



San Diego Tribal Energy Collaborative

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Overview

- ▶ Project Objectives
- ▶ How did we get here?
- ▶ What does collaboration look like on the ground?
- ▶ The Partners
- ▶ Project Outcomes and Accomplishments





Project Objectives

DOE Deployment of Clean Energy & Energy Efficiency on Indian Lands

- ▶ 42 grid-tied, solar electric systems
 - ▶ Design, install, inspect, interconnect and maintain
 - ▶ 40 low-income single-family homes
 - ▶ San Pasqual, La Jolla, and Mesa Grande reservations
 - ▶ 2 Grid tied systems
 - ▶ San Pasqual tribal education facility and the La Jolla tribal community center
- ▶ 20 Community volunteers and Tribal job trainees
 - ▶ Assist with the installations, gaining valuable hands-on experience

How did we get here?



- ▶ **July 2010:** Southern California Tribal Chairman's Association meeting

- ▶ **April 2011:** First installation with La Jolla Band

- ▶ **2011 - 2017:** 110 installations with the 3 tribal partners (121 tribal installs)

- ▶ **2016-2019:** Granted DOE funding



What does collaboration look like?

- ▶ Communication
 - ▶ Regular meetings, “office hours,” created systems and processes
- ▶ Tribal support of outreach
 - ▶ Contact families
 - ▶ Follow up with application, documents
- ▶ Tribal support of construction
 - ▶ Grading, trenching, shade mitigation, site mapping
- ▶ Tribal support of workforce
 - ▶ Recruit and coordinate trainees
- ▶ Common goal: People. Planet. Employment.
 - ▶ Rely on our history / relationship / accomplishments when challenges arise



Further Details

- ▶ Not “off the grid”
- ▶ Net metering - still tied into the grid
- ▶ No battery backup -
blackout = power outage to the home
- ▶ Homeowners see a 35% to 75%
reduction in their electrical usage
- ▶ 3rd party inspector verifies all work
completed by GRID before the system
can be energized

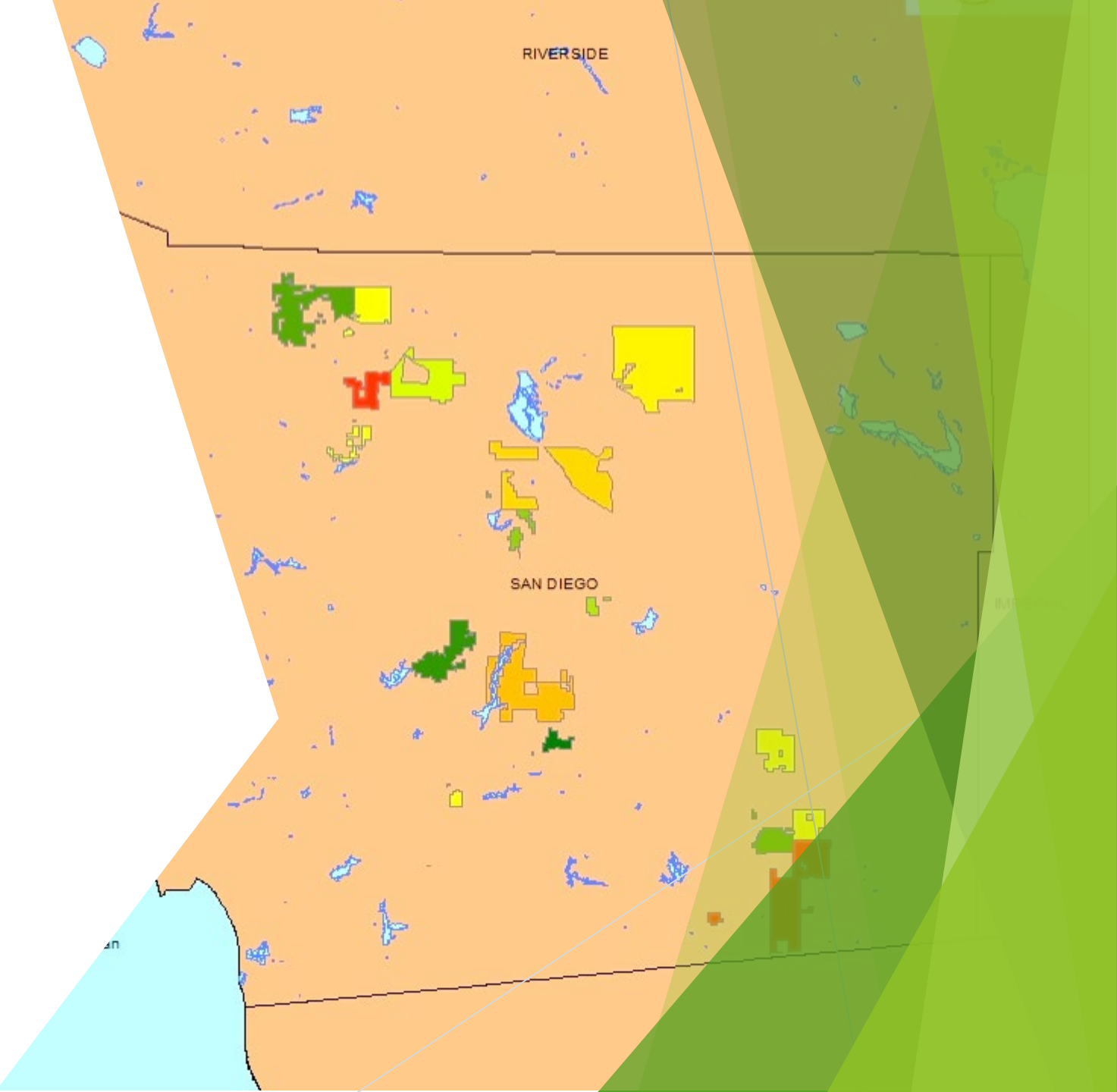


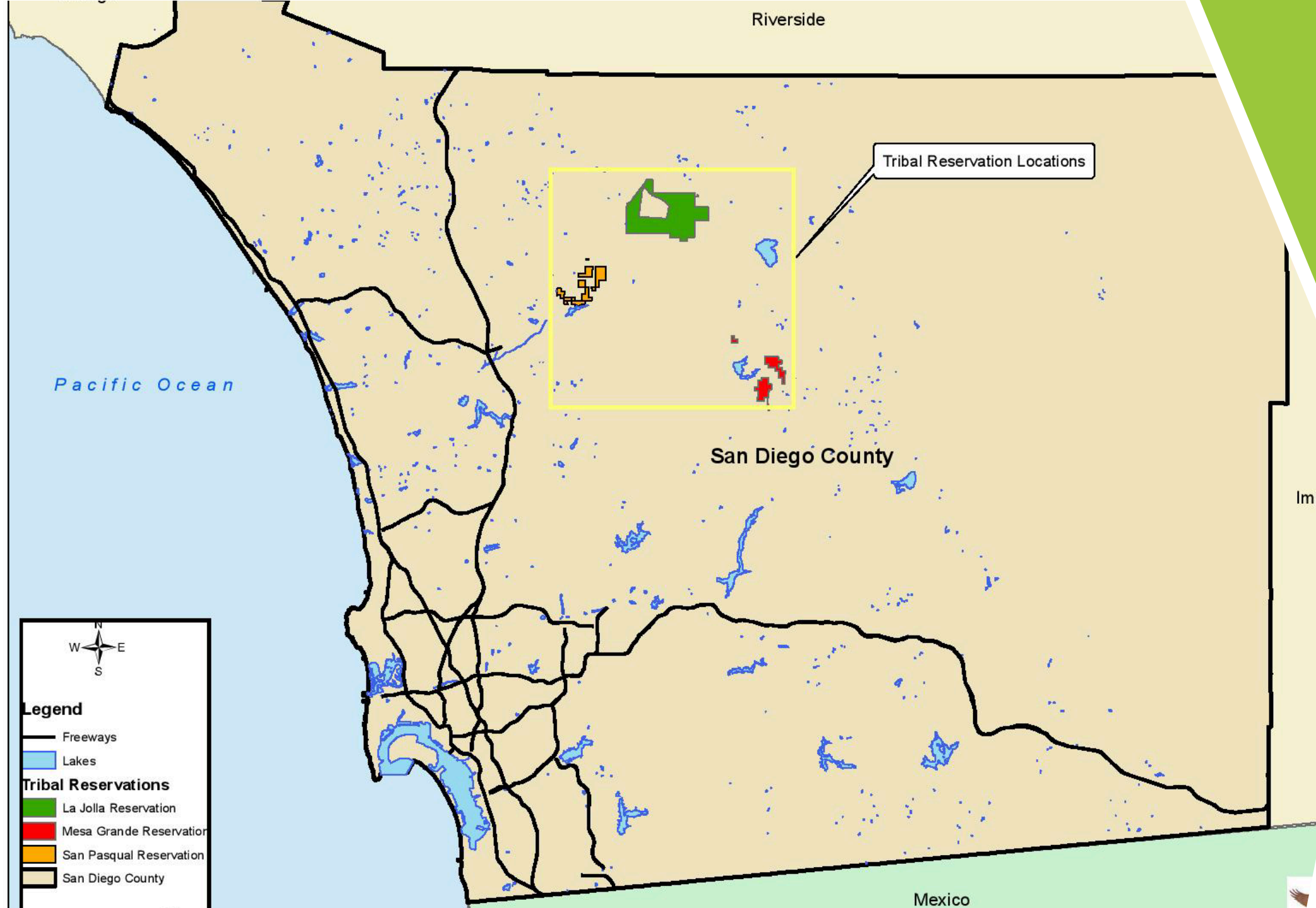
Project Partners

- ▶ La Jolla Band of Luiseno Indians
- ▶ Mesa Grande Band of Mission Indians
- ▶ San Pasqual Band of Mission Indians
- ▶ GRID Alternatives - San Diego



San Diego County 18 Tribal Nations





Legend

- Freeways
- Lakes
- Tribal Reservations**
- La Jolla Reservation
- Mesa Grande Reservation
- San Pasqual Reservation
- San Diego County



San Pasqual General Information

- ▶ 1910
- ▶ The Reservation encompasses approximately 3,143 acres
- ▶ 280 Tribal members and over 1,400 lineal descendants
- ▶ Reservation population is 1,600
- ▶ 395 homes on the reservation
- ▶ 83 homes have solar
 - ▶ 55 GRID
 - ▶ 23 DOE
 - ▶ 5 private solar companies



La Jolla General Information

- ▶ Establish by Executive Order in 1875
- ▶ 8,822 acres of land
- ▶ 700 tribal members
- ▶ Reservation population is 650
- ▶ 203 homes on the reservation
- ▶ 56 homes have solar
 - ▶ 39 GRID
 - ▶ 17 DOE



Mesa Grande General Information

- ▶ Established in 18175
- ▶ 1,820 acres
- ▶ 621 adults, over 800 with children
- ▶ 130 living on the Reservation
- ▶ 48 homes on the Reservation
- ▶ 17 homes have solar
 - ▶ 12 GRID
 - ▶ 5 DOE



GRID Alternatives

- ▶ GRID makes solar technology and job training accessible to underserved communities
- ▶ Work with tribal communities thru GRID's 10 local offices and thru our Tribal Program based in Denver, which works with tribes not served by regional offices
- ▶ 571 tribal families served, 2.50 MW installed, which will produce \$23M of energy
- ▶ Over 481 Native American volunteers



Project Outcomes

- ▶ **48** grid-tied solar electric systems, totaling **183 kW**
- ▶ Generate over **\$1.9M** worth of power for low-income families over the next 20 years
- ▶ **492** Equivalent cars taken off the road
- ▶ **77,111** Equivalent of trees planted
- ▶ Eliminated **3,315** tons of greenhouse gas emissions
- ▶ Provide hands-on solar installation training to at least **17** Tribal community volunteers and job trainees



Project Accomplishments: Government

- ▶ La Jolla Community Building and the San Pasqual Education Facility (2) have been solarized
- ▶ Totaling 33.9 kW
 - ▶ 142 Cars taken off the road
 - ▶ 17,423 Equivalent number of trees
 - ▶ 749 Tons of carbon reduced
- ▶ Annual Savings
 - ▶ 68% San Pasqual
 - ▶ 61% La Jolla



Project Accomplishments: Residential

- ▶ Projected 40 Single-Family Homes
- ▶ Accomplished 45 homes
 - ▶ 23 – San Pasqual
 - ▶ 17 – La Jolla
 - ▶ 5 – Mesa Grande
 - ▶ 12 Ground mount systems
 - ▶ 33 roof mount systems
- ▶ Homeowners educated on energy efficiency and renewable energy



Residential Solar Production as of 12/10/18

- ▶ Power Production
- ▶ **9.95kW**
- ▶ Today Energy
- ▶ **18.8kWh**
- ▶ Past 7 Days Energy
- ▶ **2.81MWh**
- ▶ Month To Date Energy
- ▶ **4.59MWh**
- ▶ Lifetime Energy
- ▶ **329MWh**



Enphase Demo

<https://enlighten.enphaseenergy.com/>



Project Accomplishments Volunteer and Training

- ▶ **Community Volunteers & Tribal Job Trainees**
 - ▶ Provided hands-on solar installation training to 17 Tribal community volunteers and job trainees
 - ▶ **5,171** Total hours of volunteers and trainees
 - ▶ **133** Number of individuals who participated
 - ▶ **17** Tribal members
 - ▶ **1,784** Total hour of Tribal OJT (On the Job Trainees) and volunteers



Project Status Accomplishments in 2018

- ▶ **Community Volunteers**
 - ▶ City of San Diego Trainees
 - ▶ San Diego County Volunteers
 - ▶ Solar Spring Break Students
 - ▶ 3 Solar Spring Break groups
 - ▶ 271 Number of individuals who participated

On the Job Training

- ▶ Utilized Resources from Organizations in our community to create OJT
 - ▶ TERO (Tribal Employments Rights Office)
 - ▶ CIMC (California Indian Manpower Consortium)
 - ▶ San Pasqual Public Works Department





Match to the Grant

- ▶ Each partner is contributing:
 - ▶ Volunteers
 - ▶ Staff time
 - ▶ Heavy Equipment
 - ▶ Materials
 - ▶ SASH (Single-family Affordable Solar Housing) Program funds

Lessons Learned

- ▶ Time for GRID and Tribal staff
 - ▶ Outreach hours
 - ▶ Appoint a Tribal Point of Contact
 - ▶ Construction & Installation needs
- ▶ Tools & Systems
 - ▶ Communication Structure
 - ▶ Ground Mount Schedule
 - ▶ Homeowner Ground Mount Schedule



Tribal Collaboration Going Forward

▶ Collaboration has expanded:

- ▶ San Pasqual
- ▶ La Jolla
- ▶ Mesa Grande
- ▶ Los Coyotes
- ▶ Santa Ysabelle

▶ Solar Spring Break with GRID:

- ▶ California State University, East Bay
- ▶ Intercollegiate Team
- ▶ Miami Dade University
- ▶ North Carolina State University
- ▶ University of Michigan



Questions and Comments

Thank you

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