

Welcome



Powerful Facility Energy Conference

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Microgrids and Renewable Energy for Community Resiliency

Alex Chorey and Kelsey Lewis, Snohomish PUD
March 16, 2023

Powerful Facility
Energy Conference



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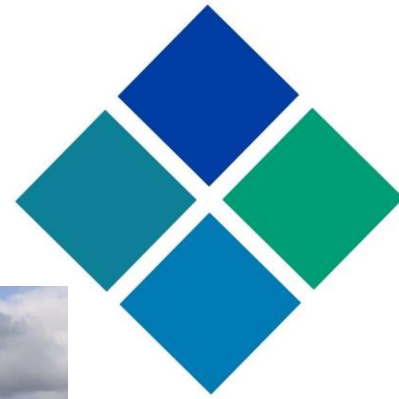
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Agenda

- ❖ Arlington Microgrid
- ❖ South Everett Solar Array
- ❖ Tulalip Microgrids for Resiliency





Arlington Microgrid Overview

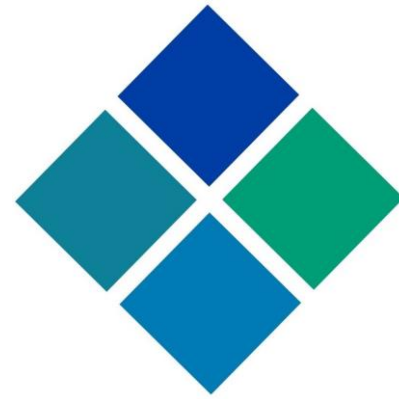
❖ PUD Project Goals:

- ❖ Grid Resiliency and Disaster Recovery
- ❖ Renewable Energy Integration
- ❖ Grid Support and Ancillary Services
- ❖ Vehicle-to-grid (V2G) Demonstration

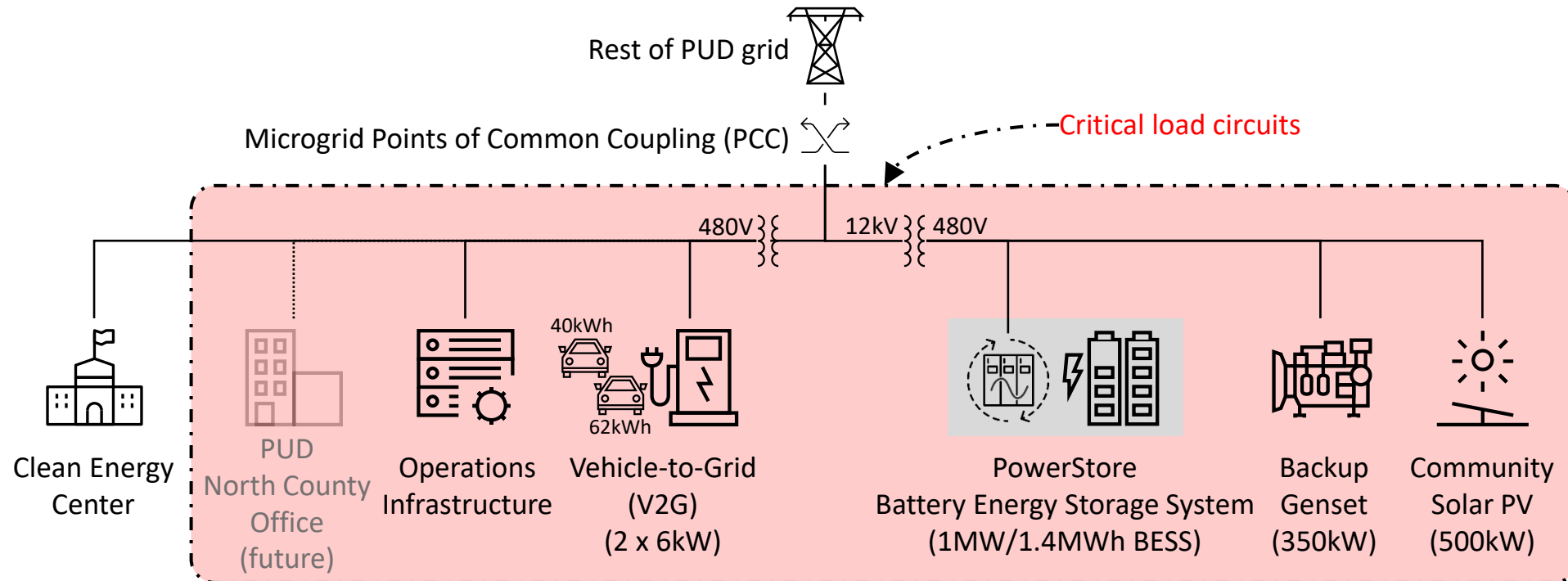
❖ Microgrid Basics:

- ❖ 1MW Battery Energy Storage System
- ❖ 350kW Diesel Generator
- ❖ 500kW Solar Array (1.7 acres)

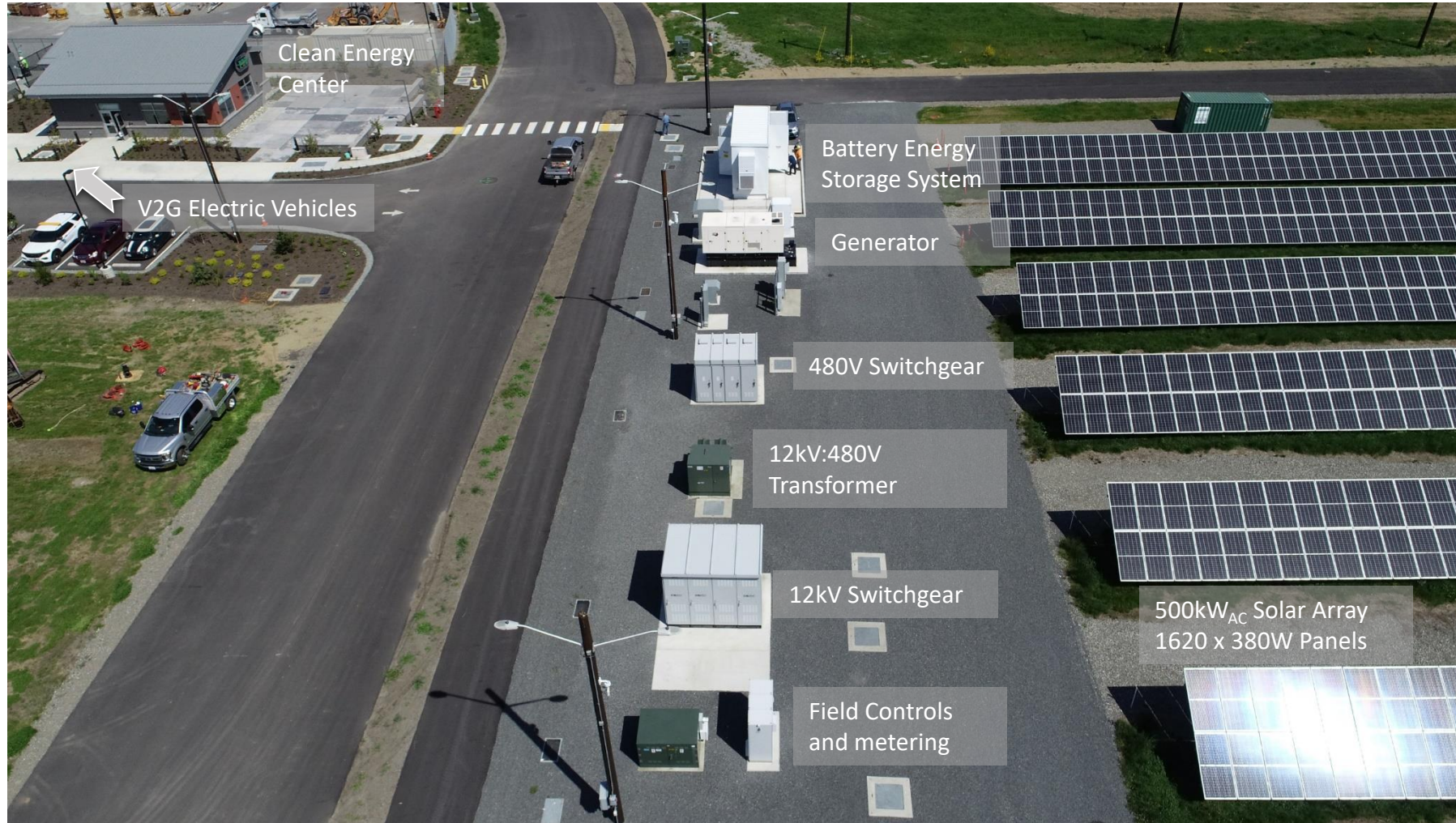
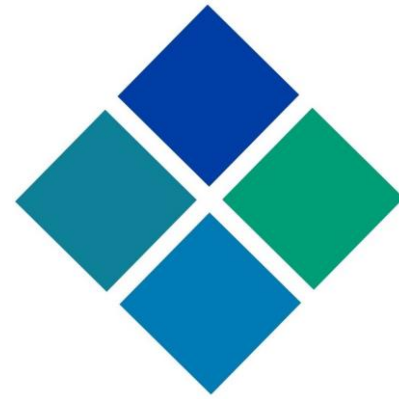


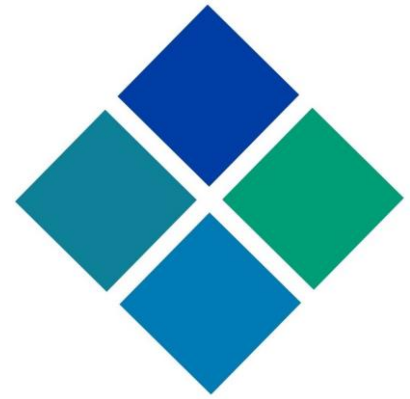


Arlington Microgrid Architecture



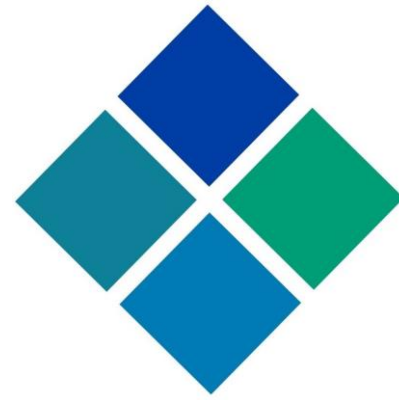
Microgrid Components





Arlington Microgrid Operation

- ❖ 1MW/1.4MWh battery can power office building for ~12 hours
 - ❖ Solar array can recharge battery & power building (spring, summer, fall)
 - ❖ Supplement with diesel generator
 - ❖ Building load shedding can extend emergency power duration
- ❖ Seamless transfer to grid connected/islanded mode
- ❖ Vehicle to Grid (V2G)
 - ❖ 6kW bi-directional charger
 - ❖ Under Microgrid control when islanded, DERMS control when grid connected



Safety Lessons

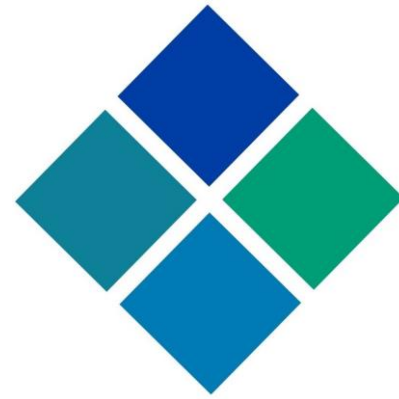
❖ Safety

- ❖ Fire suppression – new codes are just being developed
- ❖ Training for emergency responders
- ❖ Separation distances

❖ Construction

- ❖ New products have solved many of the problems we encountered
- ❖ Choose your partners carefully

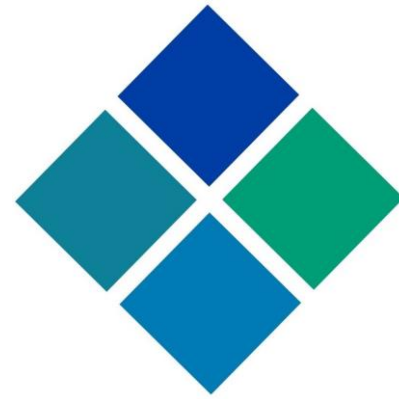




South Everett Solar Project

- ❖ Awarded \$861,814 Grant from Department of Commerce, Clean Energy Fund – Solar Deployment Program, \$639,466 Match





Project Overview

Objectives

Outcomes

Provide benefits to highly-impacted community

Install 375kW solar array in Casino Road community

Reduce energy burden for income qualified customers

Direct solar generation benefits to Project Pride

Locate solar array for grid benefits

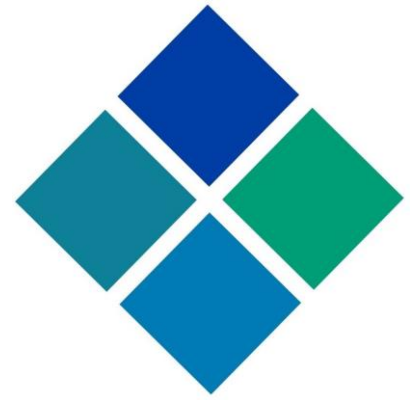
Reduce peak demand on summer peaking circuits



Project Partnerships



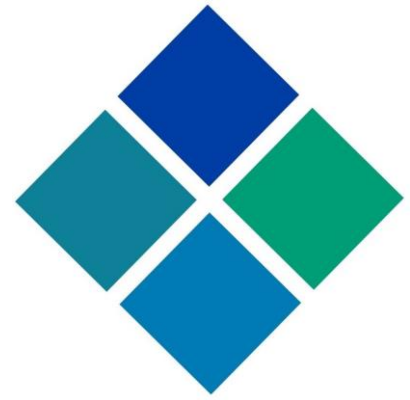
- Grant and project management
 - Procurement
 - Asset ownership
 - Operations & maintenance
 - Disbursement of generation credits to St. Vincent de Paul
- Lease real property for project site
 - Support community outreach and engagement
- Administer generation credits through Project Pride
 - Support community outreach and engagement



Project PRIDE

Providing Relief for Individuals Dependent on Energy

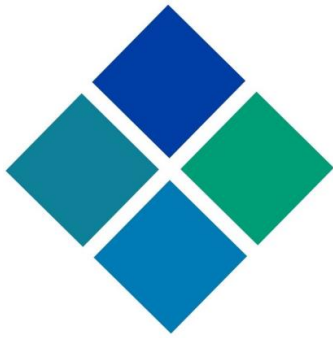
- ❖ PUD emergency bill assistance program funded through voluntary contributions
- ❖ Program stats:
 - ❖ Serves approximately 500 customers annually, ~50% Everett residents
 - ❖ PUD customers contribute approximately \$70,000 annually
 - ❖ Project will generate an additional \$27,600 in annual energy credits during the life of the community solar array



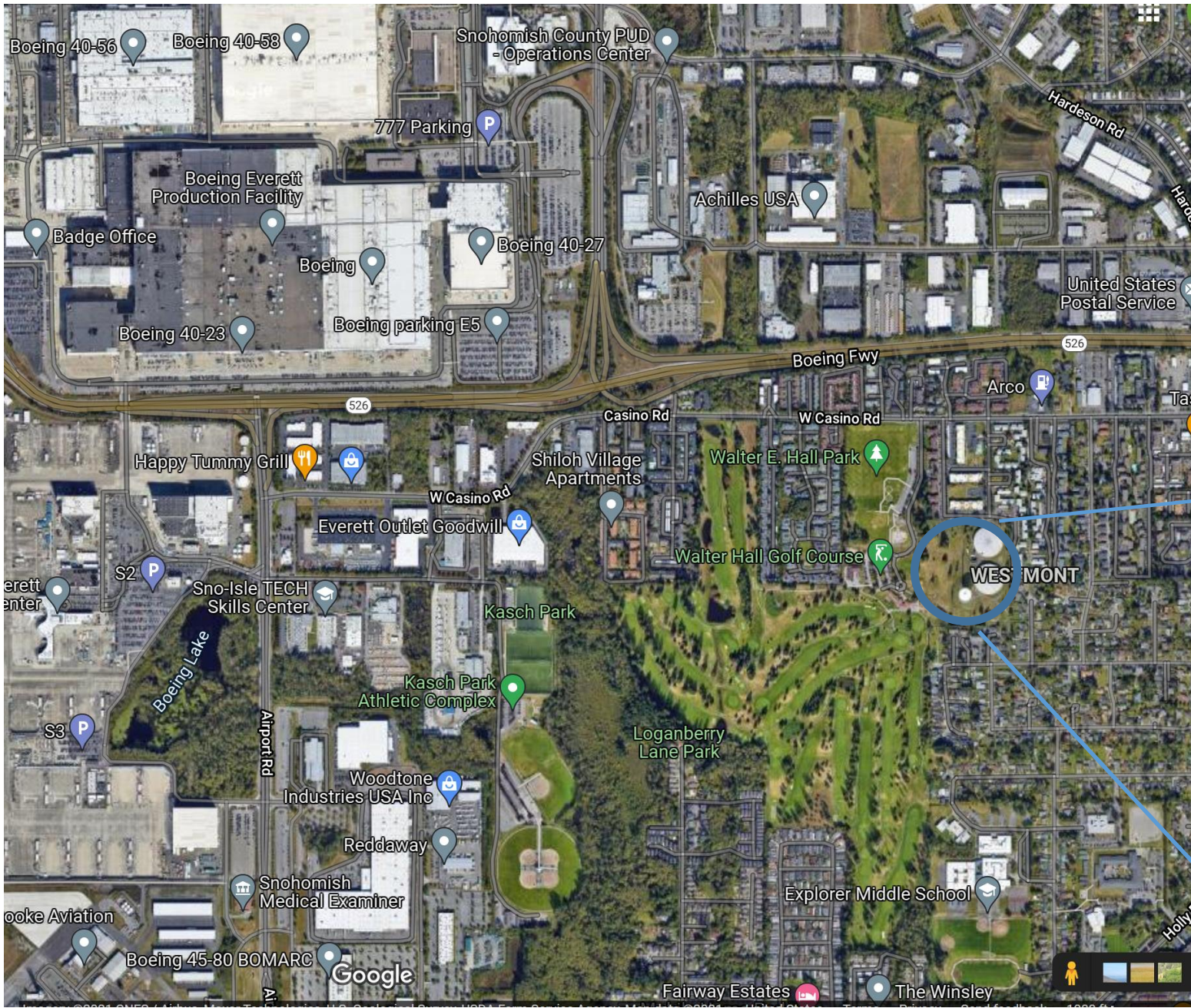
Site Considerations

Casino Road Neighborhood

- ❖ Dense multi-family housing, with high degree of income-qualified households
- ❖ Ranks high on Washington Department of Health Environmental Disparities map
- ❖ System Planning identified the neighborhood as one with heavily loaded summer peaking circuits

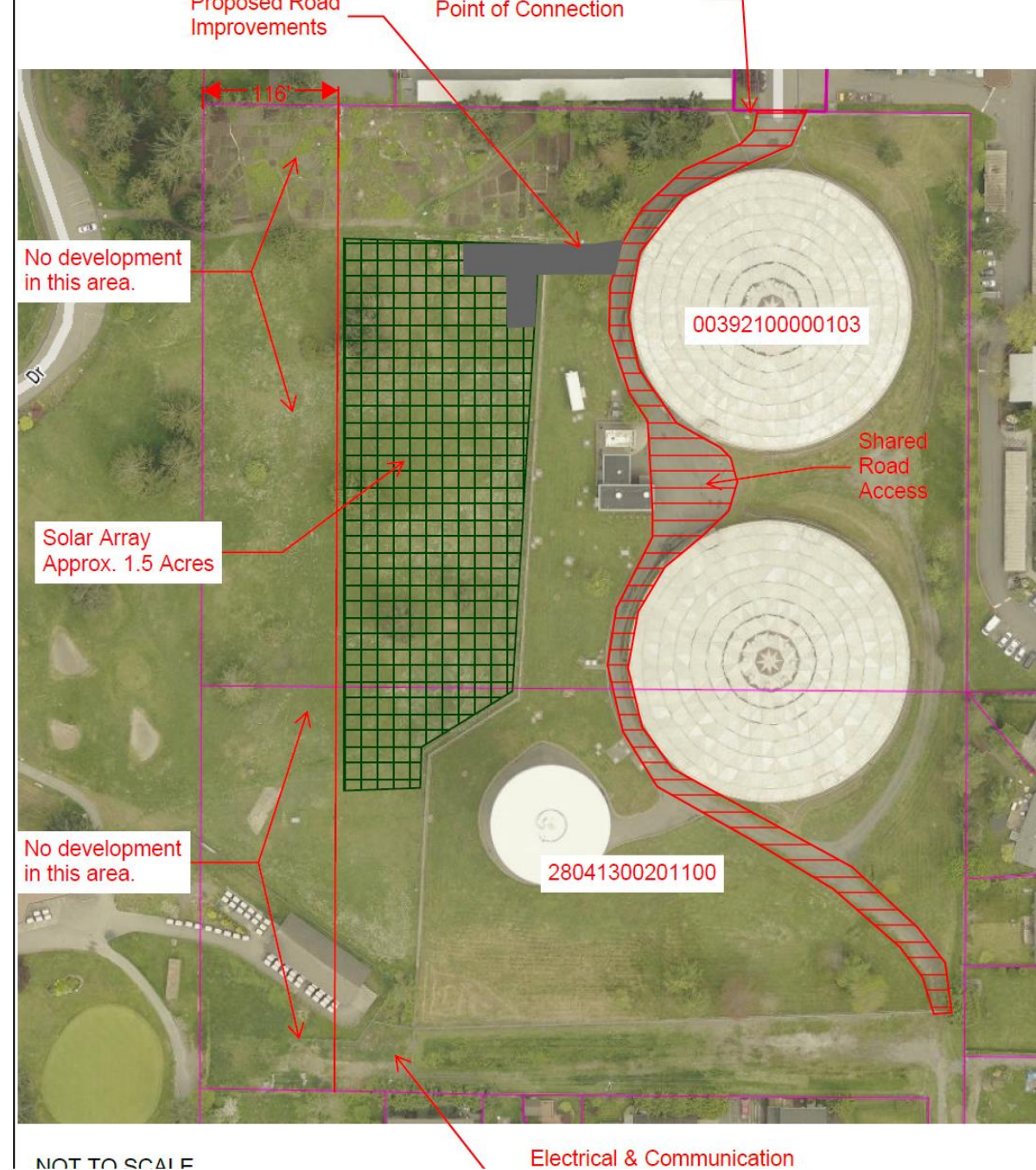


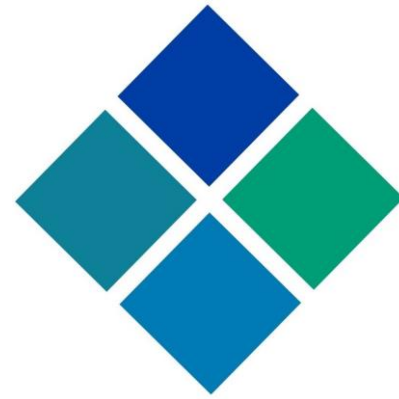
Project Site



Site Details

- ❖ Approximately 1.5 acres on Everett Utility property adjacent to water tanks
- ❖ Convenient grid interconnection point and electrical and communications access
- ❖ Minimal road improvements for construction
- ❖ Shared road access with Everett Utility staff



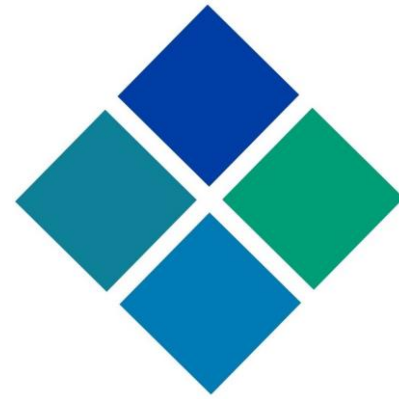


Outreach

- ❖ Attended community events in 2022 with aim to inform about the project
- ❖ Solicit project name ideas
- ❖ Connect customers to other programs



National Night Out





Connect Casino Road Carnival

VILLAGE ON CASINO ROAD
**SUMMER
CARNIVAL**

**SATURDAY, AUGUST 6TH | 11:00AM to 3:00PM
14 E CASINO RD, EVERETT**

.....

WE WILL HAVE FOOD, PRIZES AND GAMES FOR THE ENTIRE FAMILY!

ÚNASE A NOSOTROS PARA UNA CELEBRACIÓN COMUNITARIA:
¡COMIDA, PREMIOS, JUEGOS PARA TODA LA FAMILIA!

온 가족이 즐길 수 있는 지역 사회 축하 행사에 참여하세요. 음식, 상품, 게임!

ПРИСОЕДИНЯЙТЕСЬ К НАМ НА ПРАЗДНИК СООБЩЕСТВА - ЕДА, ПРИЗЫ,
ИГРЫ ДЛЯ ВСЕЙ СЕМЬИ!

SUMALI SA AMIN PARA SA ISANG PAGDIRIWANG NG KOMUNIDAD-
PAGKAIN, PREMYO, LARO PARA SA BUONG PAMILYA!

加入我們的社區慶祝活動——全家人的食物、獎品、遊戲!

Sugerencias del nombre
por el proyecto solar

* Casino Road Community Solar

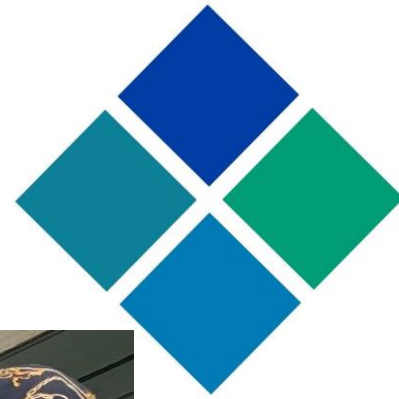
* TACOR ROAD COMMUNITY CENTER

* Clean Energy

* El Sol A Tus

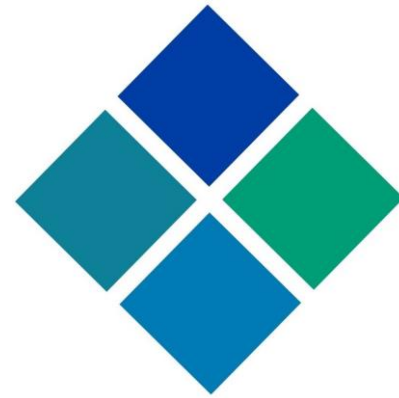
* El Sol AL ALCANCE DE TUS MANOS.

Back-to-School Fair at Mariner HS



Outreach

- ❖ Attended community meetings in 2022
 - ❖ South Everett Rotary
 - ❖ Westmont-Holly Neighborhood Association
- ❖ Distributed flyers in the neighborhood



SNOHOMISH PUD
Energizing Life In Our Communities

New PUD Solar Project
Supporting renewable energy & customers in need

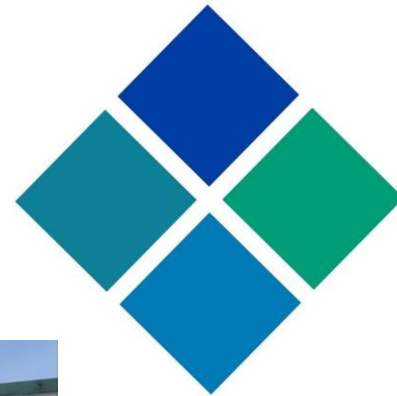
Learn more about this exciting new community project and enjoy free food, games and activities for kids!

PUD Solar Project Open House
Saturday, September 17, 2022 | 11 a.m. to 1 p.m.
Walter E. Hall Park (grassy area across from skate park) > 1226 W Casino RD, Everett, WA 98204

Help us choose a name for this new project!
Enter your suggestion by clicking the QR code or visit www.snopud.com/solar-name

Background

- ▶ **Why was this location selected?:** The PUD is bringing solar power to a local community that will benefit from educational opportunities as well as additional power for the surrounding neighborhood.
- ▶ **Benefits to the community:** The solar array will raise nearly \$30,000 for Project PRIDE, a PUD program that helps income-qualified customers pay their PUD bills. (More details on back.)
- ▶ **Project Size/Capacity:** 375 kW solar array (enough to power 40 homes in a year)
- ▶ **Grant Funding:** \$861,814 grant under the Washington Clean Energy Fund from the Department of Commerce

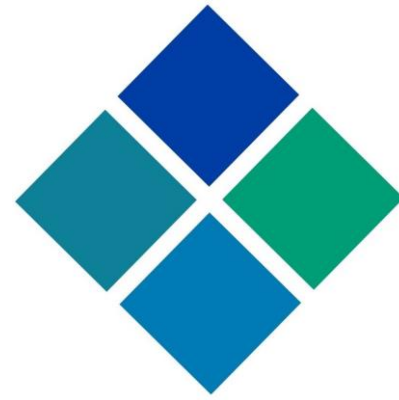


Open House Event

❖ Saturday September 17th, 2022



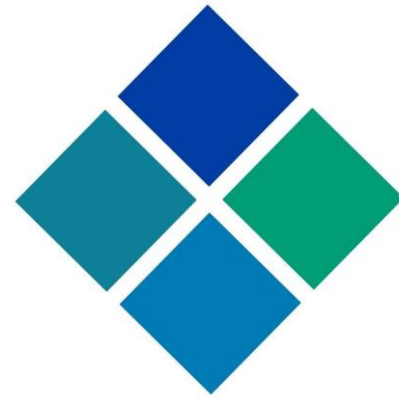
Open House Event



- ❖ Attendees voted for project name suggestions
- ❖ ‘El Sol al Alcance de tus Manos’ (The Sun at your Fingertips) got the most votes



Open House Event

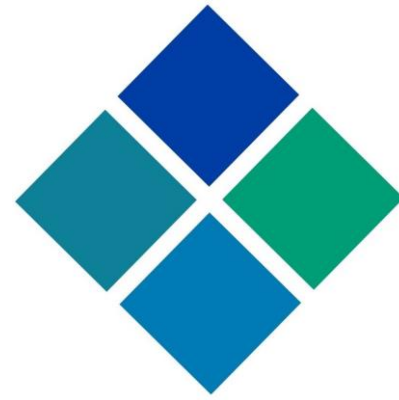


❖ Partnership with the City of Everett Water department

- ❖ Dog Poop Toss was very popular,
educating about the importance of
proper waste treatment

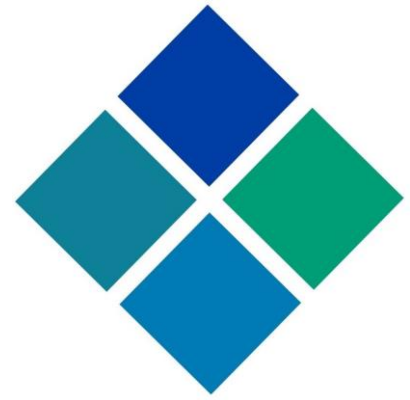


Open House Event



- ❖ Interaction with project neighbors from the Community Garden



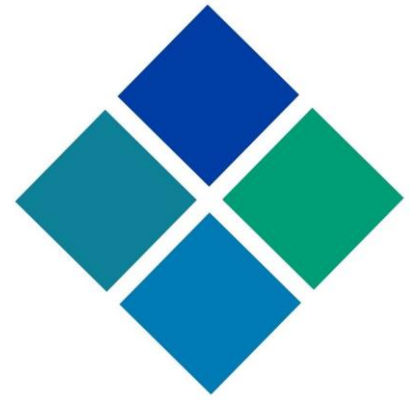


Outreach Next Steps

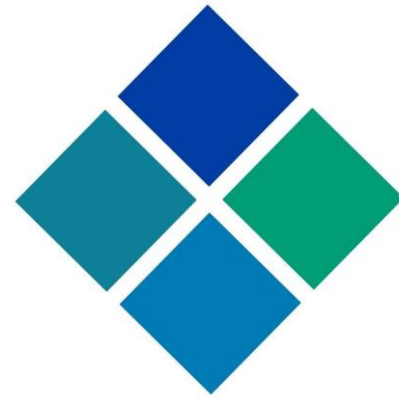
- ❖ Neighborhood feedback says to include student art on the fence
- ❖ Brainstorming ways to engage local schools to create art; collaborating with
 - ❖ Mukilteo School District
 - ❖ Urban Artworks
 - ❖ Schack Art Center
 - ❖ PUD Education Team

Project Next Steps

- ❖ Start construction spring 2023
- ❖ Finish construction by end of 2023
- ❖ Explore feasibility of battery study



Tulalip Microgrids for Resiliency



- ❖ Feasibility studies currently underway

- ❖ Commerce Department wants to foster Utility/Community partnership

- ❖ Tulalip infrastructure layout is well-suited to a microgrid network



- ❖ Exploring options that will provide benefit to Tulalip and PUD

- ❖ Emergency power/bill reduction for Tulalip

- ❖ Grid support & peak shaving for PUD

Thank You



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Federal Funding for Clean Buildings

Liz Reichart, WA Department of Commerce
March 16, 2023

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We strengthen communities



HOUSING AND HOMELESSNESS



INFRASTRUCTURE AND BROADBAND



SMALL BUSINESS ASSISTANCE



ENERGY



PLANNING AND TECH ASSISTANCE



COMMUNITY SERVICES AND FACILITIES



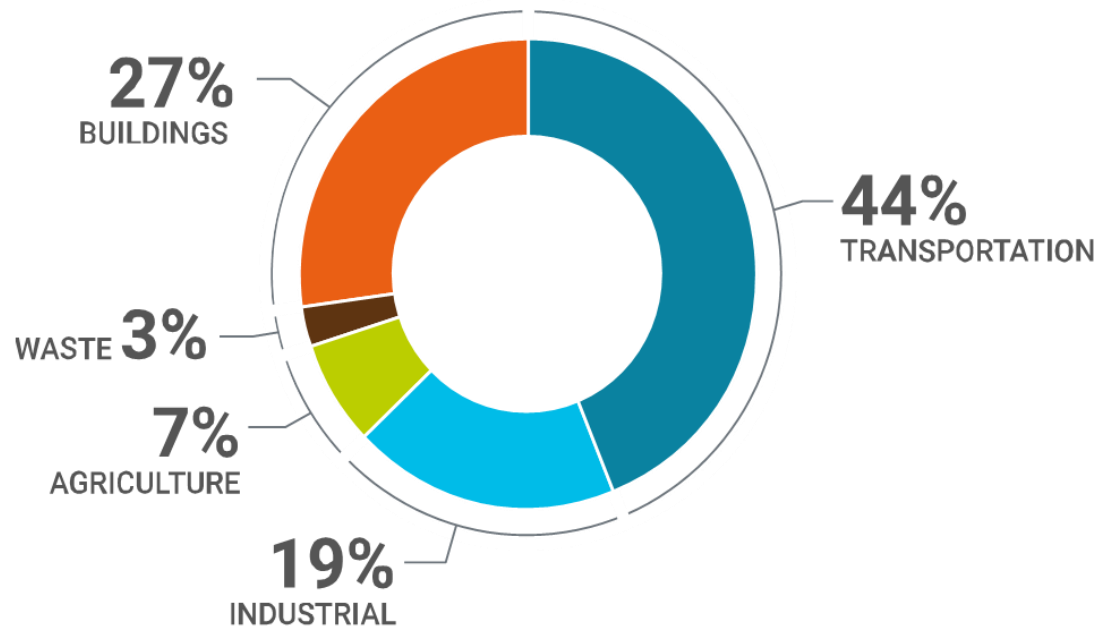
CRIME VICTIMS AND PUBLIC SAFETY



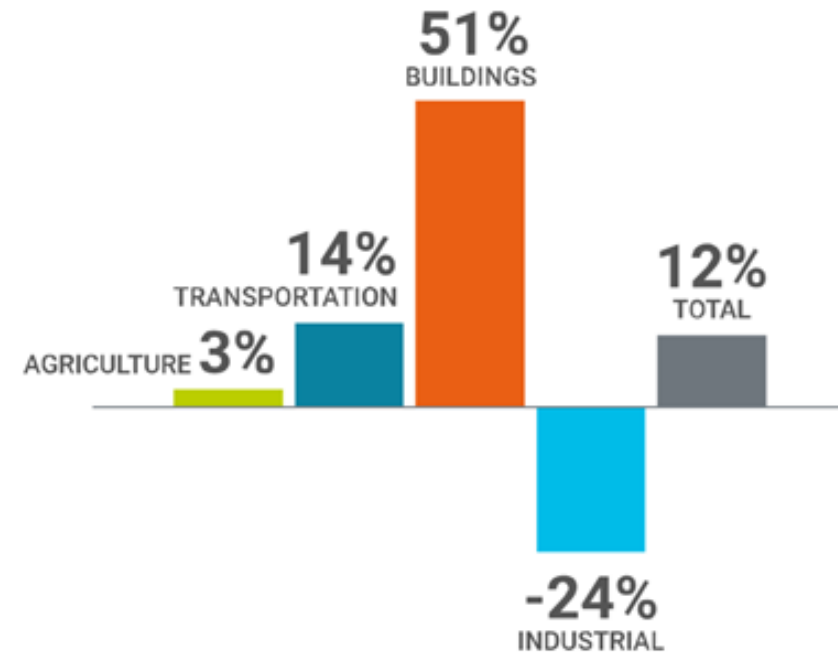
ECONOMIC DEVELOPMENT

Reducing emissions from existing buildings




Overall emissions in Washington



Emissions change by sector, 1990-2015



Inflation Reduction Act - Rebates

	Total Appropriations & Availability	Allocation of Funds	Program Description
 Home Efficiency Rebates SEC. 50121	\$4,300,000,000 Until September 30, 2031	State Energy Offices (SEOs)	Develop and implement rebate program for single-family and multi-family households to accomplish whole-home retrofits that save at least 20% of household energy.
 Home Electrification Rebates SEC. 50122	\$4,500,000,000 Until September 30, 2031	State Energy Offices (SEOs) & Indian Tribes	Develop and implement rebate program for low- and moderate-income single-family and multi-family households to purchase high-efficiency electric equipment.
 Contractor Training SEC. 50123	\$200,000,000 Until September 30, 2031	State Energy Offices (SEOs)	Develop and implement residential energy efficiency and electrification contractor training programs.

Inflation Reduction Act (IRA)

Rebate Opportunities

High Efficiency Electric Rebates (\$82 million)

- Consumer rebates for qualified electrification projects at the point of sale
- Income eligibility of an eligible entity seeking a rebate may be verified at the point of sale
- Equipment can include:
 - Heat pump water heater, dryer, and space heating
 - Electric stove, cooktop range or oven (includes induction); and more



HOMES Rebates (\$83 million)

- Provides rebates for whole-house energy savings retrofits.
- Rebates will vary by depth of energy savings and income status
- Multifamily and low-to-moderate income households

Inflation Reduction Act – Tax Credits

Section	Scope	Timing	Customer	Funding Level
Energy efficient commercial buildings deduction (179D) – Sec 13303	Tax credits of up to \$5/sq. ft. for >25% reduction in EUI	1/1/2023-12/31/2032	Commercial building owners	N/A (\$362M total in tax credits)
New Energy Efficient Home Tax Credit (45L) –Sec. 13304	Tax credits of up to \$5,000 per home or per unit for new construction meeting efficiency tiers	1/1/2023-12/31/2032	Residential and multifamily developers	N/A (\$2B total in tax credits)
<i>Assistance for Latest and Zero Building Energy Code Adoption -Sec 50131**</i>		TBD	<i>Commercial & multifamily building owners</i>	TBD



Other federal opportunities

BuildingsUP

- Who is eligible: everyone!
- \$22M in cash prizes and technical assistance supporting electrification and buildings upgrades

EE Materials Pilot Program

- Who is eligible: non-profits
- \$59M to upgrade building materials to improve energy efficiency, lower utility costs, and reduce carbon emissions.

... and many more on the [Commerce Federal Funding for Buildings webpage](#)

Reach out to Commerce if you are planning on a federal funding application.

State-supported incentives

- [Clean Energy Fund](#), **Building Electrification Program**
- [Clean Buildings Incentive](#)
- [Weatherization](#)
- [Community Energy Efficiency Program](#)
- [Energy Retrofits for Public Buildings](#)
 - [Energy Efficiency Grants](#)
 - [Solar Grants](#)
 - [State Project Improvement Grants](#)



Get involved

- Visit the [Federal Funding for Buildings webpage](#)
- Sign up for public listening sessions
- Email homerebates@commerce.wa.gov with questions



Serving Communities ▾ Building Infrastructure ▾ Growing the Economy ▾ Promoting Washington ▾ Q

Federal Funding for Buildings



Upcoming Events

We will be hosting public listening sessions in early 2023. Please use the [listening session interest form](#) to sign up to be notified when these are announced.

Thank You



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