

# ENERGY AUDIT 2018 PROGRAM REVIEW



**Task 1:**  
Baseline  
Data/Audits

**Task 2:**  
PYT Energy  
Efficiency  
Plan

**Task 3:**  
PYT Energy  
Efficiency  
Plan



# TRIBAL BRIEF

## HISTORY 1890 - 1950

### ■ History

	People In Motion (Culture & Language) For Survival & Community		Planning to Secure Designated Land
1890	1900	1920	1950
<ul style="list-style-type: none"> <li>• Ceremonies practiced only in Rio Yaqui, Mexico</li> </ul>	<ul style="list-style-type: none"> <li>• 1918 Last battle w/Feds Bear Valley</li> <li>• 1<sup>st</sup> ceremonies practiced in U.S. 1<sup>st</sup> acknowledged as people</li> <li>• Wars in Mexico drive tribal people out of south</li> <li>• Community always present here-border changed</li> </ul>	<ul style="list-style-type: none"> <li>• 40-60 houses Pascua community Phoenix area-Guadalupe</li> <li>• Pascua people migratory to work in railroad, mining, agriculture, canal</li> <li>• Populations increase in 1920's</li> </ul>	<ul style="list-style-type: none"> <li>• Pascua population spread all over U.S.</li> </ul>



# HISTORY 1960 - 1990

	Growing Period & Findings Means To Do So		
1960	1970	1980	1990
<ul style="list-style-type: none"> <li>• 1965 Nonprofit PYT Association established to receive land</li> <li>• PYT association to achieve recognition</li> <li>• Civil Rights Movement &amp; AIM</li> <li>• 202 Acres Original Land Assignment 1964</li> <li>• Old Pascua 120 households in city of Tucson</li> <li>• PY communities throughout AZ</li> </ul>	<ul style="list-style-type: none"> <li>• 200 +/- Households</li> <li>• Grandfather built adobe home &amp; Grandmother removed from it for improvement</li> <li>• Community cemetery</li> <li>• Model Tucson city program fueled development of housing</li> <li>• Recognition</li> <li>• 1978 Tribe federally recognized</li> </ul>	<ul style="list-style-type: none"> <li>• Anselmo Valencia 1<sup>st</sup> chairman</li> <li>• Government populated by members of PYT Association</li> <li>• 1982 Rent Project</li> <li>• CAP Allocation Water 500 acre/feet/yr</li> <li>• Traditional adobe building recognized for renewable value</li> <li>• Adobe homes "improved" w/H2O &amp; toilets "model cities"</li> <li>• Indian Gaming Regulatory Act-AZ bingo &amp; administration facility 1988</li> <li>• Tribal adopts constitution IRA w/ branches of government</li> <li>• Study done &amp; projected 3,000 people in 90's Energy 800+/-</li> <li>• 1<sup>st</sup> Bingo hall</li> <li>• Government services</li> <li>• Housing development picks-up</li> <li>• Satellite communities receive TA from tribe</li> <li>• Tribal population reservation is +/- 1/4 of total population</li> </ul>	<ul style="list-style-type: none"> <li>• 3,000 People on reservation but 12,000 total population</li> <li>• Tribal services has maps of communities not on reservation</li> <li>• Casinos, bingo in tents</li> <li>• WAPA allocation</li> <li>• Pascua communities have own internal government &amp; ceremonial leadership</li> <li>• 15 Different housing developments on New Pascua lands</li> <li>• Collective Pascua engagement through ceremonies</li> </ul>



# HISTORY 2000 - 2018

Boom Period Acting Like Government In Many Respects	Crisis Nationally In U.S. Tribe Having to Respond to Immediate Crisis Needs of Community	Conscious Management of Resources as Power/Player In Region
2000	2010	2018
<ul style="list-style-type: none"> <li>• Reservation land expansion</li> <li>• Tribal rush for credentialing, certification GED's, diplomas, degrees</li> <li>• Scholarships Programs- health services</li> <li>• New Headstart</li> <li>• Casino phase 1 AVA opens</li> <li>• Development services: land, economic , grants, community</li> <li>• Casino Del Sol Phase 1 2001, Phase 2 2003</li> <li>• Anemometer Loan</li> <li>• Intel Clubhouse – Kids' technology access</li> </ul>	<ul style="list-style-type: none"> <li>• Tribal government services contract from market crash 2007</li> <li>• 2007 Hit in gaming market</li> <li>• ADOL energy audit</li> <li>• Casino phase 2 opens</li> <li>• Senior center(new facility)</li> <li>• Fire department</li> <li>• 1800 Acres reservation</li> <li>• 11/11/11 Casino Hotel</li> <li>• Tortuga Ranch purchase 30,000 acres</li> <li>• Efficiency grant</li> <li>• Upgrade on facilities</li> <li>• Casino del Sol development</li> <li>• New buildings on tribal on land</li> <li>• Wellness Center phase 1 &amp; 2</li> </ul>	<ul style="list-style-type: none"> <li>• Certified as “Green” Sol Casino Hotel</li> <li>• Tribal elections</li> <li>• Justice Center built (completed)</li> <li>• Hotel opens</li> <li>• Veterans Memorial Wall</li> <li>• Water Reclamation study</li> <li>• Recycle plan launched 2011</li> <li>• Casino sustainability plan launched 2011</li> <li>• “Green” designation attracts people to some extent</li> <li>• Tribal attention to efficacy &amp; accountability</li> <li>• 18,000 Enrolled members</li> <li>• Current study to update land use plan</li> <li>• Energy Audit Study Commercial/Residential</li> <li>• Energy Committee – Tribal Utility Review</li> <li>• Expansion of PYT Casino Hotel</li> <li>• Casino RV Park</li> <li>• 100,000 sf Health Facility Design Complete with Solar covered parking option</li> </ul>



# PROJECT OVERVIEW

- Project Overview
- The Pascua Yaqui Tribe (PYT) Energy Audits will determine to what extent the Tribe can reduce its energy consumption through implementing energy efficiency measures (EEMs) identified by the energy audits.





# AERIAL MAP OF PROJECT LOCATION

Ignacio Baumea

Calle Torim

Camino de Oeste



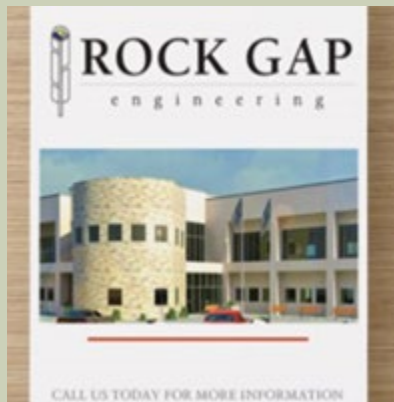


# PROJECT PARTICIPANTS

## Project Participants (Pascua Yaqui Tribe)



## Project Participants Consultants (Rock Gap/NORESKO)







# PROJECT OBJECTIVES

## **1. To develop a Energy Efficiency Action Plan**

- 1. Determine where greatest Energy Efficiency Measures (EEM's) can be made**
- 2. Determine where shortest pay-back energy improvements can be made**
- 3. Prioritize list of Energy Efficiency Improvements, base on pay-back criteria**

## **2. Complete Pascua Yaqui Tribe Energy Efficiency Action Plan**

- 1. With next steps to complete energy goals**
- 2. Includes summary of audited buildings current use with recommendations for low cost EEM's based on historical energy use.**
- 3. Includes LEED standards for new building construction**





# NEW PROJECTS

## ■ PROGRESS

- Energy Auditor Hired
- Baseline data and audits completed



# COMPLETED PROJECTS

- **Tribal Plan Community Energy Plan (2012)**
  - Lead to Red Mountain Study
- **Red Mountain Solar Study Conclusions (2013)**
  - Tortuga Ranch – viable, wheeling charges, must compete in current markets
  - Casino – Net Meter - completed
  - Reservation – potential for 10 MW demand w/potential expansion
  - Attempts at implementation – met with potential solar providers to implement design/construction of plan, but got no further once at Council
- **Lessons Learned**
  - Keep trying, new Council and Economic Director interested in solar alternatives



# COMPLETED PROJECTS

## ■ Demonstration Home

- Built with Tribal Labor EF Block (approx. R-40 Insulation) for sell to Tribal Members on the Reservation. EF Block is re-cycled foam and Portland cement.





# FUTURE PLANS

- **105,000 square foot Health Building II**
  - 100 % construction documents are complete
  - Project is out to bid with construction to begin in March 2019
  - Expected completion of this LEED Silver Complex by start of 2021 and includes a solar covered parking structure budget of \$600,000.

