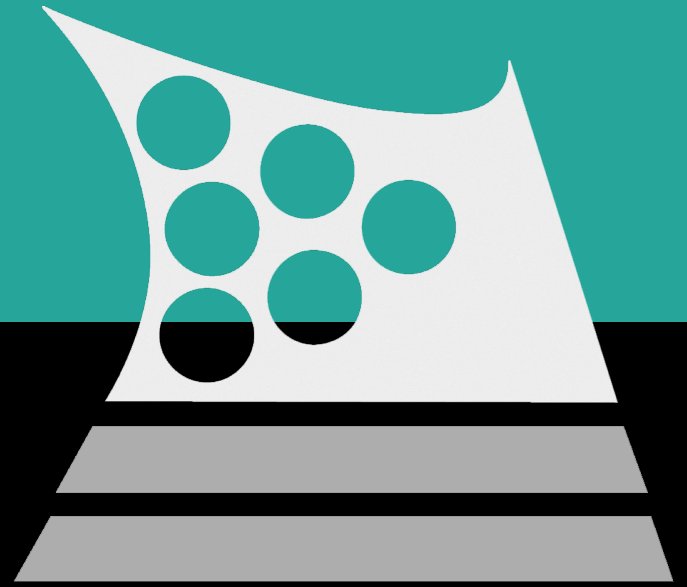
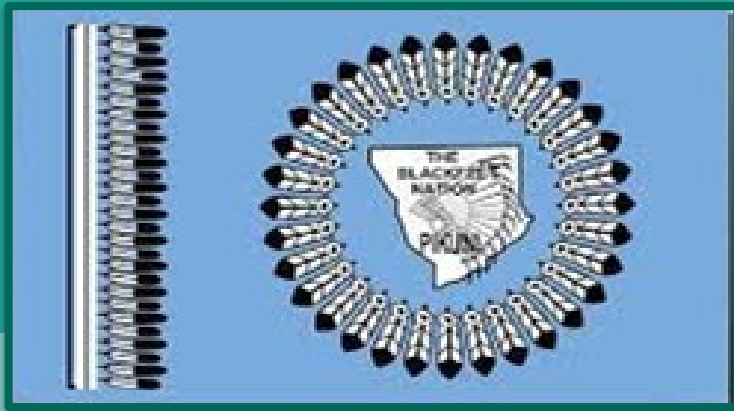


Blackfeet
Community College
Sustainable Energy
Project



Melissa Little Plume Weatherwax
BCC Director of Institutional
Development



Amskapii Piikanii

- Blackfeet Community College is located on the Blackfeet Reservation which includes 1.5 million acres managed by the Blackfeet Tribal Business Council. The Blackfeet Tribe is represented by more than 17,000 members with ancestral connections extending throughout Canada and the United States half of the members reside on the Blackfeet Reservation.

Blackfeet Community College



Chartered by the Blackfeet Tribe 1972. 1994 Land Grant Institution

Project Description

To reduce campus energy costs, BCC Renewable Energy Program plans to install four grid-tied, solar photovoltaic (PV) Systems on campus facilities totaling approximately 53.2 kW-DC.

To advance knowledge about renewable energy, the project will provide hands on paid training in the solar PV technology to students at BCC and Blackfeet High schools, as well as community members.

- Project Budget Contractual \$204,401
- Equipment-Modules, Inverters, Racking, Electrical BOS, Data Acquisition System O&M, labor,
- Projected savings Red Fox Business Division, Little Star Blackfeet Child Care, Medicine Shield Fitness Center, and the Muskrat Lodge Media Center. These solar PV systems are estimated to produce 68mW hours of purchased electricity per year for the lifetime of the system
- Training-Recruited from TERO, BCC, Heart Butte High School- 14 interested

10 selected and 8 completed.

Project Goal

The goals of this project include: creating access to solar and renewable energy benefits for the Blackfeet community, generating energy cost savings for Blackfeet Community College, and creating an educational opportunity for students from schools to learn about renewable energy, explore career pathways, and participate in workforce development and hands on paid training for 10 students and community members.



Project Schedule Completed

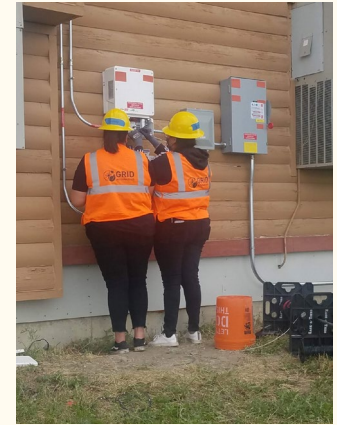
1. Installation
April-May-June 2021
Ordering & Mobilization
1. Trainees-3 week Training
8 trainees completed, 2 continued on with
GRID Alternatives
Recruits-BCC, Heart Butte Schools,
BTERO.
1. Finish date-June 30, 2021
Installation completed
1. Monitoring August-September 2021
Complete-training BCC IT Staff



Training

Week 1 Grid Alternatives Orientation, Safety Basics, Solar Energy Basics, Energy Efficiency and weatherization, Tribal Energy and Policy, Net metering, Off-grid System Basics, Soft Skills & Resume Building, System Sizing, Employment Readiness, OSHA 10 Certification

Week 2-3 Hands on Training, Racking installation, minor maintenance, small equipment, wiring, harnessing.



Completion Deliverables

Milestone 5.1: System performance verified.

BCC IT department and GRID Alternatives worked together to verify system performance, connection issues had to be corrected The Tech was able to troubleshoot without hardwiring 1 system.

Task 6.0: Monitoring Task Details: Vendor and BCC staff continue to monitor system performance remote monitoring system and utility bills.

Task 7.0 Verification of Energy Savings

Task Details: Vendor will work to verify energy savings by collecting utility bills paid by BCC. Systems not performing as expected will be evaluated for potential issues.

~~Milestone~~ Milestone 7.1: Vendor staff collect utility bills in coordination with BCC staff and prepare reports to submit to DOE staff.

Milestone 7.2: BCC and vendor complete and submit comprehensive final report. As part of this Task, at least one BCC representative and a vendor staff member will attend the annual Tribal Program Energy Review in Lakewood for both years of the grant.

Challenges

Location was a challenge on the equipment ordering for the project.



Unexpected Outcomes

Decrease in Match requirement from 50% to 10% due to COVID-19



2 Trainees continued on with GRID Alternatives .



System Savings Potential

Small Commercial Demand Rate

Monthly Base Charge: \$38.00

KWH Charge:\$0.0650/kWh

KW Demand Charge:\$5.00 KW

Available to non-residential accounts with service greater than 200 amps.

BCC System

2022 production 56,660 kwh produced=savings \$3682.90

The report excludes November and all of December,

68mw/annual production = 68000kwh/annually x \$0.0650= \$4420 annually

*Data will need further monitoring. First open campus semester Spring 2022.

Solar Edge

BCC Little Star CO2 Emission Saved 29,528.98 lb Equivalent Trees Planted 223.12

BCC Medicine Shield CO2 Emission Saved 31,045.73 lb Equivalent Trees Planted 234.58

BCC Red Fox CO2 Emission Saved 72,515.64 lb Equivalent Trees Planted 547.92

BCC Muskrat Lodge CO2 Emission Saved 8,160.43 lb Equivalent Trees Planted 61.66

Solar Edge Monitoring System



	SITE NAME	PEAK POWER (KWp)	HIGHEST ALERT IMPACT	ADDRESS	ENERGY TODAY (KWH)	ENERGY YESTERDAY (KWH)	SPECIFIC YIELD (LAST 7 DAYS)
📍	BCC Red Fox	29.4	2	Southeast Boundary Street 51	4	10.32	13.09
📍	BCC Muskrat	2.8	✓	Southeast Boundary Street 51	0.97	3.96	14.97
📍	BCC Medicine Shield	10.5	✓	Southeast Boundary Street 51	0.83	0.07	15.36
📍	BCC Little Star	10.5	✓	Southeast Boundary Street 51	3.12	8.58	13.96

July -September 2022 Report

Energy Production	July	August	September	07/01/22-09/30/22	
Red Fox	4.359	4.065	3.092	11.516	MWh
Medicine Shield	1.862	1.751	1.336	4.949	MWh
Little Star	1.867	1.704	1.234	4.805	MWh
Muskrat Lodge(kWh)	517.151	461.515	336.271	1.314	MWh
			Total	22.584	MWh
				22584	kWh

Savings Snap Shot



Red Fox Building

2021	August \$92.00	September \$111.00
2020	\$325.08	\$344.30
Difference	\$233.08	\$233.30

Little Star

2021	\$29.00	\$29.00
2020	\$52.46	\$64.42
	\$23.46	\$35.42

Muskrat Lodge

2021	\$29.00	\$35.22
2020	\$83.02	\$145.10
	\$54.02	\$109.88

Medicine Shield

2021	\$29.00	\$29.00
2020	\$52.09	\$55.31

Presentations and Publications

Inside Higher Ed -Spring 2021

Glacier Electric Coop Newsletter -September 2021

Rural Montana Magazine- Fall 2021

DOE Workforce Webinar - Fall 2021

DOE Indian Energy Program Review online -Fall 2021

Gifts of Scarface International Research Conference-Spring 2022

Basic Renewable Energy Workshop-Fall 2022

Thank You

Department of Energy Office of Indian Energy
Blackfeet Trainees, GRID Alternatives
Bonneville Environmental Fund
First Interstate Bank,
Glacier Electric, Heart Butte Public Schools, Blackfeet TERO



Questions



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