

The Coeur d'Alene Tribe

Senior Housing Complex Energy Efficiency and Solar Energy Project

November 19, 2019

By Tiffany Allgood, EAP Coordinator

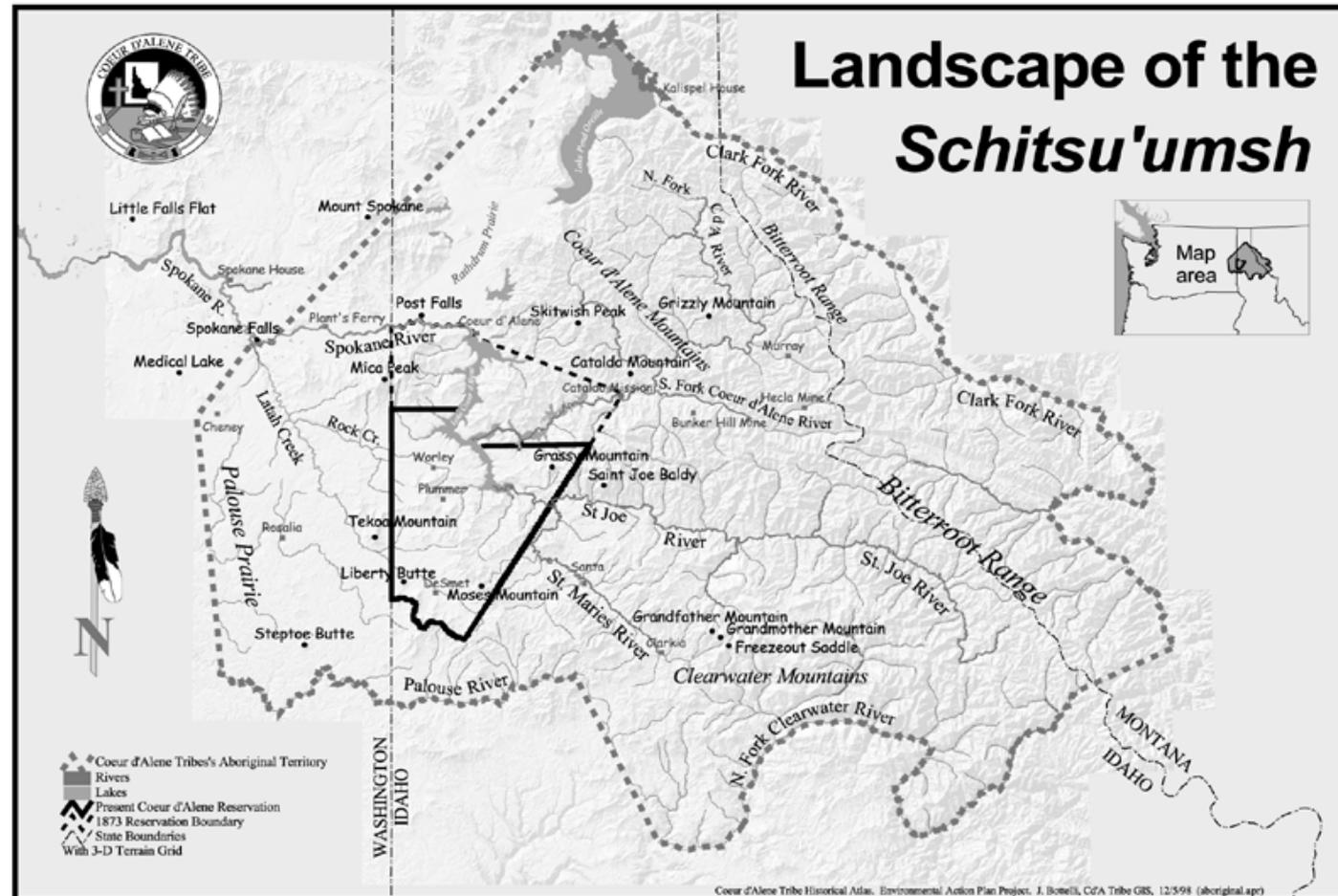
Presentation Summary

- Overview of the Coeur d'Alene Tribe
- Previous Tribal energy work
- Senior Housing Complex Energy Efficiency and Solar Energy Project
- Next Steps
- Lessons Learned
- Contact Information

Overview of the Coeur d'Alene Tribe

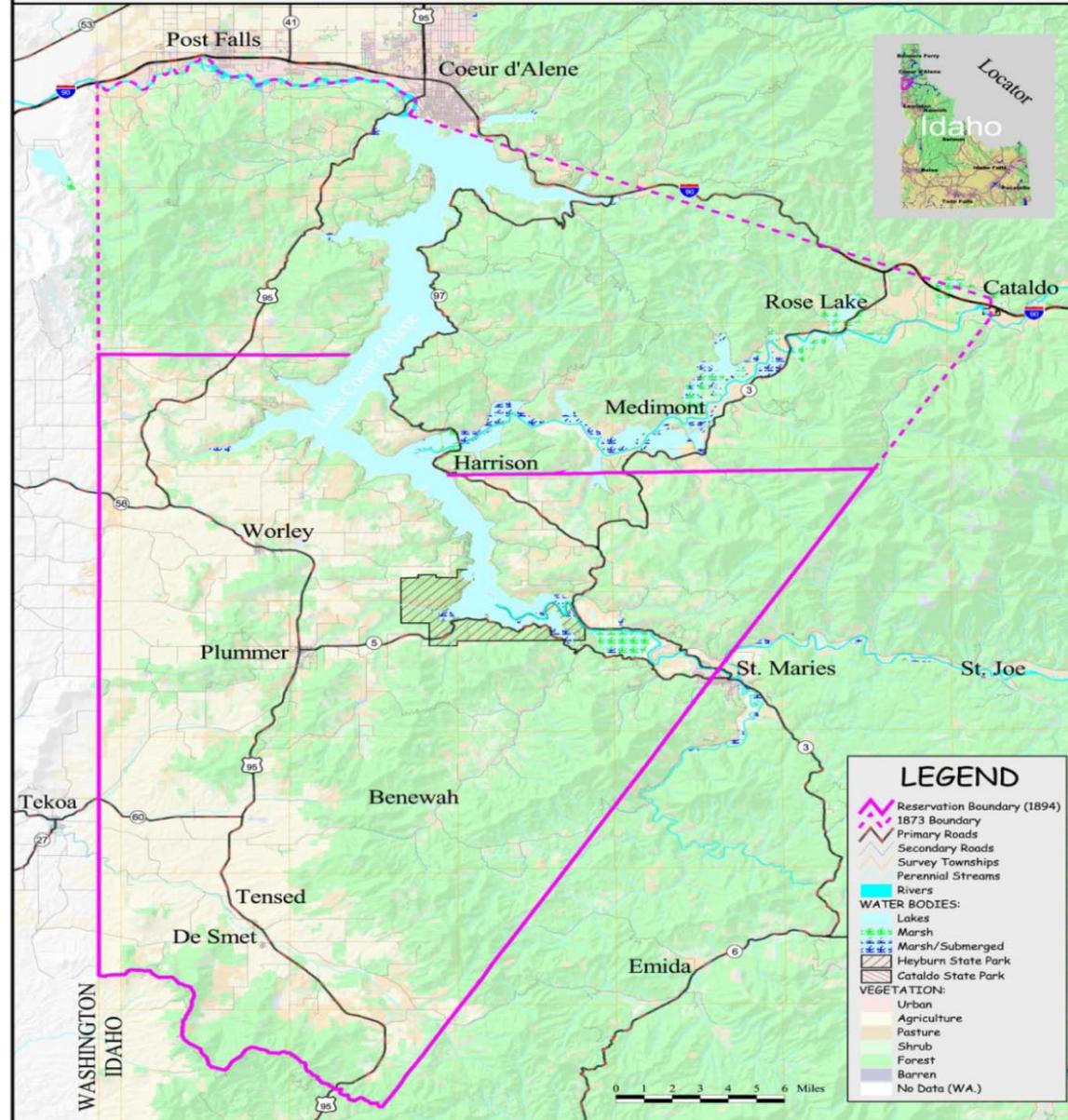
- The Coeur d'Alene Reservation is approximately 334,000 acres, not including Tribal submerged lands.
- Aboriginal territory = more than 5 million acres.
- 6,760 residents according to the 2010 Census.
- Tribal enrollment is 2,501 and growing (December 2018).
- Tribe relies on forestry, agriculture, gaming, etc. in the current economy.
- Tribe continues traditional subsistence activities such as fishing, hunting and gathering foods and medicine.

Coeur d'Alene Tribal Map of Aboriginal Territory and Present Reservation Boundary





Coeur d'Alene Reservation



Coeur d'Alene Reservation



Coeur d'Alene Reservation



Coeur d'Alene Tribe

<https://www.cdatribe-nsn.gov/>

Mission Statement

We shall preserve and maintain at all costs our inalienable right to exist as a sovereign nation of people, speak our language, practice our traditions and culture, serve as protectors and stewards of our Mother Earth, respect our elders in everything we do, endeavor to build a future for our children and coming generations that is improved and better than what we ourselves inherited, and promote proud, healthy and vibrant communities and families.

Vision Statement

The Schi'tsu'umsh, Coeur d'Alene Tribal Nation, forever guided by the traditional values of our great leaders of generations past, shall be the "model government" of the world, united as one under the K'olunsuten, with love for our tribe, harmonious with our natural world and the Mother Earth, proud in the strength of our community development, but remaining who we are, who we were meant to be and who we always shall be: Schi'tsu'umsh, Coeur d'Alene Indians!

Tribal Natural Resources Department

- In 1992, the Tribal Natural Resource Department was established as a stand-alone Department
- Currently, there are 7 programs in the NR Department: Air Quality, *Environmental Programs Office*, Fisheries, Forestry/Fire, Land Services, Pesticides Circuit Rider, and Wildlife
- The Environmental Programs Office in the NR Department has been administering Tribal energy grant work

Prior DOE Work:

Energy Efficiency & Conservation Block Grant

- In 2009, the Tribe was awarded a U.S. Department of Energy, Energy Efficiency and Conservation Block Grant
- The Tribe hired McKinstry, Inc. to conduct energy audits of Tribal government buildings
- McKinstry's energy audits were generally at ASHRAE Level 1
 - (ASHRAE: American Society of Heating, Refrigerating and Air-Conditioning Engineers)
- The Tribe also completed an Energy Efficiency & Conservation Strategy (EE&CS)

Prior Work

June 2012 – The Tribe completed its energy efficiency report on 34 Tribal government buildings



Coeur d'Alene Tribe Energy Efficiency Assessment Report

PLUMMER, ID
JUNE 2012

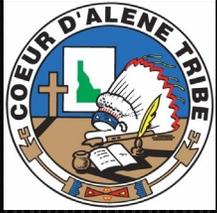


Prior DOE Work:

Energy Efficiency Feasibility Study (EEFS)

- In 2011, the Tribe was awarded a U.S. Department of Energy, Energy Efficiency and Deployment in Indian Country grant in to conduct an EE Feasibility Study on all Tribal buildings
- The Tribe hired an energy consulting firm to perform in-depth energy assessments:





Coeur d'Alene Tribe, Plummer, ID

Bonneville Power Administration (BPA), Spokane, WA



City of Plummer, ID

Partnerships

Clearwater Power, Plummer, ID



Ourevolution Energy & Engineering, Arcata, CA

Kootenai Electric Cooperative, Hayden, ID



Prior DOE Work:

Energy Efficiency Feasibility Study (EEFS)

- Completed Energy Assessment Field Work
 - 36 Tribal Buildings Evaluated (October 29 – November 9, 2012)
 - Level 3 ASHRAE energy audits (investment grade)

Prior Work

- The Tribe completed its Energy Efficiency Feasibility Study in 2014



Coeur d'Alene Tribe Energy Efficiency Feasibility Study



Coeur d'Alene Tribal Benewah Medical Center Front Entrance

Prepared for the Coeur d'Alene Tribe
Environmental Programs Office in the Natural Resource Department
by:



September 2014

Technical Report for the U.S. Department of Energy
Assistance Agreement Award #DE-EE0005170

Prior DOE Work:

Benewah Market Energy Efficiency Project

- In 2013, the Tribe was awarded a U.S. Department of Energy, Tribal Renewable Energy and Energy Efficiency Deployment Assistance grant
 - Using the energy audits that the Tribe completed in the EECBG and the EEFS reports
 - The project was a partnership between the Tribe's Development Corporation and the Tribe's Natural Resources Department

Prior DOE Work: Benewah Market Energy Efficiency Project

- Owned by the Tribe
- Located in Plummer, ID
- Approximately 16,000 square feet
- Only full service grocery store in a 35-mile radius

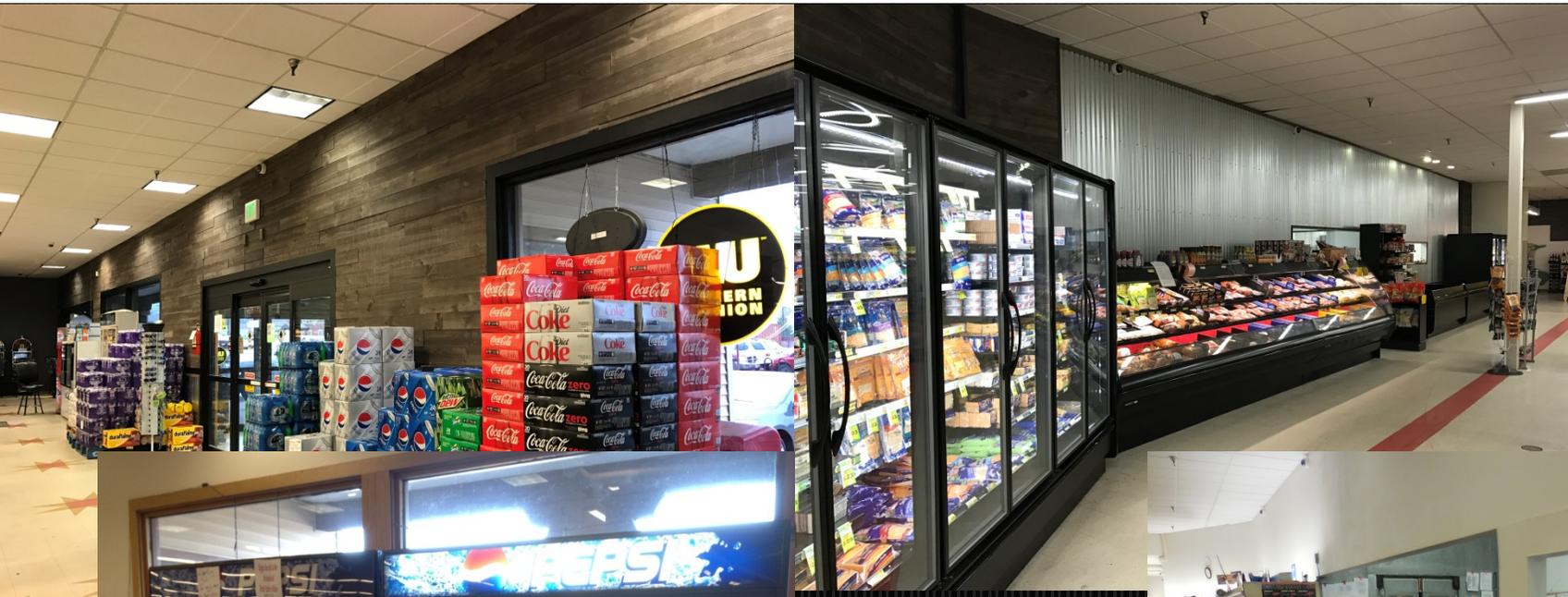


Prior DOE Work:

Benewah Market Energy Efficiency Project

- The Benewah Market EE Project Replaced:
 - 14 aging floor cases with high efficiency cases with doors (where applicable) and integrated controls
 - 16 individual compressors for the refrigeration cases and walk-ins
 - Roof top condensers
 - 15 evaporators in the walk-in coolers and freezers with high efficiency units equipped with electronically commutated motors and integrated control features
 - Refrigerant lines

Prior DOE Work: Benewah Market Energy Efficiency Project



BEFORE



BEFORE

Prior DOE Work: Benewah Market Energy Efficiency Project

New Compressors



Prior DOE Work: Benewah Market Energy Efficiency

- Lowered operating costs
- Lowered maintenance costs
- Improved perception of overall store
- Improved food quality
- Increased Tribal pride in store
- Received community support & appreciation
- Increased store sales



Prior DOE Work: Benewah Market Energy Efficiency Project



Before

Produce Department Remodel



Prior DOE Work:

Benewah Market Energy Efficiency Project

- The Benewah Market EE Project was projected to:
 - Save at least 30.8% of the total energy used at the Market
- The Benewah Market EE Project Actually Saved:
 - 22.9% of energy use compared to pre-project energy use (There was an over-estimation of the older equipment's inefficiency, and the Tribe did not install a heat recapture system to replace the one that was installed on the old equipment)

Other Previous Energy Work

- In 2008, the Tribe's Public Works Department completed a Wind and Biomass Energy Feasibility Study with Bureau of Indian Affairs funding (preliminary)
- In 2009, Bonneville Power Administration funded Energy Smart of Portland, Oregon to conduct energy audits of the Benewah Market and Benewah Auto on behalf of the Tribe's Development Corporation (reports were completed)

Other Previous Energy Work

- In 2014, Bonneville Environmental Foundation awarded the Coeur d'Alene Tribe a Solar 4R Schools Program grant to place a 14.25 kW solar photovoltaic system on the Tribe's Natural Resources Department building



<https://cebrightfutures.org/kiosk-coeur-d-alene-tribe-natural-resources>

Other Previous Energy Work

- In 2018, Bonneville Power Administration's Tribal Low-Income Energy Efficiency Program awarded the Tribe funding to replace all of the refrigerators and clothes washing machines, and some of the bathroom fans in the Tribe's Senior Housing Complex apartments



Other Previous Energy Work

- In 2019, the Tribe received additional funding from Bonneville Power Administration's Tribal Low-Income Energy Efficiency Program and the Tribe replaced baseboard heaters with new ductless heat pumps in 19 of the 20 apartments (one had a new heat pump already), as well as the rest of the bathroom fans in the Tribe's Senior Housing Complex apartments
- The Tribe also conducted three energy audits of Tribal homes for future work (the Tribe is contracting with the Community Action Partnership in Lewiston, Idaho)

Other Previous Energy Work

NEW HEAT PUMP – OUTSIDE VIEW



NEW HEAT PUMP – INSIDE VIEW



New Energy Work – Senior Housing Complex Energy Efficiency and Solar Energy Project

- In late 2018, the Tribe was awarded a U.S. Department of Energy, Energy Infrastructure Deployment on Indian Lands grant for the Tribe's Sennwichen Senior Housing Complex commons area
- Bonneville Environmental Foundation is providing most of the cost share for the project and is also providing the Tribe technical assistance during the project
- The Tribe and the Tribe's Benewah Market is providing the remaining cost share

SENIOR HOUSING ENERGY EFFICIENCY AND SOLAR PROJECT

TOPIC AREA 1.C

Project Summary

The proposed project will integrate a 52kW solar PV system to the Senior Housing Complex in Plummer, ID. The project will also upgrade lighting, a water heater, and additional efficiency measures. The Tribe's long term energy goals include "improving the quality of life and providing social and economic benefits across the Reservation." These proposed measures move the Tribe toward a more sustainable energy system while providing benefits to its tribal senior residents.



The combined solar and energy efficiency measures will help reduce the total cost of housing for Tribal Seniors.

Key Personnel/Organizations

Tiffany Allgood – Project Manager – Tribal Natural Resources
Caj Matheson – Tribal Natural Resources Director
Evan Ramsey – Consultant – Bonneville Environmental Foundation
Adam Hoefert – Contractor – Next Gen Electric LLC

Budget

Federal funds requested: \$92,500
Cost-share proposed: \$92,500
Total Project Costs: \$185,000

Project Outcomes

The proposed solar and efficiency project will save nearly 100,000 kWhs/year of energy which will reduce the Senior Housing Complex common area's electricity cost by 87% with a decrease of \$7,600 per year. This effort will help deepen the Tribe's solar and efficiency impact with an associated reduction in carbon emissions of nearly 3 million pounds. This next step in the Coeur d'Alene Tribe's sustainable energy journey will demonstrate the value of solar and efficiency to the community and help spur additional solar development.

What's Been Completed ?

- Completed National Environmental Policy Act compliance with the U.S. DOE for the project
- Notified the Tribal Historic Preservation Office of the project (THPO does not have concerns)
- Developed and executed a funding agreement with Bonneville Environmental Foundation

What's Been Completed ?

- Visited the Spokane Tribe's Children of the Sun Solar Project (Tim Willink of Grid Alternatives toured us)
- Wrote and negotiated the draft contract with NextGen Electric for the deployment of the energy efficiency and solar photovoltaic system
- Began routing the contract with NextGen Electric for Tribal Council approval

What's Been Completed?

- During negotiations of the NextGen contract, prices of materials and labor increased
- The Tribe's Benewah Market of the Development Corporation recently contributed funds to the project to meet the shortfall
- Began to develop the interconnection agreement with Kootenai Electric Cooperative

What's Next ?

- Complete the interconnection agreement with the utility – December 2019
- Once the contract is approved, purchase equipment and materials – December 2019
- Continue to coordinate project with Tribal departments before site-preparation and installation – Ongoing
- Identify and plan potential training opportunities during installation – Winter 2019-2020

What's Next ?

- Complete final design – December 2019
- Install and commission the energy efficiency upgrades and solar energy system – Spring/Summer 2020
- Measure results for one year and complete final report – September 2020 – September 2021

What's Next?

Pursue
training
opportunities
during
installation



Lessons Learned

- Previous Tribal energy work and partnerships that have been built were critical to being able to propose the Senior Housing Complex Energy Efficiency and Solar Project
- Support from Tribal leadership is essential
- Staff continuity is good for maintaining institutional memory for energy work
- Submitting grant reports on time and establishing a good track record with DOE and other funding agencies is important

Contact Information

- If you would like more information, please contact:
- Tiffany Allgood, Environmental Action Plan Coordinator, at (208) 686-8802, tallgood@cdatribe-nsn.gov

Thank you for your time today