



BISHOP PAIUTE TRIBE RESIDENTIAL SOLAR PROGRAMS



**Brian Adkins
Environmental Management Office
Bishop Paiute Tribe**

**Lisa Castilone
GRID Alternatives Inland Empire**

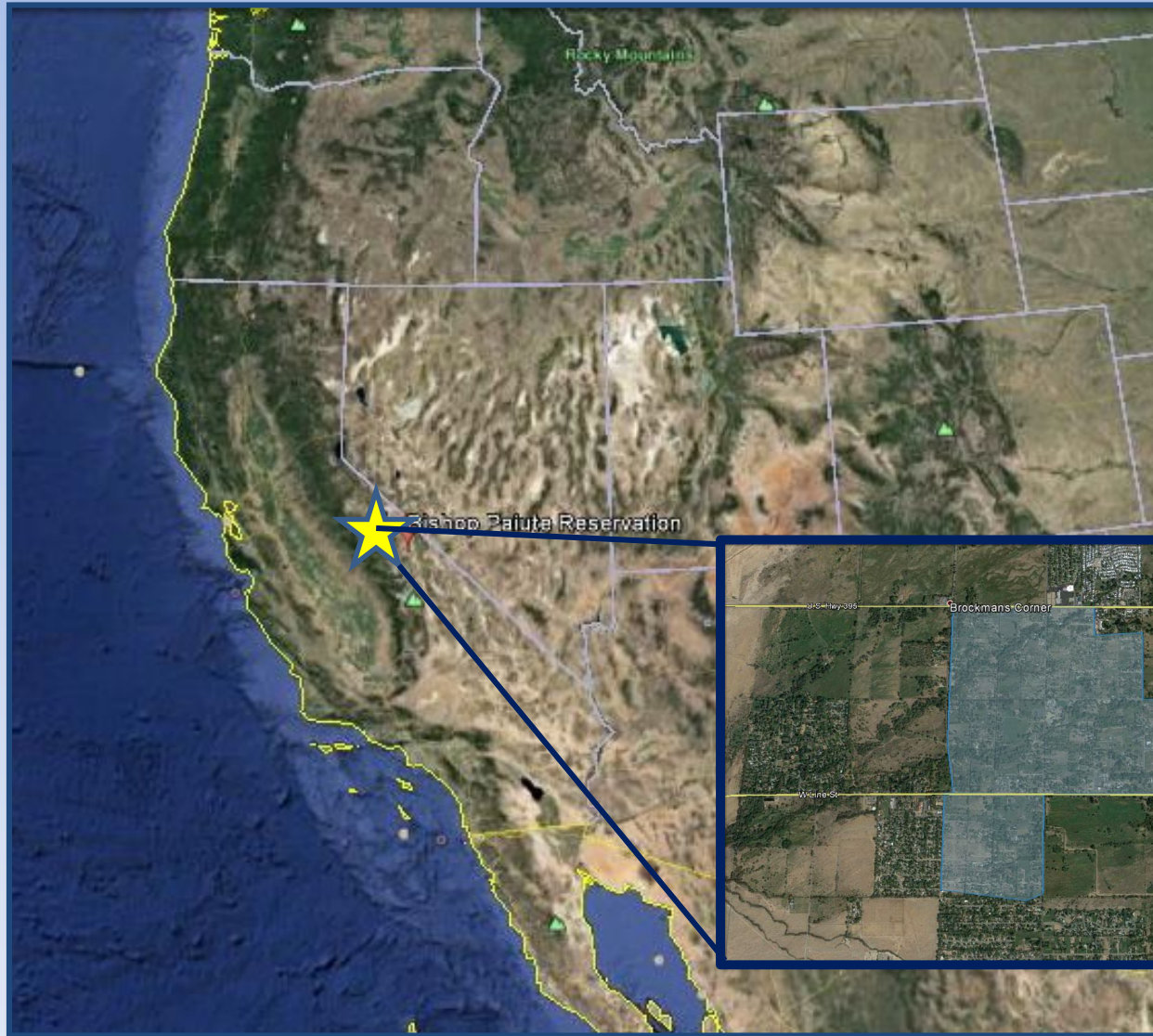
**2018 Office of Indian Energy Program Review
December 11, 2018
Denver, Colorado**

Bishop Paiute Tribe

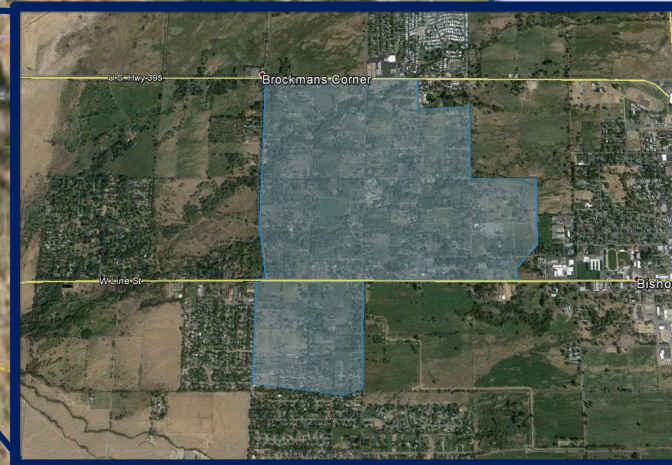


- **Descendants of the "Nu-Mu," of the Owens Valley**
- **Aboriginal land: Eastern Sierra: Owens Valley and Mono Basins**
- **Energy Demand: Homes, Community and governmental facilities, preschool and Ed Center; health clinic, museum, casino, domestic water pumping**

Bishop Paiute Reservation



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



Bishop Paiute Tribe



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



2015 Tribal Strategic Energy Plan – by 2020:

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

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

Bishop Paiute Tribe



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Past, Present, Future Partnership



Bishop Paiute Tribe
<http://www.bishoppaiutetribe.com/>



Bishop Paiute Environmental Management Office
<http://www.bishoptribeemo.com/>



Bishop Paiute Tribal Employment Rights Office/Ordinance
<http://bishoptero.com/>

GRID Alternatives
<http://gridalternatives.org/ie>





2001: Founded by Erica Mackie and Tim Sears

2004: First install – San Francisco, California

2005- 2011: Expanded to 7 California offices, serving the entire state

2012: Expanded to Colorado



2014: Expanded to Mid-Atlantic region and Nicaragua



2015: Launched RISE Initiative and expanded National Tribal Program

2016: Nepal Pilot Program



Solar Affordable Housing Program



SASH provides partial solar incentives for solar systems for low-income participants.

1. **PEOPLE:** Low-income homeowners ($\leq 80\%$ 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





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

Tribe assists GRID with outreach, meetings, and marketing (applications, usage and income) documents

GRID completes inspections on homes

GRID designs solar for each home

GRID completes all paperwork, apps/contracts

TERO and GRID recruit job trainees

2 Day Install- GRID provides free hands on job training. HO Provides lunch for crews

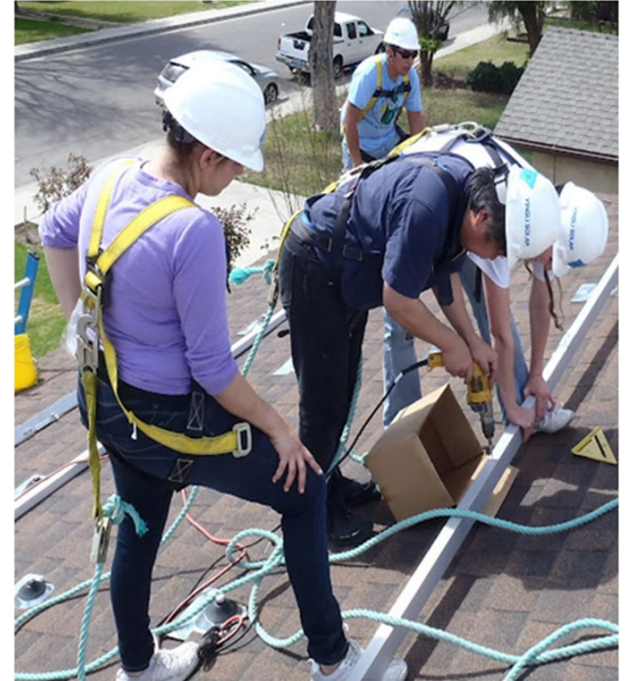
GRID coordinates 3rd party inspections

Tribe provides final inspection letter for utility

GRID completes all interconnection with utility

GRID provides after install meetings to review warranty/utility bill review with homeowners

GRID provides data and assists tribe with reporting 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 Income qualified, owner-occupied homes
- Rooftop Solar PV systems grid tied to SCE utility

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

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



- 34 Income qualified, owner-occupied homes – **123 kw installed**
- Rooftop Solar
- PV systems tied to SCE utility
- **Sub-Contractor Partnership (SPP)** - local licensed PV contractors partner with GRID
- GRID requires SPP to hire 1-2 job trainees per installation
- SPP's are vetted
- Installs are inspected by an independent 3rd party

- **Total Project Cost: \$ 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





SASH 2- Phase 2



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SASH 1	Completed	14	48	62	15%
2016					
SASH 2 – Phase 1 <i>DOE Clean Energy</i>	67 kW Completed & Monitoring	22	-	84	21%
<u>2017</u>					
SASH 2 – Phase 2 <i>DOE Clean Energy</i>	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: US Dept of Energy “First Steps” grant opportunity - 2018





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- Phase 2: Three (3) interns
 - Location: Riverside (Fall 2018)
 - 170 hours of training

Funding: US Dept of Energy "First Steps" grant opportunity - 2018



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

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- Phase 3: One (1) intern
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 - One (1) year fellowship with GRID

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➤ **Since 2013 GRID has trained 60 Bishop tribal members = 2600 hours**





SASH 2- Next Phases



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SASH 2 – First Steps – Youth Solar Training	15KW Completed	5		123 Current total	31%



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SASH 2 – Phase 3 <i>DOE Clean Energy</i>	Funded	8	30	161	40%



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SASH 2 – Phase 3 <i>DOE Clean Energy</i>	Funded	<u>8</u>	<u>30</u>	<u>161</u>	<u>40%</u>
SASH 2 – Phase 4 DOE Clean Energy	Seeking Funding	<u>8</u>	<u>31</u>	<u>200</u>	<u>50%</u>

Bishop Paiute Tribe



Project	Installs	Kilowatts installed
SASH 1	62	214 KW
SASH 2 DOE (phase 1)	56	190 KW
SASH 2 Other	5	15 KW
<u>Present TOTALS</u>	<u>123</u>	<u>419 KW</u>
SASH 2 DOE phase 3	161	541 Kw
SASH 2 DOE phase 4?	200	665 Kw



Photo: 1st rooftop solar installation – 2013

Goals 200 by 2020 400 by 2025

Bishop Paiute Tribe



	Cumulative Carbon reduced over system life (tons)
Non DOE	3516
DOE	3137
<u>Total</u>	<u>6653</u>



Photo: 1st rooftop solar installation – 2013

Goals 200 by 2020 400 by 2025



**Principal Investigator: Brian Adkins, Bishop
Paiute Tribe Environmental Management
Office Director, (760) 873-3584 x 237,
brian.adkins@bishoppaiute.org**

**Key Participant: GRID Alternatives, , 501(c)(3)
non-profit solar installer; Business Contact:
A. Bambi Tran, Inland Empire Regional
Director, (951) 471-7045,
btran@gridalternatives.org**



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SATURDAY, JUNE 30, 2018

17

Celebrating solar job training

TRAINEES PROVIDE BISHOP PAIUTE FAMILY WITH POWER FROM THE SUN



Pictured are students, families of students, Bishop Paiute Tribe officials, GRID Alternatives Inland Empire representatives, in front of the latest home on the Bishop Paiute Reservation to have solar panels installed as part of a solar power training session to teach Native American students job skills

suitable for working in the solar power industry. A celebratory event was held Thursday that culminated in the completion of the solar power installation at the home.

Photos by Mike Chacanca



From left, William Vega, 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 program receive certificates of completion.



Attending the GRID Alternatives event Thursday are, from left, Glorianna Bailey, Bishop Paiute Tribal administrator, Earleen Williams, Bishop Paiute Tribal Council member, and Lisa Castilone with GRID Alternatives.

A successful transition to clean, renewable energy that includes everyone.