

# The Tonto Apache Tribe

Presents:

The Department of Energy (DOE) 2016 Renewable Energy Grant  
Project #2 "New Build"  
270kW Roof Top Solar PV



Presenters:

Joe Bresette - Grant Developer, TAT  
Barry Coe – Principal SunRenu Solar



# Presentation Outline

- Tribal Overview
- Summary of Current Project Objectives
- Progress to date
- Timelines and goals
- Future Projects
- Next Steps



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## *Tribal Overview*

- The Tonto Apache Tribe gained Federal recognition in 1972
- The Federal Act Included 85 acres of reservation lands (Landless until 1972)
- Original Territory includes North Central Arizona (Mogollon Rim & surrounding areas)
- Tonto people originally settled at Rio Verde Reservation
- Tonto people relocated to San Carlos Apache Reservation & then to current location
- 20 years of reservation infrastructure development after Federal Recognition
- Residential planning & building
- Gaming and Tribal Facilities
- Long term vision – Sustainability and Residential growth



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# Tribal Lands Today



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# *Tonto Apache Today*

- Tribal Council Governed by 5 elected members
- Current Membership: 158 total & 140 live on the reservation
- Land Base: Original 85 acres + 293 acquired in land exchange 2010
- Economic Activities and Diversity
- Gaming: Mazatzal Hotel & Casino
- Fine Dining & Entertainment
- Smoke Shop, Gas Station, and other activities
- Tribal Government Infrastructures
- Renewable Project Management and Development



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## *Community Services & Infrastructure*

- Tribal Governmental Services
- Police Station and Court
- Social Services: Health Programs, Youth Programs, Educational Services
- Continued: Elder Programs, & Cultural Preservation
- Infrastructure Support: Housing, water & sewer, roads
- Community REC Center includes gymnasium, pool, play grounds
- Tribal Government Infrastructures



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## *Partnership: The Tonto Apache Tribe & SunRenu Solar*

- Strategic Partnership – 5 + years
- Identifying projects and execution
- Tenure – SunRenu is going on 10 years in the industry
- Track record of success
- NABCEP Certification (National American Board of Energy Practitioners) GOLD STANDARD
- Financing – We excel here with Equipment Leasing, PPA's, SSA's
- Operations & Maintenance – Monitoring, uptime support, service, & reporting
- Licensing Qualifications – K-B1 (GC Commercial) & K-11 (Commercial Electrical)



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# *Summary of Project Objectives*

- Grant Program compliance
- Tribal Council Communications – Approval based on success
- Budgets and Timelines (Updated Budget = \$770,303 & (Started in January 2016)
- Energy modeling and technical support
- Design and Engineering
- Equipment Procurement
- Mobilization and staffing
- Proactive Project Management
- Interconnection
- Operations, Maintenance, and Asset Management long term



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# Overview: Progress to Date

- Pre Engineering and technical support – 100% complete
- Energy modeling and systems sizes – 100% complete
- Grant Response – 100% complete
- Utility bill analysis – 100% complete
- Construction – 95% complete
- Budget Verification Process – 100%
- Project Management & Construction – 95% complete
- Interconnect – 70% complete (documentation heavy and third party inspections)
- OMM – Operations, asset Management, & Maintenance – 0%



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# Timelines & Goals

- Grant Compliance
- Budget Verification Process
- Tribal Job Creation & sustainability – 1 Full Time position & 3 x 6 month positions (Trades)
- Construction Schedule – 95% complete to date
- Construction complete Q4 2106/Q1 2017
- Challenges – Equipment Procurement & Utility Company compliance (Net Metering)
- Safety – No job site injuries!
- Offset & savings goals:
  - The Casino Hotel & Old Casino annual energy offset goal of 33% +/-
    - Includes propane and electrical usage of both facilities in the analysis

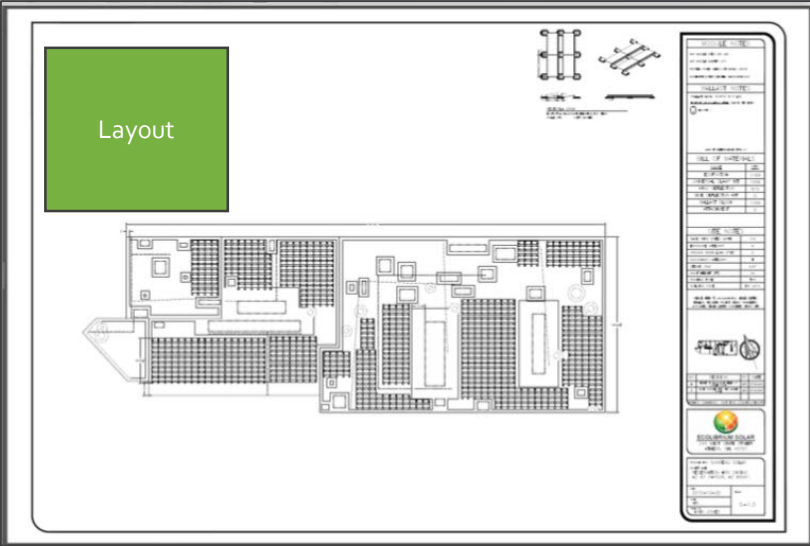


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# ENGINEERING: 270kW "roof top" ballast systems and design

NO ROOF PENETRATIONS



**Key Components: HOTEL & CASINO**

- Solar Panels: Nine Hundred Seventy (970) Boviet 250W 60 Cell Poly Silver Frame (BVM6610P-250)
- Inverter(s) Thirteen (13) Fronius SYMO 15.0-3 208 LITE
- Racking: Ecolibrium ECOFOOT2+Base Racking

## EcoFoot2+™

The next step in the EcoFoot line:  
 PV installation professionals tested EcoFoot2+, helped us find ways to make it even better, and the result is EcoFoot2+™ – now with more validation, fewer parts, and increased design flexibility.

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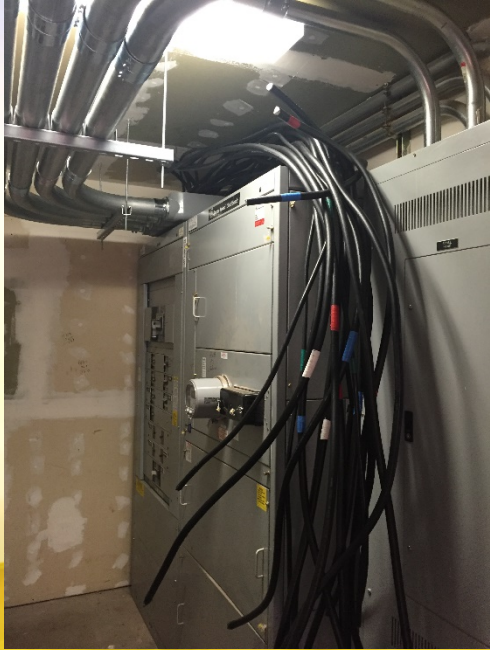
# Construction Process: Staging and racking layouts



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# Construction Process: Underground, SES, Inverter stations



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# Future Projects

- Casino energy efficiency
  - LED parking pole light and wall packs retrofit (Complete / 70% energy reduction on those lights)
  - LED Interior bulb replacement (Casino floor & Hotel Rooms complete / 70% reduction on those lights)
- LED/Energy Efficient - Lighting casino and tribal offices (exterior and interior)
- LED - Gas Station/Smoke shop LED retrofit (Contract signed)
- LED – Workshop lighting retrofit – Created photometric's for the building
- Casino Thermal – Hotel and indoor pool (Propane usage offset)
- GYM Thermal – Indoor pool heating (Propane usage offset)
- More Reservation Facilities Photovoltaics – ???



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# Next Steps

- Complete construction
- Interconnection
- Final Walk Through – System testing and operations
- OMM – On-going
- Final budget reports
- System savings reports for DOE and Tribal Council
- Search for new Grant opportunities



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*Closing Statements and Q&A:*

**THANK YOU!**



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