

## PV Solar Solutions for Paskenta Band of Nomlaki Indians with AES



# The start of solar for Paskenta Band of Nomlaki Indians

In 2022 AES completed three solar PV projects for Paskenta Band of Nomlaki Indians at their Medical, Dental and Administration Clinics. These 3 projects were located in Corning, Ca with the purpose of reducing costs and the carbon footprint. Funded by CalOES.

We worked together to start two more projects located at their new Community Center and Administration Buildings.







# Proposed new site - Community and Administrative Building PV system



187 KW Roof mounted PV system attached on the community center and aggregated to the administration building. This allows for all panels at the site to be roof mounted and not ground mounted, saving cost and space.

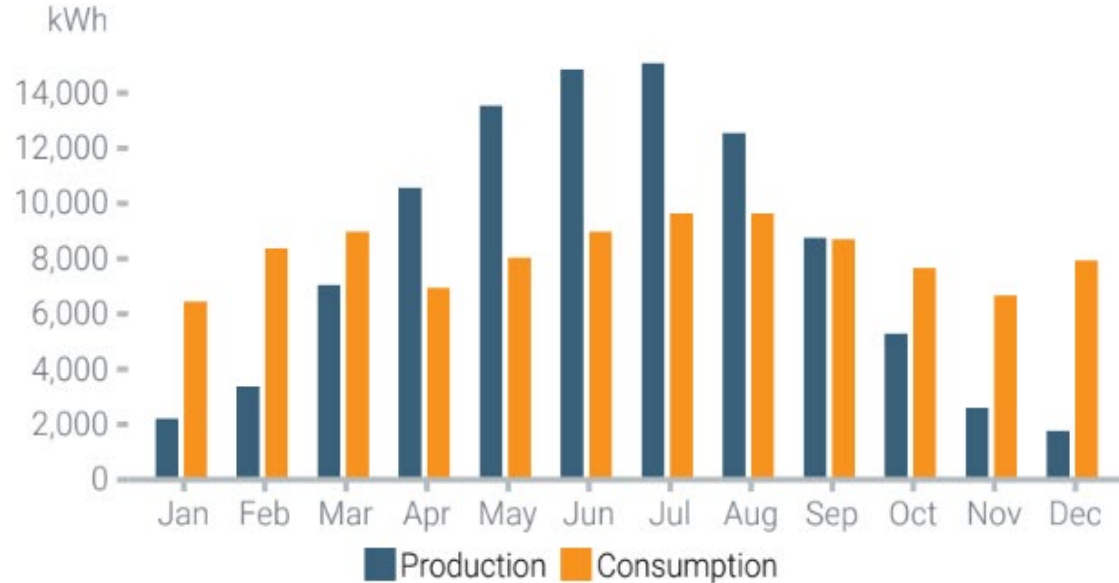
# Aggregation and System Explained

NEMA-Net Energy Metering Aggregation works in a way to allow the generated electricity to be allocated to both meters. It is not a set KW of solar dedicated to each meter. It is more fluid. Whichever building is using the energy, that's where the credit will be given. This allows for more flexibility in case one building uses more or less than predicted.

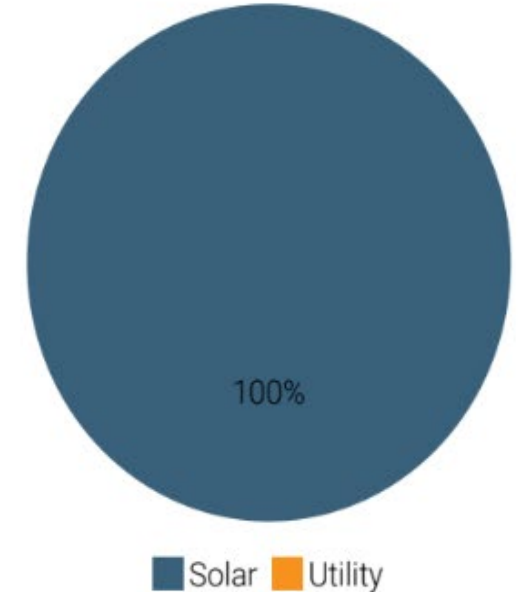
Original project was increased to 186 KW because we found that we could fit more panels on the roof than originally expected. Our initial design showed offsetting just 80% of the community building, we increased the size to cover 111% of the expected usage to account for any unforeseen additional usage. This overage can be shared between the two buildings via NEMA.

# Designed to cover 100% of current usage for **Admin Bldg**

## PRODUCTION & CONSUMPTION



## ELECTRICITY MIX



Current usage: 97,848 kwh/year. Production estimate: 97,500 kwh/year

# Projected Utility Savings Admin Building

	Pre-solar	Post-solar
YEAR 1 UTITLITY BILL	\$30,632	\$3,419
ANNUAL CONSUMPTION	97,848 kWh	97,848 kWh
UTILITY COMPANY	Pacific Gas & Electric Co	Pacific Gas & Electric Co
UTILITY RATE	A-1 Small General	A-1 Small General

Savings are based on several factors. 1. Utilizing current Net Energy Metering. 2. Does not include PGE charges for demand and non-bypass fees. 3. Based on the usage assumptions. Using more power than the solar produces, will result in true up bill at the end of the year. 4. Assuming A-1 rate tariff. PGE has the ability to retire/change rate tariffs.



# Environmental Savings Equivalent To:



Vehicles Taken Off Road

7



Number of Trees Planted

19,307



Miles Per Year Saved

74,553



Acres of US Forests Saved

617.20



Tanker Trucks of Gas Saved

10



Railcars of Coal Saved

4



Barrels of Oil Saved

1,751

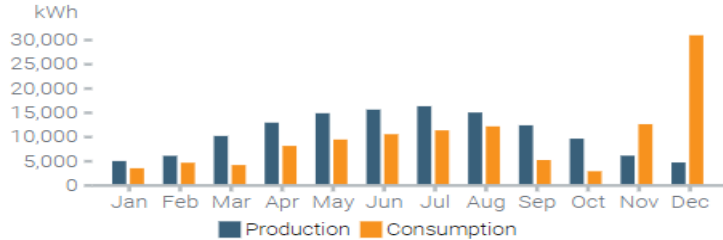


Pounds of Coal Saved

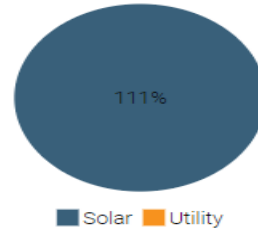
808,792

# Designed to 111% of usage of the **Community Bldg**

## PRODUCTION & CONSUMPTION



## ELECTRICITY MIX



	Pre-solar	Post-solar
YEAR 1 UTILITY BILL	\$35,719	\$300
ANNUAL CONSUMPTION	116,200 kWh	116,200 kWh
UTILITY COMPANY	Pacific Gas & Electric Co	Pacific Gas & Electric Co
UTILITY RATE	A-1 Small General	A-1 Small General

Estimated usage 116,000 kwh/year. Production estimate: 128,760 kwh/year. There was limited data for usage available, this was an estimated of what will be used. Limited space allowed for less than 100% coverage.

# Projected Utility Savings **Community Building**

	Pre-solar	Post-solar
YEAR 1 UTILITY BILL	\$35,719	\$3,138
ANNUAL CONSUMPTION	116,200 kWh	116,200 kWh
UTILITY COMPANY	Pacific Gas & Electric Co	Pacific Gas & Electric Co
UTILITY RATE	A-1 Small General	A-1 Small General

Savings are based on several factors. 1. Utilizing current Net Energy Metering. 2. Does not include PGE charges for demand and non-bypass fees. 3. Based on the usage assumptions. Using more power than the solar produces, will result in true up bill at the end of the year. 4. Assuming A-1 rate tariff. PGE has the ability to retire/change rate tariffs.

# Environmental Savings Equivalent To:



Vehicles Taken Off Road  
**7**



Number of Trees Planted  
**20,442**



Miles Per Year Saved  
**78,933**



Acres of US Forests Saved  
**653.47**



Tanker Trucks of Gas Saved  
**11**



Railcars of Coal Saved  
**4**



Barrels of Oil Saved  
**1,854**



Pounds of Coal Saved  
**856,314**

# Break even at year 10.2 for Tribe match \$275K

Year	<u>Tribal Admin &amp; Comm Center</u>	
1	<b>\$60,000</b>	
2	\$ 66,000	\$126,000
3	\$ 72,600	\$138,600
4	\$ 79,860	\$152,460
5	\$ 87,846	\$167,706
6	\$ 96,631	\$184,477
7	\$ 106,294	\$202,924
8	\$ 116,923	\$223,217
9	\$ 128,615	\$245,538
10	\$ 141,477	<b>\$270,092</b>
11	\$ 155,625	<b>\$297,101</b>

# Total Savings over 30 years (10% annual increase PGE)

25	\$ 590,984	\$1,128,242
26	\$ 650,082	\$1,241,066
27	\$ 715,091	\$1,365,173
28	\$ 786,600	
29	\$ 865,260	<b>Savings over</b>
30	\$ 951,786	<b>30 Years:</b>
	\$ 7,265,997	<b>\$ 7,265,997</b>

## Grant Award vs 30 years Savings:

- DOE Award                      \$202,744
- Tribal Match                    \$275,552
- Total Project Cost            \$478,296
  
- Total savings over 30 years with 10% annual PGE increase
  
- **\$7,265,997 - \$478,296 = \$6,787,701**



PASKENTA NOMLAKI ADMINISTRATION CENTER

PASKENTA BAND

OF NOMLAKI INDIANS

NOMLAQA BODA - NOVEMBER 2, 1994









tupupa pomIn  
**THUNDER ROOM**

























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NATIVE AMERICAN HERITAGE NIGHT

# Golden 1 CENTER

Credit Union

PRESENTS  
**MAD RIVER**  
BREWING

**FIERCE FLAVOR. DEDICATED CRAFT. TRIBALLY OWNED.**

## HAWKS

IN-GAME	PTS	REB	AST	STL	BLK
4 BRYAN	11	0	0	0	0
6 DANIELS	14	4	1	0	0
10 BRADNER	8	1	1	1	0
12 COOPER	7	0	1	1	1
<b>TEAM TOTALS</b>	<b>34</b>	<b>27</b>	<b>12</b>	<b>4</b>	<b>7</b>

SHOOTING	PTS	FG	FT
FIELD GOALS	45%	30/69	
3-POINTERS	45%	15/33	
FREE THROWING	80%	10/12	

FOULS	TEAM	INDIVIDUAL
TEAM FOULS	1	0
BENCH	0	0

TIMEOUTS	USED	AVAILABLE
TIMEOUTS	0	3



## KINGS

IN-GAME	PTS	REB	AST	STL	BLK
5 FOX	11	0	0	0	0
7 HIGGINS	6	0	0	0	0
13 HIGGINS	7	0	0	0	0
25 BLAIR	0	0	0	0	0
41 CLAY	0	0	0	0	0
<b>TEAM TOTALS</b>	<b>31</b>	<b>20</b>	<b>10</b>	<b>0</b>	<b>0</b>

SHOOTING	PTS	FG	FT
FIELD GOALS	45%	30/69	
3-POINTERS	45%	15/33	
FREE THROWING	80%	10/12	

FOULS	TEAM	INDIVIDUAL
TEAM FOULS	1	0
BENCH	0	0

TIMEOUTS	USED	AVAILABLE
TIMEOUTS	0	3

ticketmaster ATL 92 SAC 93 4th 8:07 19 ticketmaster

PRESENTS MAD RIVER BREWING FIERCE FLAVOR. DEDICATED CRAFT. TRIBALLY OWNED.









