



BISHOP PAIUTE TRIBE RESIDENTIAL SOLAR PROGRAMS

Brian Adkins Environmental Management Office Bishop Paiute Tribe

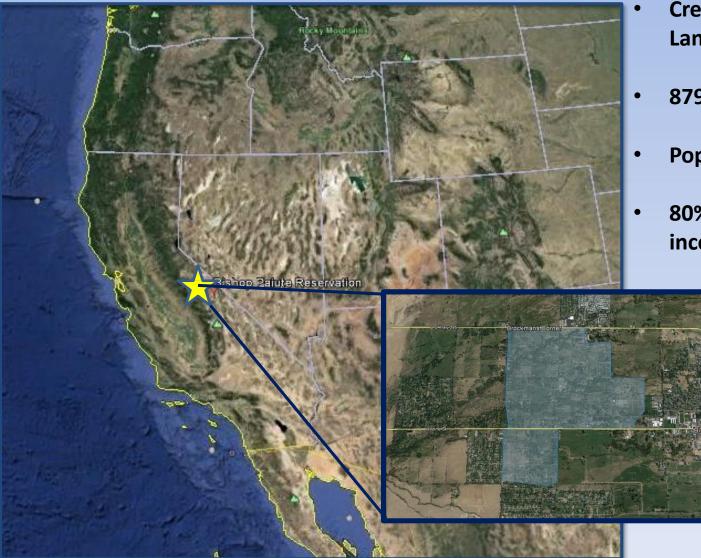
Lisa Castilone GRID Alternatives, Inland Empire

2020 Office of Indian Energy Program Review December 15, 2020

Bishop Paiute Tribe

- Descendants of the "Nu-Mu," of the Owens Valley
- Aboriginal land: Eastern Sierra: Owens Valley and Mono Basins
- Energy Demand: Homes, Community and governmental facilities, preschool and Ed Center; health clinic, museum, casino, domestic water pumping

Bishop Paiute Reservation



- Created 1938 Land Exchange
- **879 Acres Trust**
- Pop 2000
- 80% low-mod income



ENERGY VISION

Achieve energy self-sufficiency while....

- preserving cultural traditions,
- protecting the environment,
- developing the economy, and
- sustaining the efficient use of resources.

Bishop Paiute Tribe

<u>2015 Tribal Strategic Energy Plan – by 2020:</u>

Goal: Serve ½ of eligible households: Target: 200 systems

- Single family homes: 490
- Low-income qualification rate: 81%
- Total potential eligible households: 400





http://gridalternatives.org/ie





GRID Alternatives



Nation's Largest Solar Non-Profit

8 Regional Offices Across US (CA,CO,DC) Over 28 Megawatts of solar installed

Solar Solutions for Underserved Communities

Over 17k solar projects installed for low-income residents across the US

Workforce Development & Volunteerism Model

Over 45k people have been provided hands on training

Economic & Environmental Benefits

Generate over \$440,000,000 worth of clean renewable savings

Eliminate over 1 Million tons of GHG emissions





Solar Affordable Housing Program





CA SASH 1 & 2 provided partial solar incentives for solar systems for lowincome participants.

- **1. PEOPLE**: Low-income homeowners (≤ 80% of AMI) homeowner or tribal land in trust
- 2. PLANET: Grid-tied solar electric systems to reduce energy bills and emissions
- **3. EMPLOYMENT**: Hands- on solar job training for volunteer installers that can lead to jobs / paid training



Bishop MOU & Partnership







GRID provided

- Review of tribal energy goals
- Outreach with applicants
- Provide job training for volunteers (16 and over)
- Work with TERO compliance
- Provide 3rd party inspection

Tribe provided

- MOU
- Homeowner outreach
- Volunteer trainees outreach
- In kind donations
- Collaboration on grants and letters of support



GRID Program Steps

<u>**Outreach</u>-** Community meetings, applications, pre-inspections, designs, contracts</u>

Training –GRID recruits job

trainees with TERO Department

Installation - 2 Day Installs

Inspection & Completion –

3rd party inspections, interconnection with utility, PTO

Warranty – Community meetings,

utility bill review with homeowners

<u>Reporting</u> - GRID provides monitoring data and provides reports over grant cycles











Build Schedule: BPT Low-Income Residential Solar Program

Phase	Status	Training Builds	SPP Builds	Running Total Builds	Goal 200 builds by 2020
SASH 1	214 kW Completed	14	48	62	15%







22 Tribal Homes

Income qualified, owneroccupied

Rooftop Solar

PV systems grid tied

\$437.147 Total Project Cost

- > Non-federal share \$218,621
 - **48% SASH rebate** (\$209,621)
 - **2% Tribal in-kind** (\$9,000)
- Federal share \$ 218,574 50% DOE Clean Energy











Total deployed rated capacity of 67 kw, (8 kW more than estimated)

- Months 9-21: Interconnection with utility
- Months 12-28: Warranty training, utility bill reviewed and systems performance verified
- Months 29-30: Final reports done









Build Schedule: BPT Low-Income Residential Solar Program

Phase	Status	Training Builds	SPP Builds	Running Total	Goal 200 builds by
				Builds	2020
<u>2013 - 2015</u>					
SASH 1 204 kw	Completed	14	48	62	15%
SASH 2 – Phase 1	67 kW				
DOE Clean Energy	Completed	22	-	84	21%

TERO Placements – Volunteer Training 1080 job site hours – SASH 2 – Phase 1







34 Tribal Homes

123 kw installed Rooftop, grid tied solar

Sub-Contractor Partnership (SPP)

vetted, local contractors partner with GRID, hire 1-2 trainees, all projects are inspected by 3rd party



- <u>Total Project Cost:</u> \$ 683,635
- Non-federal share: \$ 341,818 (50%)
 Source: SASH rebate covered to GRID in a rebate
- Federal share \$ 341,818 (50%)
 - Source: DOE Clean Energy







Build Schedule: BPT Low-Income Residential Solar Program

Phase	Status	Training Builds	SPP Builds	Running Total Builds	Goal 200 builds by 2020
	2	<u> 2013 - 2015</u>			
SASH 1	Completed	14	48	62	15%
<u>2016</u>					
SASH 2 – Phase 1 DOE Clean Energy	67 kW Completed & Monitoring	22	-	84	21%
2017					
SASH 2 – Phase 2 DOE Clean Energy	123kW Completed & Monitoring	-	34	118	30%

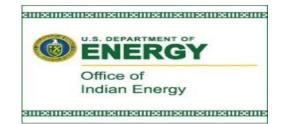






- Phase 1: Eight (8) interns
 - Location: Bishop Reservation
 - > 40 hours of classroom training
 - 5 rooftop installations (Summer 2018)

Funding: <u>US Dept of Energy "First</u> <u>Steps" grant opportunity - 2018</u>







Pictured are students, families of students, Bishop Paiute Timbe officials, GRID Alternatives Inland suitable for working in the solar power industry. A celebratory event was held Thursday that culm tatives, in front of the latest home on the Bishop Paiute Reservation to have solar nated in the completion of the solar power installation at the home. Photos by Mike Chacamac



Bishop Paiute Tribal Council chairman, along with Bishop Paiute Tribal Council members Jeff Romero and Brian Poncho, look on as participants in the GRID Alternatives Solar Futures administrator, Earleen Williams, Bishop Paiute Tribal Council member, and Liss Castione with CRI



Attending the GRID Alternatives event Thursday are, from left, Glorianna Alternatives

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- Phase 1: Eight (8) interns
 - Location: Bishop Reservation
 - 40 hours of classroom training
 - 5 rooftop installations (Summer 2018)
- Phase 2: Three (3) interns
 Location: Riverside (Fall 2018)

Funding: <u>US Dept of Energy "First</u> <u>Steps" grant opportunity - 2018</u>





Cynthia Corrales, GRID project lead with Kanyon Martinez, Bishop Tribal Member and GRID Fellow



- Phase 1: Eight (8) interns
 - Location: Bishop Reservation
 - ➢ 40 hours of classroom training
 - 5 rooftop installations (Summer 2018)
- Phase 2: Three (3) interns
 - Location: Riverside (Fall 2018)
 - 170 hours of training
- Phase 3: One (1) intern
 - Location: Riverside/Reservation (2019)
 - One (1) year fellowship with GRID

Funding: <u>US Dept of Energy "First Steps"</u> grant opportunity - 2018



> <u>Since 2013 GRID has trained 60 Bishop tribal members = 2600 hours</u>











Project Phases

				Running Total	Goal 200 builds by
Phase	Status	Training Builds	SPP Builds	Builds	2020
SASH 1	214 kW Completed	14	48	62	15%
Phase 1 DOE Clean Energy Grant IE0006949		22	-	84	21%
2017					
Phase 2 DOE Clean Energy Grant IE0000041		-	34	118	30%
<u>2018</u>					
Youth Solar Training	15kW	5		123	31%
DOE First Steps Grant DE-IE0000064	L'omnieted i	5			
Phase 3	127 kW				
DOE Clean Energy Grant - IE0000099		8	32	163	41%



SASH 2- Final Phases

Status	Training Builds	SPP Builds	Running Total Builds	Goal 200 builds by 2020
	<u>2020</u>			
67 kW Funded	3	16	182	46%
<u>2021</u>				
9 Enrolled as of 12/15/2020		-		
	67 kW Funded 9 Enrolled as of	2020 67 kW Funded 3 2021 9 Enrolled as of	202067 kW Funded31620219 Enrolled as of	StatusTraining BuildsSPP BuildsBuilds202067 kW Funded316182Funded202120219 Enrolled as ofImage: SPP BuildsImage: SPP Builds

Bishop Paiute Tribe

	Cumulative Carbon reduced over system life (tons)
Non DOE	3516
DOE	4540
Total	8056



Photo: Ist rooftop solar installation – 2013

Goals 200 by 2020 400 by 2025

Bishop Paiute Tribe

Project	Installs	Kilowatts
SASH 1	62 homes	190 Kw
SASH 2 DOE (1 & 2)	56 homes	190 kW
SASH 2/other	5 homes	15 kW
SASH 2 DOE (3)	40 homes	127 kW
SASH 2 DOE (4)	19 homes	67 kW
Total	182 homes	613 kW



Photo: Ist rooftop solar installation – 2013

Goals 200 by 2020 400 by 2025



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