

Introduction

Leilani Feliciano

- Enrolled Lummi Tribal Member and I live in the Lummi community
- Project Manager for the Lummi Office of Economic Policy
- Project Director for the New Life Center (Lummi Medical Detox).
- COVID-19 Public Health Project Coordinator for Northwest Washington Indian Health Board where I served Lummi, Nooksack, Skagit, Swinomish, Samish, & Tulalip tribes.
- Working in the field of Project Coordination, Project Management & Project Director for the past 6-years
- Worked in Lummi for the past 15 years in different venues
- Bachelors of Art – (Community Advocates and Responsive Education in Human Services)– Northwest Indian College





Lummi Nation Solar Array Project

PRESENTED BY:

LEILANI FELICIANO, PROJECT MANAGER, FOR
THE LUMMI OFFICE OF ECONOMIC POLICY &
BUSINESS CONTACT FOR THIS PROJECT

Who are the Lummi (Lhaq'temish People)

We are the original inhabitants of Washington's northern most coast and southern British Columbia.

We signed the treaty of Point Elliot on January 22nd, of 1855 which was signed by 82 tribal leaders.



The treaty was an agreement between the United States government and the Native American tribes of the greater Puget Sound region.

The treaty established the boundaries of numerous reservations including Lummi.



Prior to the Treaty of Point Elliot, the Lummi (Lhaq'temish) originally inhabited many settlements on the San Juan Islands mostly Orcas Island where they had many village sites.



The Lummi Nation oversees its own affairs as a self-governed tribe.

The Lummi Indian Business Council is the governing body.



Our mission is to preserve, promote & protect our Schelanen (our way of life).







Lummi Bay

Bellingham Bay

Hale Passage

Rosario Passage

Lummi Island

Portage Island

Eliza Island

Legoe Bay

Gooseberry Point

West Shore Drive

N Nugent Road

Tuttle Lane

S Nugent Road

Legoe Bay Road

S Nugent Road

SEACREST DRIVE

SUNRISE ROAD

SEACREST DRIVE

DINTON WAY

CAGEY ROAD

SMOKEHOUSE ROAD

LUMMI SHORE DRIVE

LUMMI SHORE DRIVE

LUMMI SHORE DRIVE





Coast Salish Longhouse Style

Inside a LongHouse Not Nuclear-Multi-generational





Lummi Community Building (Longhouse Style) Frog Building or Wexlium





Project Outcomes (Lummi Tribal Health Center)

- The Lummi Nation has installed a photovoltaic (solar electric) system at the New Lummi Tribal Health Center; a new 50,000 square foot facility. The 99.8 kW Solar PV Array will provide an estimated 114,600 kWh/year of production, a 14% offset from a baseline, and an estimated \$324,984 of energy savings over 25 years
- We are working towards providing solar technology training for 7 Lummi tribal members. **By investing in the education & training of our people we are developing our economy & holding true to our values.**
- Annually the solar PV system will eliminate an estimated 77,784 pounds of Carbon Dioxide (CO₂) 48 pounds Sulfur Dioxide (SO₂), and 72 pounds Nitrogen Oxide (NO_x).

Project Budget (Lummi Tribal Health Center)

Project Budget

- . Federal funds requested: \$146,123
- . Cost-share proposed: \$146,123
- . Total Project Costs: \$292,246

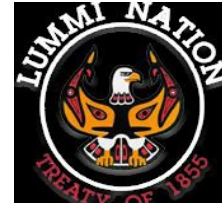
Project Participants



**Sean Lawrence,
Tribal Program
Manager for Sazan
Group**



**Tim Ellis, Lummi
Public Works
Director & Project
Director for this
Project**



**Leilani Feliciano,
Project Manager
Office of Economic
Policy; Business
Contact for this
project**



**Dale Andert,
Lummi Public
Works Department**



**Lisa Redsteer
Engineering
Outreach
Coordinator**

**Project includes
workforce
development in
collaboration with
Northwest Indian
College**



**Cornerstone
General Contractor
– Rhema Electric**

Project Objectives

- **Improve economic and energy self-sufficiency and reduce emissions from energy production that contributes to global climate change, air quality degradation, and other adverse environmental and human health impacts.**
- **Would like to build a partnership with nationally recognized nonprofit tribal solar program (GRID Alternatives).**



Picture of the
Finished Solar
Array Project
On the New
Lummi Tribal
Health Center









YouTube Video of the Solar Installation

- <https://www.youtube.com/watch?v=ulo1oXR0bKw>

Overview of Past Efforts

- In 2020, LIBC resolutions adopted strategies for community-wide solar development for the purpose of achieving the multiple economic, health, environmental, and educational benefits of solar energy, while maintaining the community character, design standards, and livability of the Lummi Nation.



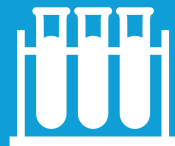
Progress to Date & Achievements



Solar Panels have been successfully installed and a Solar Array has been set up on and is now in use.



Prepared a presentation for Annual Program Review FY2024 and submitted all reporting documents.



In this quarter, we received approval to energize the system from PSE which then gets the measurement and verification period started.

Lessons Learned

- Project timing (start early)
 - Solar Panels – supply chain issues
 - The availability of the solar panels slipped due to supply chain issues and ship date was early 2023.
 - Delay in installation and commissioning
 - Delay in the energy measurement period &
 - Delays in getting the system connected to the grid.
 - Due to the delays, we had requested and received approval for one year extension on this grant.

The Future Plans

- Continue monitoring the performance of the system
- Complete the 12-month measurement, verification, & reporting period
- Work towards putting in the BESS
- Continue the transformation towards green energy in our community

Q & A/Comments

For more information
contact:

Leilani Feliciano

Email: [LeilaniF@lummi-
nsn.gov](mailto:LeilaniF@lummi-nsn.gov)

Office: (360) 312-2197

Cell: (360) 319-1856

Disclaimers

Washington State Clean Energy Fund 3

- The Projects identified in this presentation (New Lummi Tribal Health Center, Lummi Tribal Administration Building, Early Learning Program, Lummi Counseling Services & Suboxone Clinic aka (CARE) are funded in part by the Washington State Department of Commerce, Clean Energy Fund 3 (CEF3), Low-Income Community Solar Deployment (LICSD) Grant Program.

Washington State Housing Finance Commission

The Projects identified in this presentation (Lummi Tribal Administration Building, Early Learning Program, and CARE building), are funded in part by the Washington State Housing Finance Commission, Sustainable Energy Trust (SET) Program

Disclaimers (Continued)

UNITED STATES Bureau of Indian affairs

- The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the opinions or policies of the U.S. Government

Puget Sound Energy

- Puget Sound Energy Retains the exclusive right to claim credit for the Environmental Attributes associated with the Renewable Energy Credits under a Purchase and Sales Agreement.



Lummi Nation Microgrid Project

PRESENTED BY:

LEILANI FELICIANO, PROJECT MANAGER, OFFICE
OF ECONOMIC POLICY & BUSINESS CONTACT

Fishing on the Nooksack River (Our way of life) Spring Salmon/Spring Chinook/Kings





Blackhawk Drummers

Performing at ceremony

Young Blackhawks Dancers

Performing at Wexlium



Ray Morris

Female Blackhawk Dancers

Performing at the Wexlium



Canoes Then and Now



Cedar Was Used for Many Things

- Baskets
- Carve canoes
- Fishing nets
- Clothing
- Our homes
- Baby boards to carry our babies
- Tools or eating bowls and utensils
- So much more





Picture of an old Lummi Village Site

LUMMIS ALWAYS LIVED CLOSE TO
THE WATER FOR SURVIVAL AND
SUSTENANCE

Project Summary

The Lummi Nation Microgrid Project will install five microgrids to support five essential governmental services in the event of an emergency. Approximately 655.8-kilowatts (kW) of solar photovoltaic (PV) which is currently being installed on four of the five buildings and outside the scope of this project. This project will add approximately 19.2-kW of solar PV to the Lummi Youth Academy building, with batteries and controls for all five buildings

These five systems combined will offset approximately 22% of the annual electricity load, reduce electricity costs by 24% per year, saving the Tribe \$88,593 in the first year and more than \$1.7 million over the life of the systems.

Project Budget

Federal funds requested: \$2,000,000.00

Lummi Cost-share: \$670,682.00

Total Project Costs: \$2,670,682.00

Microgrid (BESS) Project Outcomes

LIBC – Existing **285kW** PV array & adding a new **250kW/330kWh** Battery Energy Storage System (BESS)

LTHC – Existing **115kW** PV array & adding a new **250kW/330kWh** BESS

LNS (k-12) – Existing **50kW** PV array, proposed **82kW** PV array & a new **250kW/330kWh** BESS

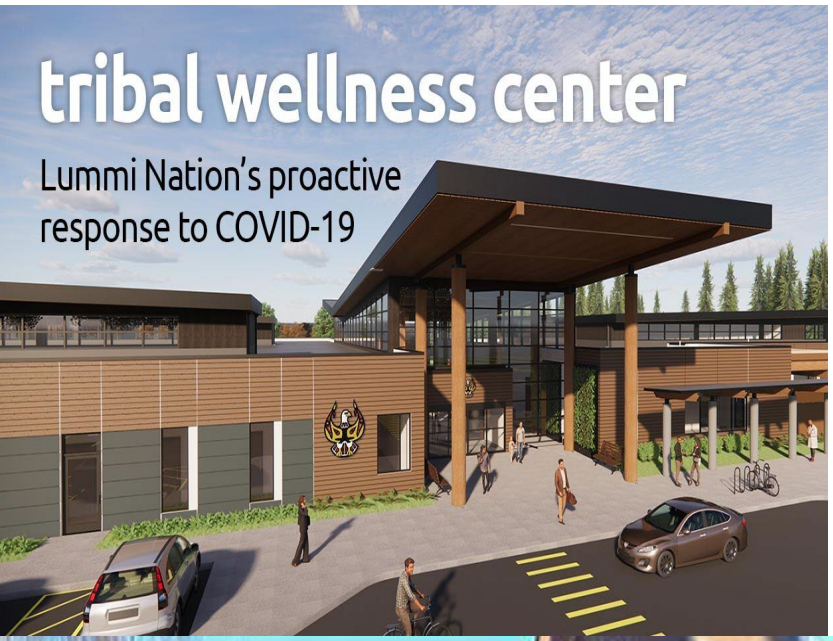
LYA – New **19.2kW** PV array & a New **125kW/220 kWh** BESS

LCS – Existing **133kW** PV array & New **125kW/220kWh** BESS

Project Locations

Installation Sites for BESS:

1. **New Lummi Tribal Health Center** – Offers adult medical care, BH, Dental, Harm Reduction & Hep C Elimination, Maternal Support, Pediatric, Pharmacy, Physical Therapy, Psychiatry, Public Health, Purchase & Referred Care, Rheumatology, Scheduling, Social Work and Transportation.
2. **Lummi Administration Building-** This building is the hub for Lummi tribal members to get support and services in a variety of ways; LIBC employs 187 staff and is the center for community aid.
3. **Youth Academy** – Lummi Youth Academy is an extension of the LNS and is located on the same property. LYA can house up to 200 youth between the ages of 12 – 18 and offers a safe environment and support for youth and families in need. LYA aids in educational goals, cultural arts, youth leadership, case management, provides on site living, travel, college support and so much more.
4. **Lummi Nation K-12 School** – Is a private school and provides education for grades k-12. There are many educational and athletic opportunities at LNS. LNS has raised the graduation rate for Lummi tribal youth.
5. **Lummi Counseling Services & Suboxone Clinic aka (CARE)** - LCS offers counseling, group therapy, medication assisted recovery, medical detox, housing support, medical insurance aid, assistance with setting up inpatient/outpatient treatment, Peer Support, Recovery Coaches and transportation.



tribal wellness center

Lummi Nation's proactive response to COVID-19



LCS Hours		OTP Clinic Hours	
Sun.	CLOSED	Sun.	CLOSED
Mon.	8am-4:30pm	Mon.	7:30am-5pm
Tues.	8am-4:30pm	Tues.	7:30am-5pm
Wed.	8am-4:30pm	Wed.	7:30am-5pm
Thurs.	8am-4:30pm	Thurs.	7:30am-5pm
Fri.	<u>8am-4pm</u>	Fri.	<u>7:30am-4pm</u>
Sat.	CLOSED	Sat.	12pm-2:30pm

Overview of Past Efforts

❖ 1980

- Tribe is interested in exploring energy projects
- Cogeneration Facility
- Wind Energy Assessment
- Haxton Way Pedestrian Path – Solar Powered
- Lummi Tribal Administration Building – Geothermal Heat Pumps

❖ 2014

- Trying to follow the Guiding Principles of Climate Change
- Energy Efficiency Pilot Program

❖ 2016

- Climate Change Mitigation & Adaption Strategy
- Strategic Energy Plan

❖ 2020

- Implementation of a Solar Energy Task Force which adopted/created goals, strategies, and policies to address the local effects of climate change.

❖ 2024

- Solar Arrays successfully installed at the New Lummi Tribal Health Center
- Microgrid project currently being worked on for five Lummi tribal Entities




Overview of Past Efforts Cont....

Tribal energy self-sufficiency has been a goal of the Lummi Nation since at least 1980 when the Lummi Indian Business Council (the governing body of the Lummi Nation) passed a resolution directing the Community Development Director to explore a proposal for a tribally owned and operated gas-fired cogeneration facility on the Reservation.



The cogeneration project was ultimately not recommended but it led to an ongoing pursuit to reduce energy consumption.



The Lummi Nation also did a wind energy assessment; they found that it would negatively affect the wildlife population and did not adopt the turbines.

Overview of Past Efforts Cont....

- ❖ In more recent years, progress towards energy self-sufficiency has focused on reducing energy use by improving energy efficiency and producing energy from renewable sources.
- ❖ In 2016, a Lummi Nation Strategic Energy Plan (SEP) was adopted for 2016 – 2026 to identify options for improving energy efficiency and developing renewable energy resources.
- ❖ The SEP will help attain the Nation’s stated goals of
 1. Improved economic and energy self-sufficiency, and
 2. Reduced emissions from energy production that contribute to
 - a. Global climate change,
 - b. Air quality degradation, and
 - c. Other adverse environmental and human health impacts.



Progress to Date & Achievements

- Completion of Lummi Microgrid Feasibility Study by Săzăn, Group Inc.
- Gathered data from PSE for the 5 microgrid locations
- Identified Săzăn Group, Inc. as a dependable business for Lummi Indian Business Council (LIBC) to contract with for Owner's Representative services
- Working towards completion of Request for Proposal (RFP) then bidding will commence
- Submitted quarterly report for August 1st – October 30th, 2024, in EERE

RFP

Internship Draft

Feasibility Study



Project Activities Yet to be Completed

- ❖ LIBC and Sāzān jointly conduct RFP bidding & contract for design and build services with a minimum of 3 Vendor bids
- ❖ Presentation at the 2024 Annual Program review for the US DOE OIE in Denver, CO.
- ❖ RFP approved by Lummi's legal team
- ❖ Interns will be on boarded from NWIC & Tribal Employment Rights Office (TERO). Note: Each green energy and broadband project includes workforce development in collaboration with Northwest Indian College (NWIC)
- ❖ LIBC to award microgrid construction project to selected contractor.
- ❖ Training on Operations & Maintenance (O & M) upon hiring
- ❖ LIBC will work with PSE on interconnection requirements and scope of work.
- ❖ Vendor will complete design and submit interconnection paperwork and single line diagram.
- ❖ National Environmental Policy Act (NEPA) approval – environmental effects
- ❖ 12-month Measurement and Verification period

Microgrid Project Risks Mitigated

A. Structural assessment needed for the Lummi Youth academy, due to solar going on the roof; initially not part of the original scope. Once we have the costs, we will submit for consideration and approval. The structural assessment was not part of the Microgrid feasibility study and is required to ensure the LYA can withstand the additional loads on the roof.



B. Pricing for BESS systems has increased since the feasibility study was completed; once the pricing comes back from the responsive bidders, we may need to do two things.

1. Adjust size and scope of Microgrid installation

2. Secure additional funding sources

Lessons Learned

Microgrid Project

- Provide sufficient time for electrical QC review of contractor submittals
- Align additional grant funding resources with Project SOW and identified outcomes, such as DOE workforce development internship program overlay with current training workshop scope and state level funding resources
- Identify changes needed in project scope early for sufficient time for the DOE to review and approve
- Staff transition and delay in contract review & technology updates resulted in revised RFP
- There may be cost escalations on the BESS as proposed. Once Request for Proposal is drafted and responses are received, project costs will be evaluated.

Q & A?

For more information contact:

Leilani Feliciano

Email: LeilaniF@lummi-nsn.gov

Office: (360) 312-2197

Cell: (360) 319-1856

Disclaimers

WASHINGTON STATE CLEAN ENERGY FUND 3

The Projects identified in this presentation (Lummi Tribal Administration Building, Early Learning Program, and CARE building), are funded in part by the Washington State Department of Commerce, Clean Energy Fund 3 (CEF3), Low-Income Community Solar Deployment (LICSD) Grant Program.

WASHINGTON STATE HOUSING FINANCE COMMISSION

The Projects identified in this presentation (Lummi Tribal Administration Building, Early Learning Program, and CARE building), are funded in part by the Washington State Housing Finance Commission, Sustainable Energy Trust (SET) Program

Disclaimers (Continued)

UNITED STATES BUREAU OF INDIAN AFFAIRS

The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the opinions or policies of the U.S. Government

PUGET SOUND ENERGY

Puget Sound Energy Retains the exclusive right to claim credit for the Environmental Attributes associated with the Renewable Energy Credits under a Purchase and Sales Agreement.