving and Parking
 - Pedestrian Access
- **Timeline** - with funding success, work could begin before year end



Pea Patch Community Campus





Local Community Project Funding Request – WA Capital Budget



Applied for \$6.5M to complete the site work and unlock the housing construction. Includes:

- Roadways
- Paving and Parking
- Utilities
- Stormwater Management System

Please support our application with an email to our District 40 sponsors before March 15:

- Rep. Lekanoff: devon.mcbride@leg.wa.gov
- Rep. Ramel: amanda.hubik@leg.wa.gov
- Sen. Lovelett: ivy.ndambuki@leg.wa.gov



Microgrid Community Survey Results

- Advertised in local newspapers, news blogs, newsletters
 - Community Meeting on 10-29-24 collected survey responses
 - Eastsound Halloween booth to collect survey responses
 - Total responses: 39
-
- **85%** of survey respondents reported that a prolonged outage or natural disaster impacting the local electrical utility grid posing a risk to health/lifestyle. Survey responses include:
 - In a prolonged outage we would lose our well pump and septic pump as well as refrigeration.
 - Food storage and my family's essential medication would be at risk.
 - Access to food would be the greatest risk.
 - **82%** reported not having reliable source of energy to stay comfortable/continue operations in the event of a power outage.
 - During an outage or natural disaster, **95%** reported keeping food refrigerated as an energy need, and **85%** reported staying warm as an energy need.
 - Out of the 39 responses, 62% identified as homeowners, 13% identified as OPAL residents, and 8% were not Orcas Island residents.



Orcas Island Pea Patch Microgrid Feasibility Study

Community Engagement Workshop Presentation

March 10, 2025

SÄZÄN
GROUP



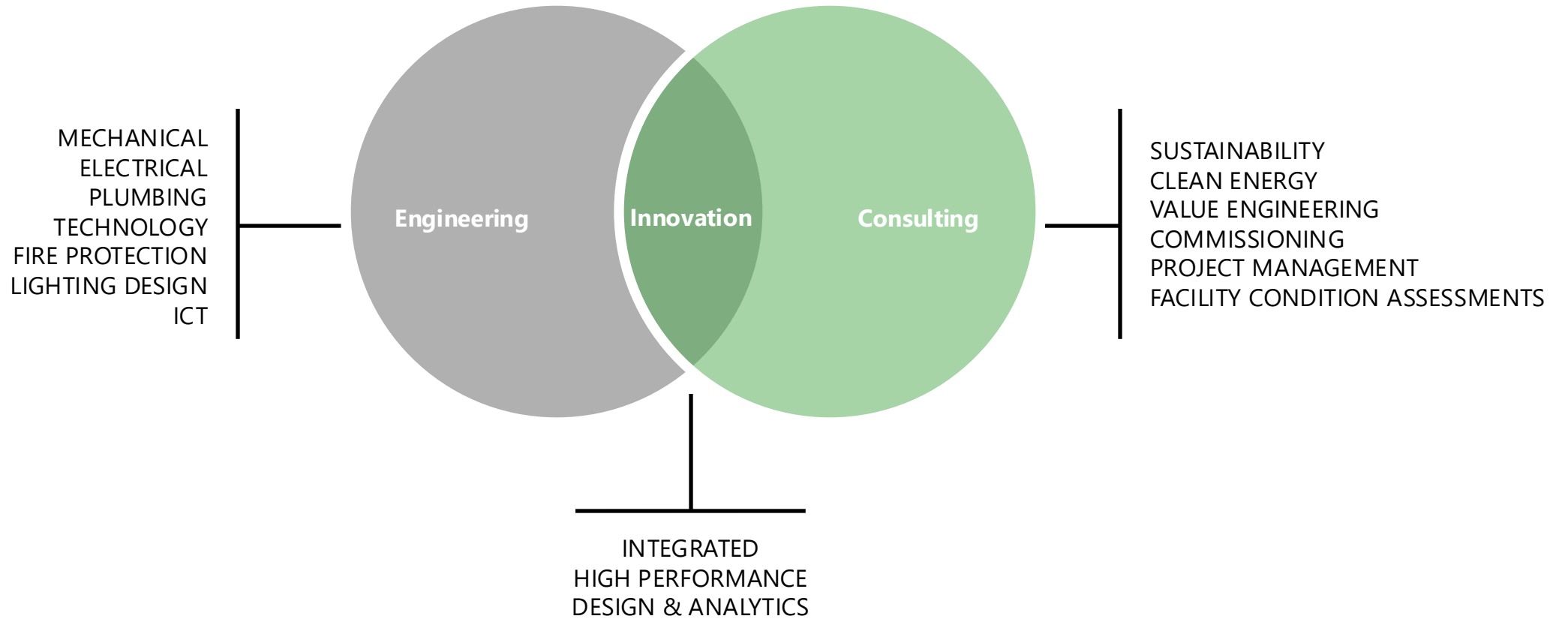
Orcas Island Pea Patch Microgrid Feasibility Study

Presentation Agenda

1. Project Overview
2. Community Benefits
3. Microgrid technologies and feasibility study process overview
4. Orcas Island Pea Patch microgrid system concepts
5. Grant funding resources for project development
6. Education and training materials
7. Discussion / Q&A, next steps

SÄZÄN

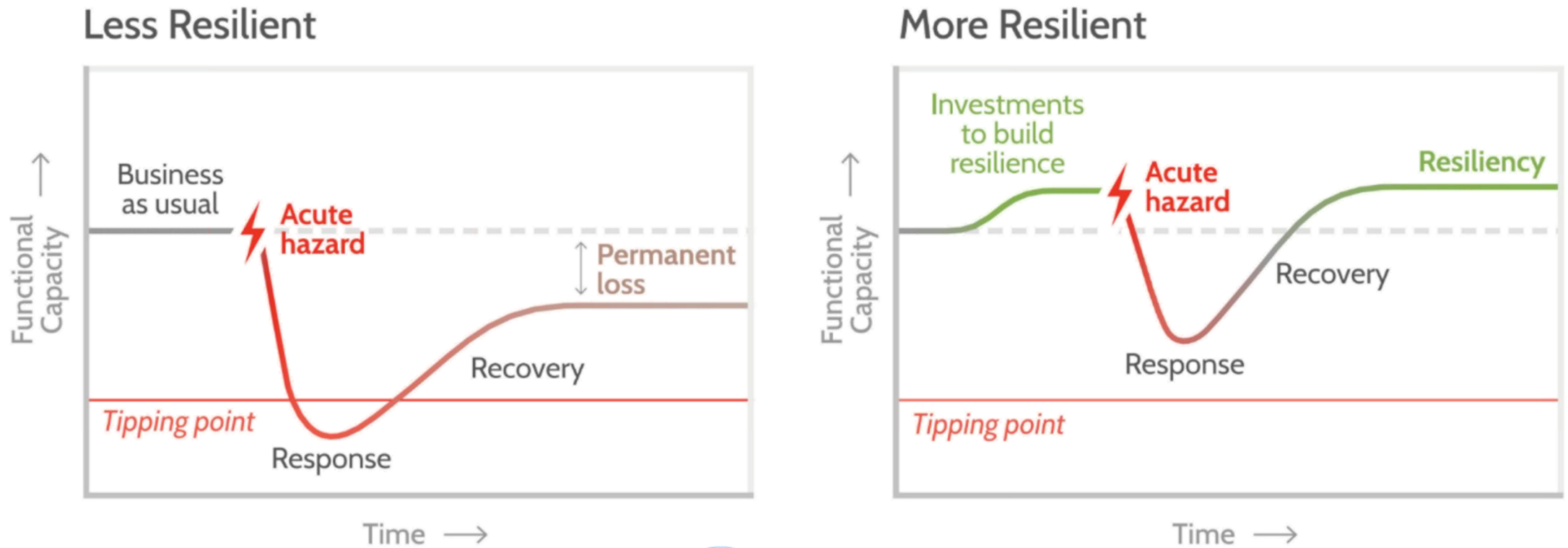
GROUP



26 Years of Optimizing a Resilient Future

What is Resilience?

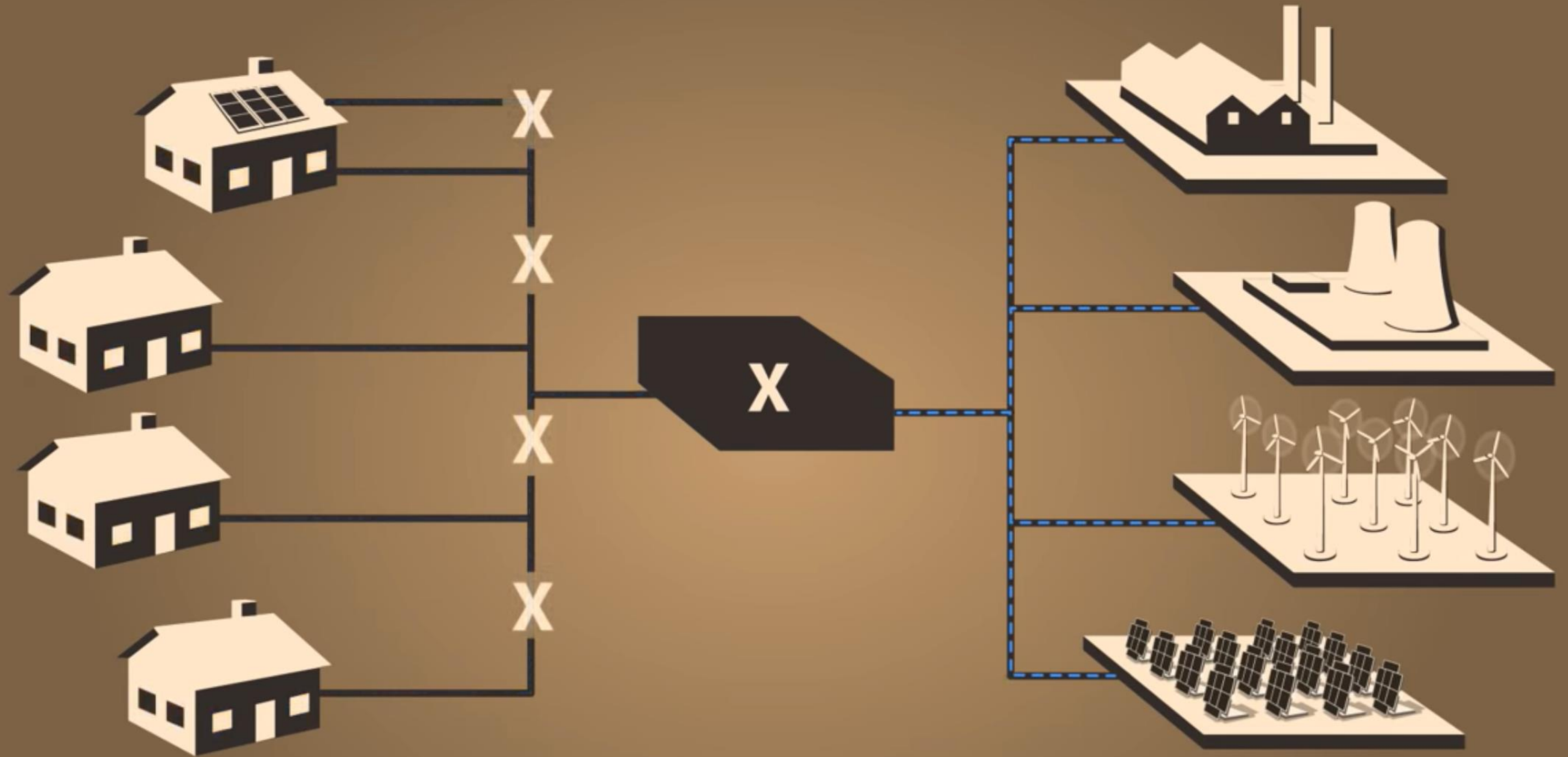
Resilience is the capacity of a community, business, or natural environment to prevent, withstand, respond to, and recover from a disruption.



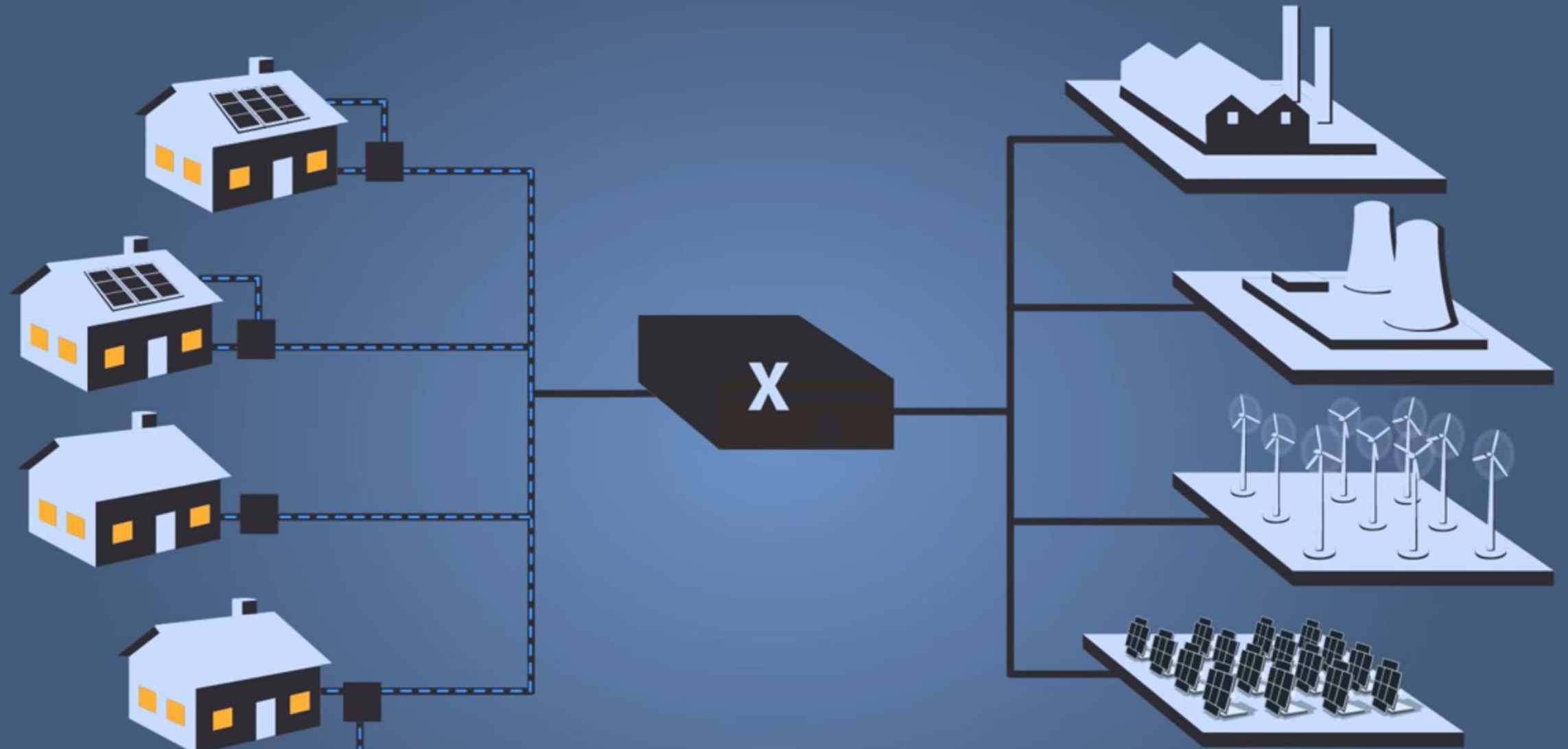


“A microgrid is a group of interconnected loads and distributed energy resources that acts as a single controllable entity with respect to the grid. It can connect and disconnect from the grid to operate in grid-connected or island mode. Microgrids can improve customer reliability and resilience to grid disturbances.”

- National Renewable Energy Laboratory (NREL)

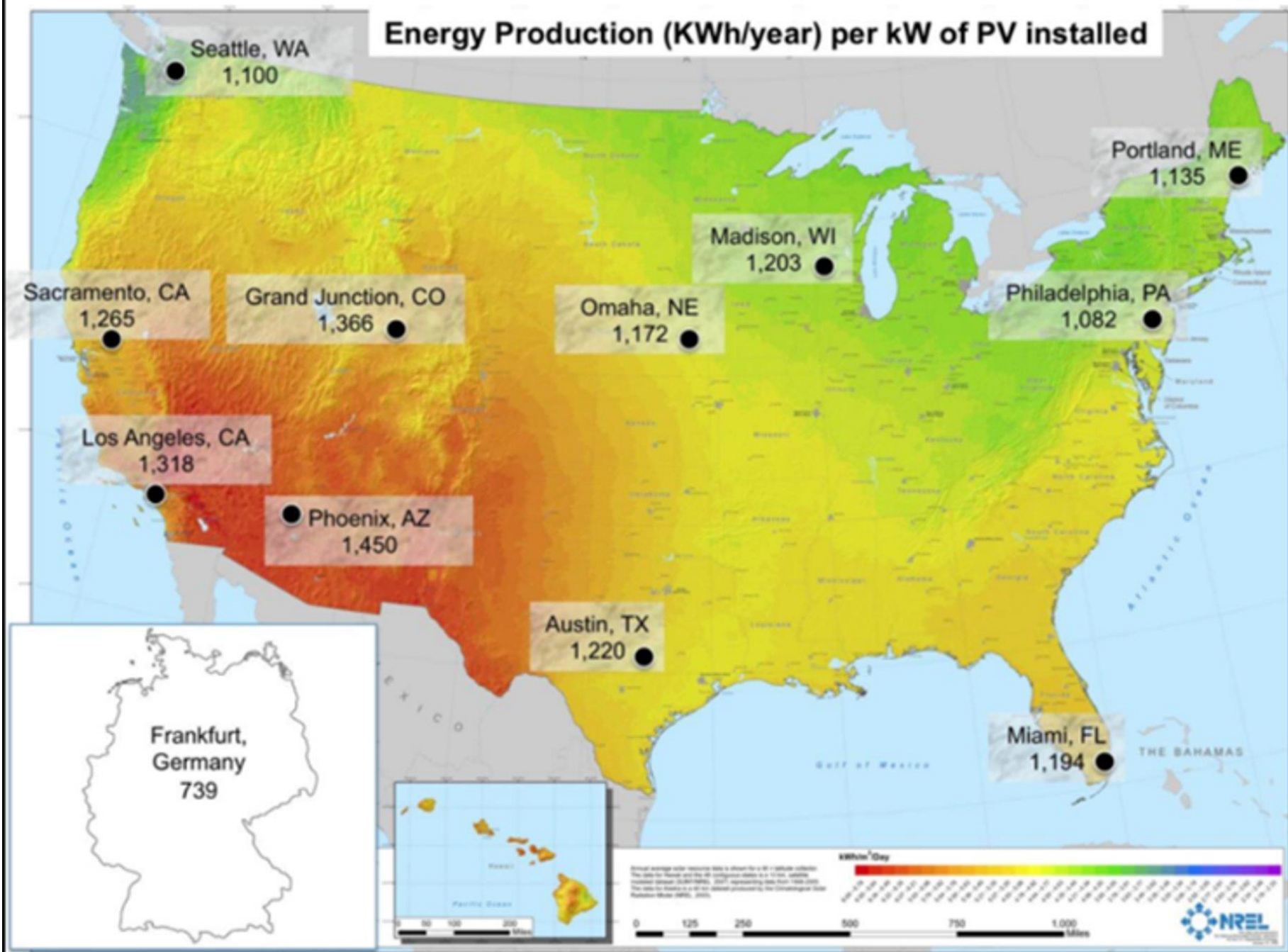


In a conventional power grid, a blackout at the utility company's substation would cause all users to lose power.



the microgrid can operate independently from the larger grid, so users can continue to receive power.

United States Photovoltaic Solar Resource : Flat Plate Tilted at Latitude



- Solar on Orcas Island = ~982 kWh / kW / Year
- Module Warranty 25 Years
- Washington-Made Modules



PVWatts® Calculator



My Location *orcas island, wa*
[» Change Location](#)

RESOURCE DATA SYSTEM INFO RESULTS

RESULTS

Print Results

982 kWh/Year*

*System output may range from 937 to 1,015 kWh per year near this location.
 Click [HERE](#) for more information.*

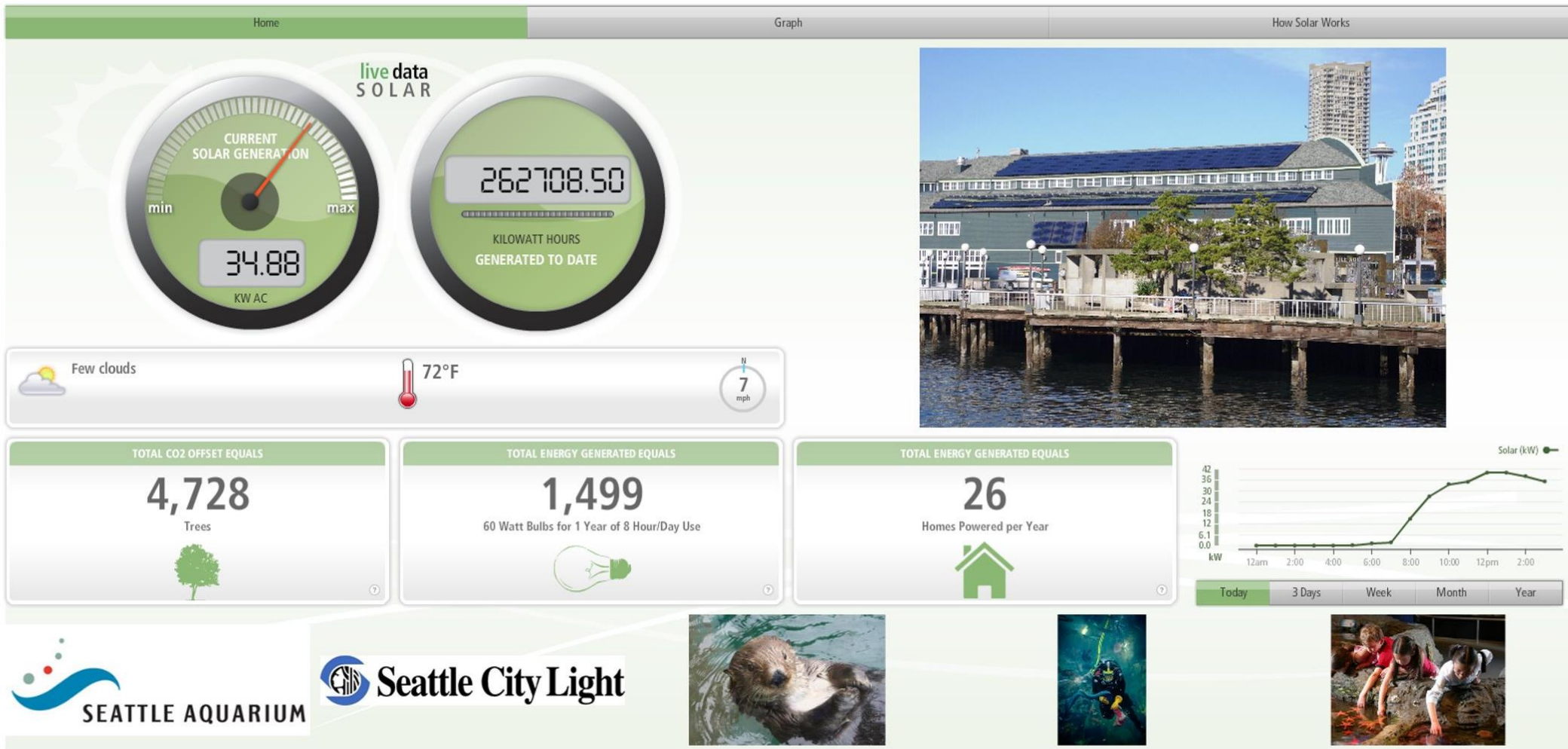
Month	Solar Radiation (kWh / m ² / day)	AC Energy (kWh)
January	1.10	27
February	1.84	41
March	2.83	70
April	4.52	106
May	5.55	131
June	5.71	128
July	6.48	147
August	5.65	129
September	4.01	91
October	2.45	59
November	1.28	30
December	0.89	22
Annual	3.53	981

User Comments



Solar PV Installation Types

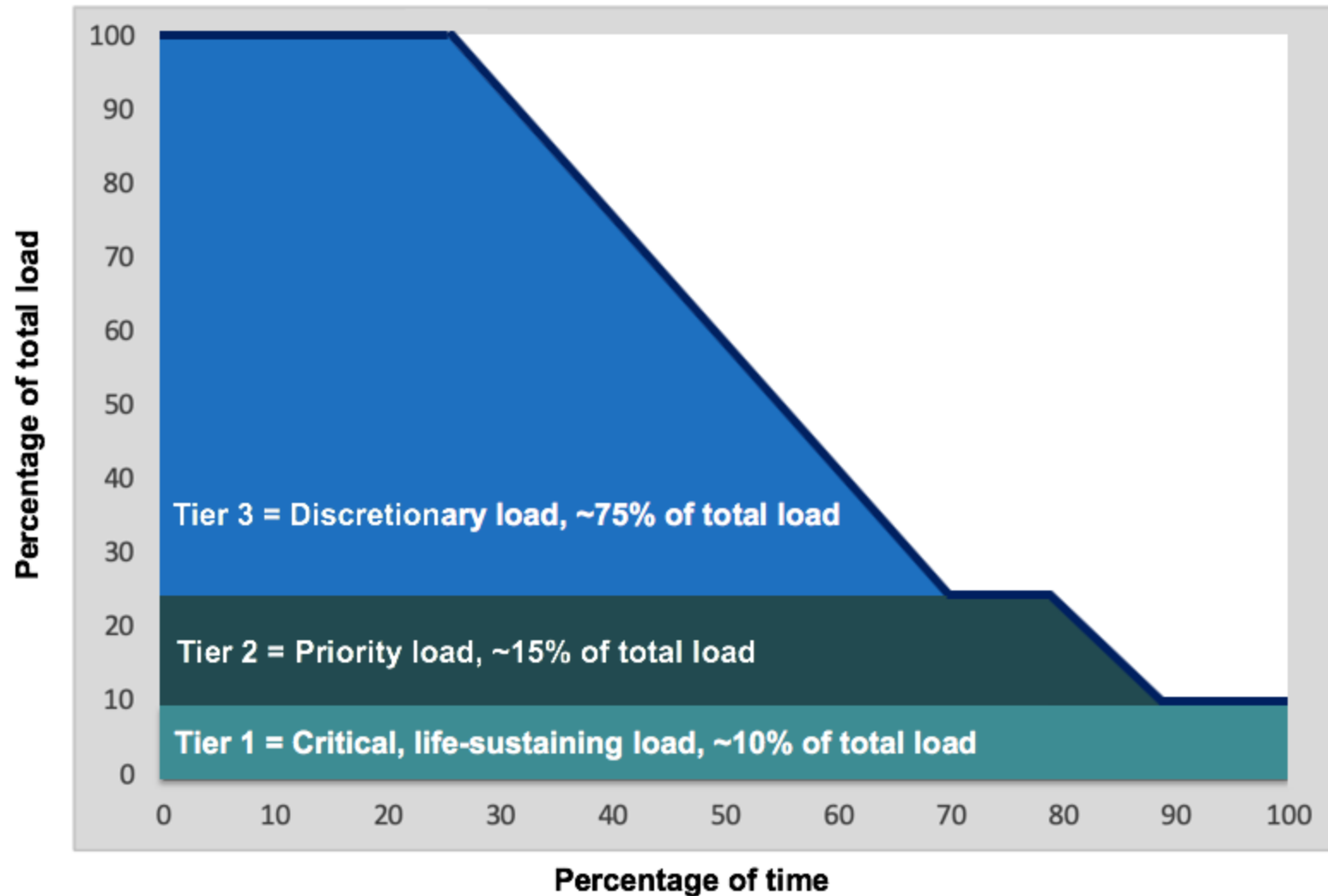
- Rooftop, Carport, Ground Mount
- Fixed vs. Tracker Systems
- Requirements: “Anti-Islanding”
- Product Specification - Strategies



Energy Monitoring Dashboards

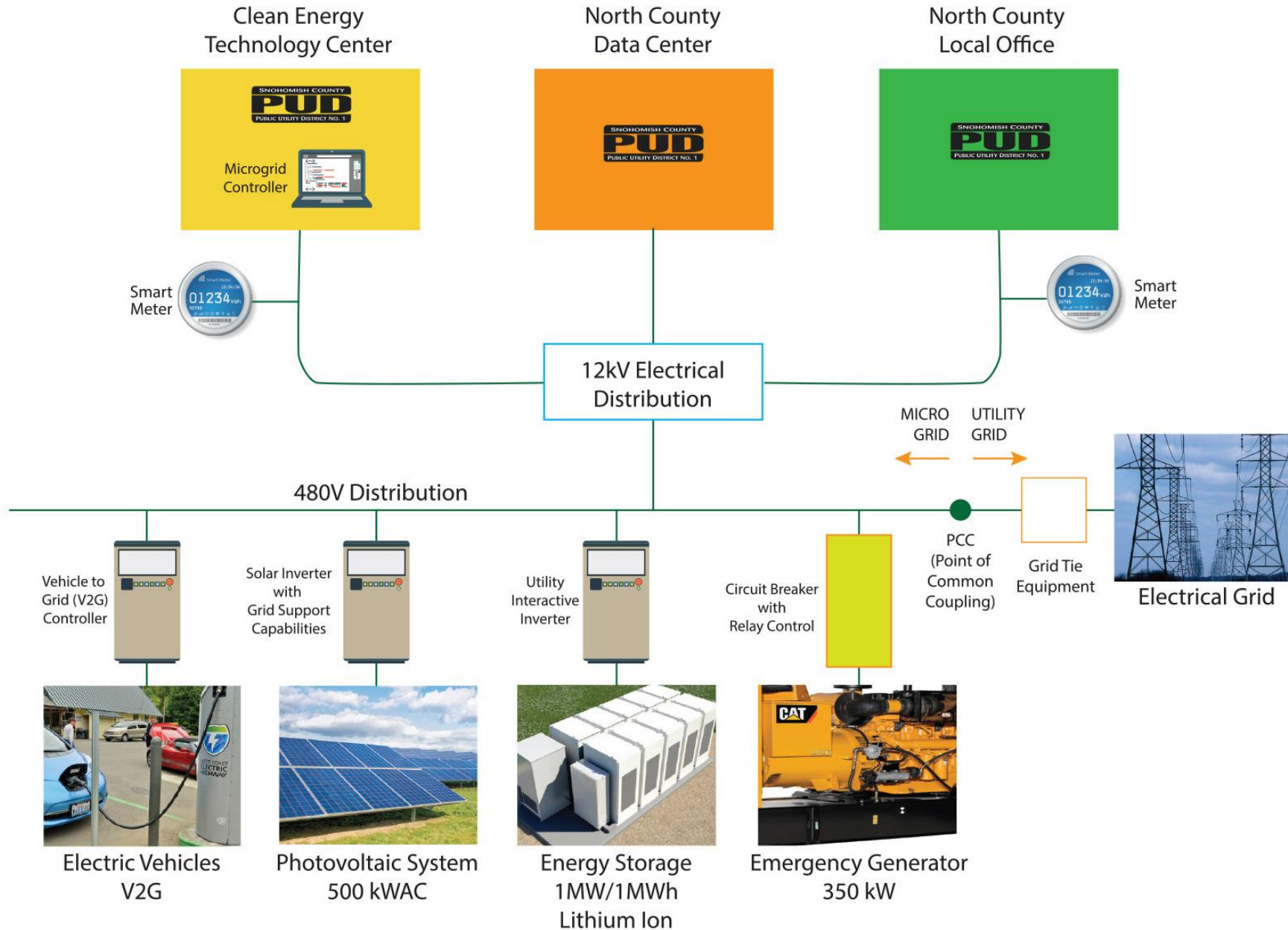
- Resource Equivalencies
- Performance Monitoring

Orcas Island Pea Patch Microgrid Feasibility Study - Process Overview



Critical Load Tiering Approach from Clean Coalition

Snohomish PUD – Arlington Microgrid Concept Diagram



Orcas Island Pea Patch Microgrid Feasibility Study - Process Overview

1. Identify Evaluation Criteria to Develop System Design
2. Stakeholder Engagement for Community Resilience
3. Information Gathering and Site Assessment(s)
4. Electrical and Constructability Coordination
5. Conduct Modeling, Prepare Cost Estimates, and Site Plan
6. Performance Specifications for Project Development
7. Feasibility Study Report Development and Presentation



Orcas Island Pea Patch Microgrid Feasibility Study - Concepts



- Support Outage Resilience
- Maintain Food Security
- Energy Cost Savings

Orcas Island Pea Patch Solar and Storage Feasibility Study

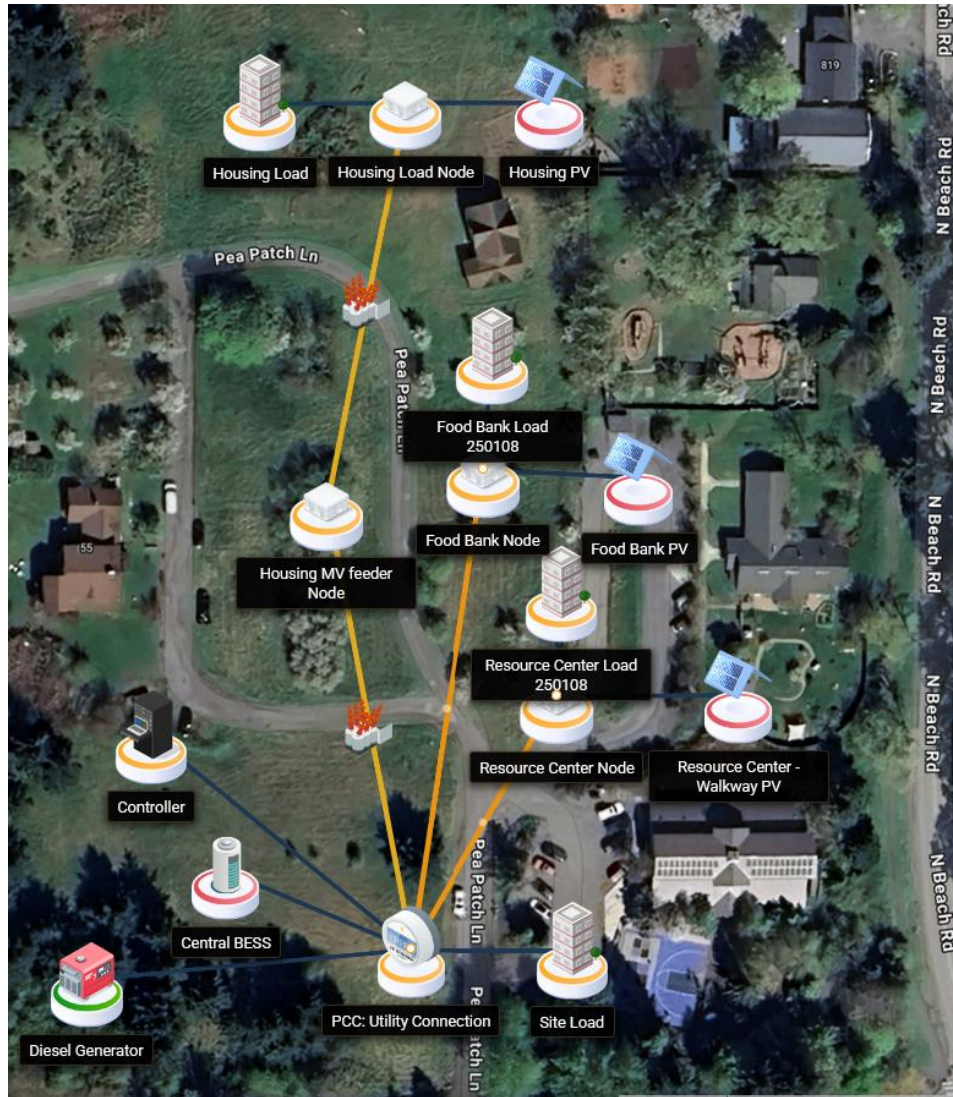
Evaluation Criteria & System Selection



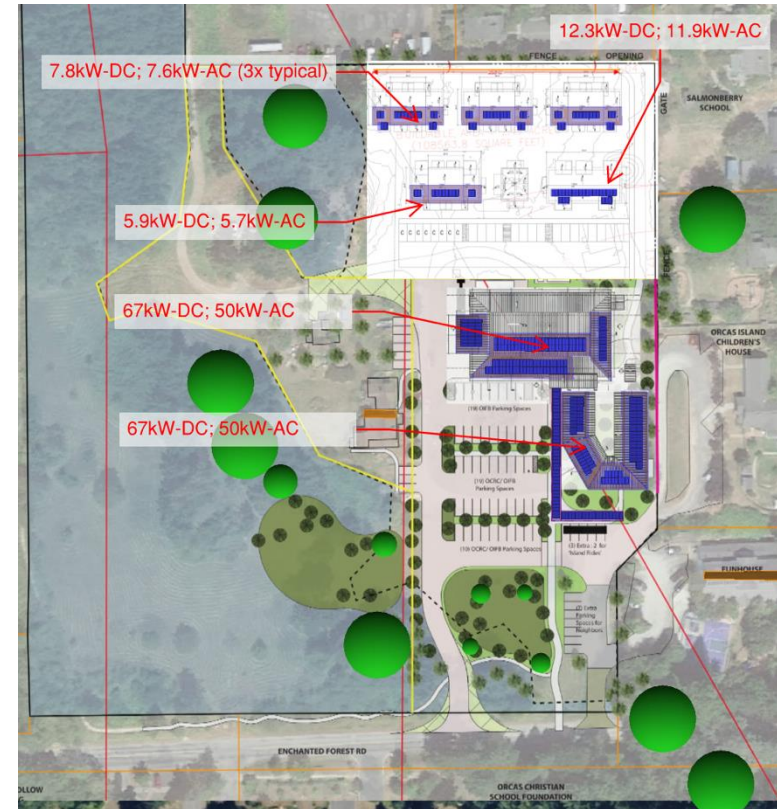
Orcas Island Pea Patch Solar and Storage Feasibility Study			
	Concept 1: Campus-Wide Microgrid	Concept 2: OIFB-OCRC Microgrid with Housing Separate	Concept 3: Individual Solar and Battery Microgrids
Energy Performance	Green	Yellow	Yellow
Cost Benefits	Yellow	Yellow	Red
Complexity	Red	Green	Red

Evaluation Criteria for System Selection

Orcas Island Pea Patch Microgrid Feasibility Study – Concepts

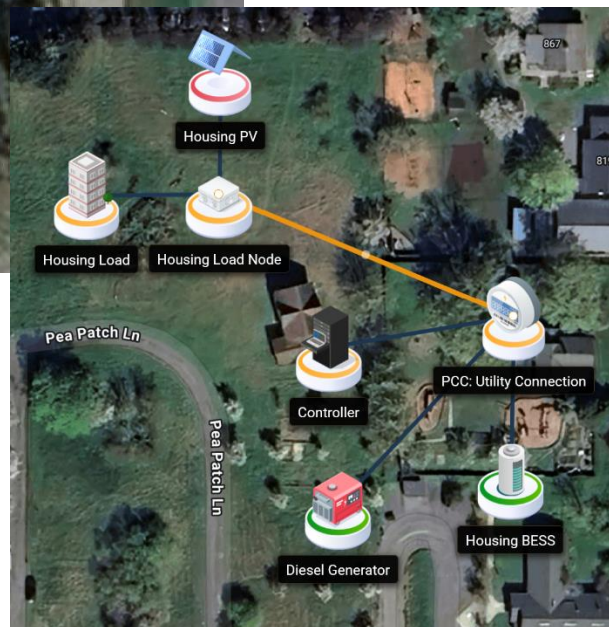


- 180kW of Rooftop Solar
- 200kW - 576kWh BESS

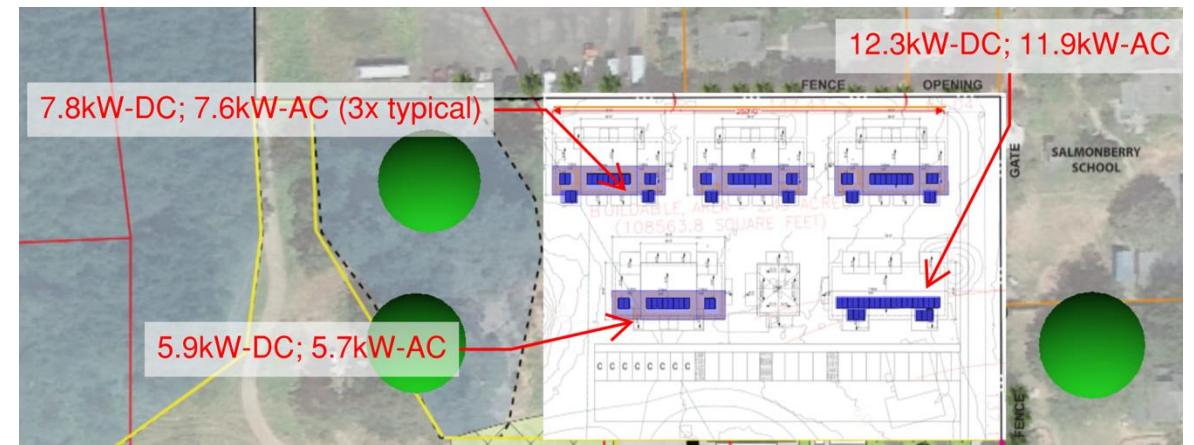


Concept 1 – Campus Microgrid

Orcas Island Pea Patch Microgrid Feasibility Study – Concepts



- 180kW of Rooftop Solar
- OIFB: 125kW - 576kWh
- Housing: 125kW - 576kWh
- OCRC: 75kW - 230 kWh



Concept 3 – Individual Solar and Battery Microgrids

Orcas Island Pea Patch Microgrid Feasibility Study - Funding Resources



Federal, State, & Utility Incentives/Grants for Solar Plus Storage:

1. Implementation Grants – Timeline, Eligibility, Cost Share, Etc.
2. Net Energy Metering with Utility Provider (RCW 80.60)
3. Inflation Reduction Act – Direct Payment + Domestic Content



Resources:

<https://www.commerce.wa.gov/growing-the-economy/energy/solar-grants/>

<https://www.commerce.wa.gov/growing-the-economy/energy/solar-plus-storage/>

<https://www.commerce.wa.gov/epic/>

Orcas Island Pea Patch Microgrid Feasibility Study



The screenshot shows the FundHubWA website homepage. At the top left is the FundHubWA logo. To its right is a navigation menu with links for 'About', 'News', 'Resources', 'Subscribe', and 'FAQ', followed by an orange 'Explore Funding' button. The main content area features the heading 'Your gateway to grants and incentives' and a paragraph: 'FundHubWA connects you to climate and clean energy funding opportunities to help improve your home, business, or community. Together, we can make Washington cleaner, healthier, and more resilient.' Below this is another 'Explore Funding' button. To the right of the text are three images: a worker on a solar panel, a woman smiling, and hands holding a small plant.

<https://fundhub.wa.gov/>

The screenshot shows the Energy Programs in Communities (EPIC) website. The main heading is 'Energy Programs in Communities (EPIC)'. Below it is a paragraph: 'The Energy Programs in Communities (EPIC) unit, a part of the Energy Division and State Energy Office, designs, develops and implements initiatives that enable all communities to be a part of the clean energy transition. The EPIC unit administers a diverse portfolio of state and federal funding that aims to improve access to renewable energy and energy-efficient technologies, increase community resiliency and reduce energy burden, and advance environmental justice.' Below this is the heading 'EPIC programs' and a card for 'Grid Resilience and Reliability' with a description: 'Authorized by the Bipartisan Infrastructure Law, the Grid Resilience State and Tribal Formula Grants program (often referred to as section 40101(d)) is designed to strengthen [...]'. On the right side, there is a vertical menu with the following items: 'Energy Programs in Communities (EPIC)', 'Clean Energy Ambassadors', 'Grid Resilience and Reliability', 'Solar for All Funding', 'HEAL Act and Environmental Justice', and 'Legacy EPIC Grant Programs' with a dropdown arrow. At the bottom right is a 'Contact' link.

<https://www.commerce.wa.gov/epic/>



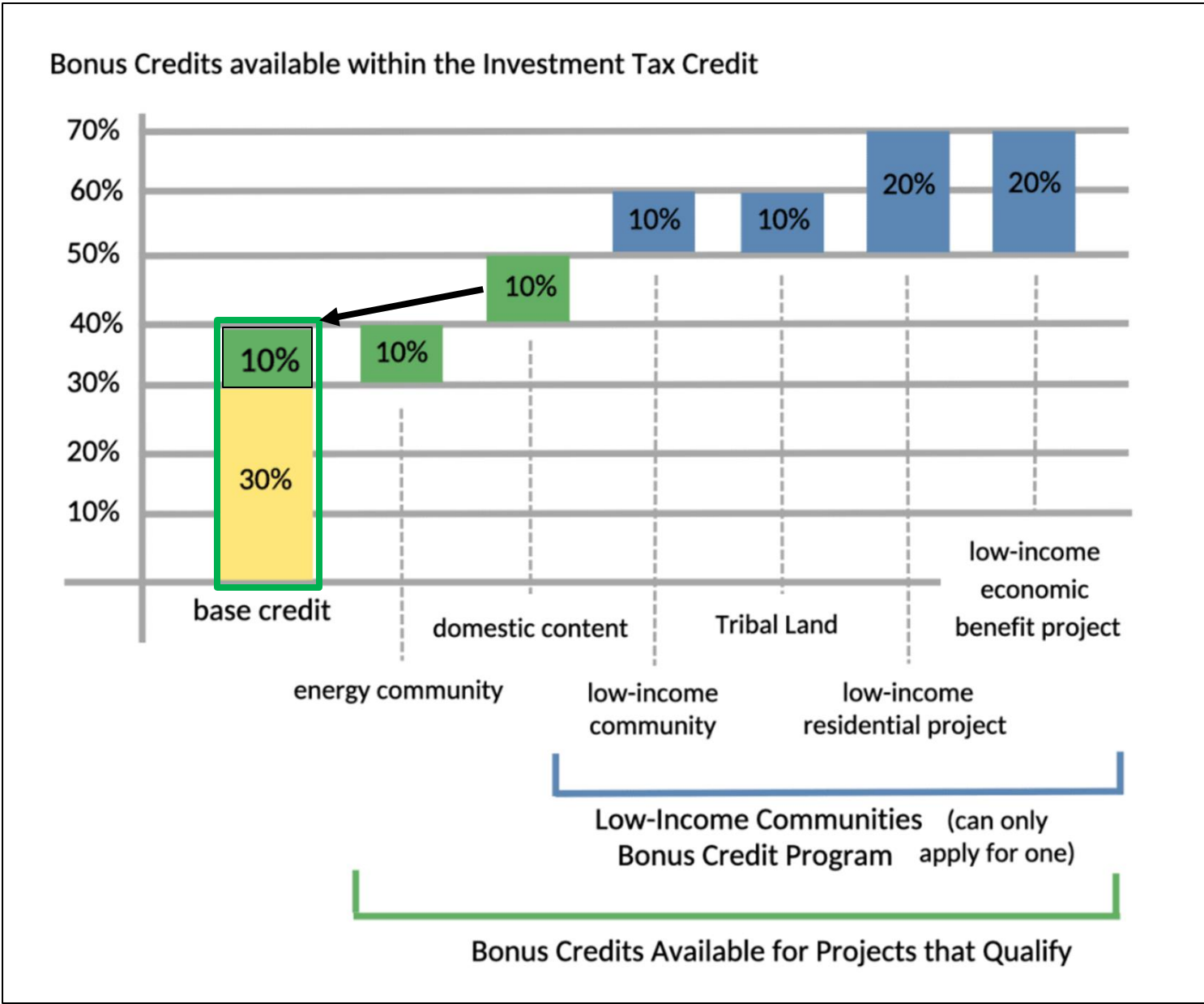
FEBRUARY 22, 2024

\$67 million available for Community Decarbonization Grants

Grant applications are now open exclusively for clean energy projects that advance equity, resiliency, and environmental justice.

Commerce is now accepting applications to support the planning, design, and construction of clean energy projects that will improve health, resiliency, and economic outcomes for communities that face inequitable risk from energy burden, pollution, and other environmental factors. *For this round of grant funding, applicants will be required to demonstrate that projects benefit overburdened communities and vulnerable populations by improving environmental health conditions, reducing energy inequities, or strengthening community resiliency.*

Orcas Island Pea Patch Microgrid Feasibility Study - Funding Resources



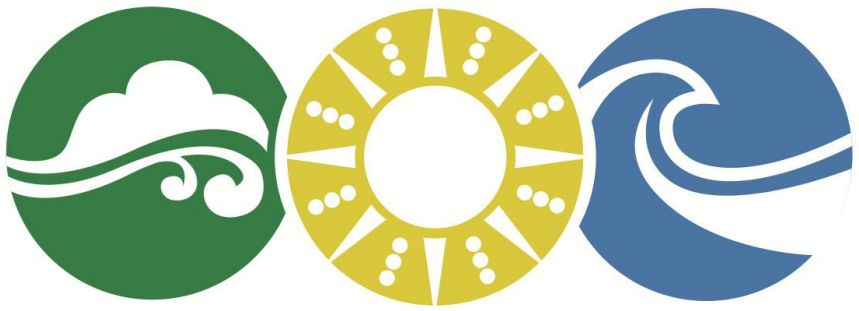
Orcas Island Pea Patch Microgrid Feasibility Study



ce
CLEAN ENERGY
BRIGHT FUTURES



GRID
ALTERNATIVES



SOLAR ENERGY
INTERNATIONAL



Remote
Energy

Educate. Engage. Empower.

Orcas Island Pea Patch Microgrid Feasibility Study - Next Steps



1. Complete Feasibility Study and Identify Prioritized System Option
2. Utilize Feasibility Study Results to Support Grant Applications
3. Obtain Letters of Support From Utility and Emergency Management
4. Upload Site Plan, Cost Estimate, Apply for Construction Funding
5. Implement Microgrid Project and Support Community Resilience!



Discussion / Question and Answer



