PPN Case Study

• Multi-tribal

• Small pilot projects to test principles, build support, develop capacity

• Integrated approach touching multiple tribal goals: economic/energy self-sufficiency, political sovereignty, cultural integrity

• Co-design process
  – Tribal citizens as experts/designers
  – Centering cultural values
  – Providing educational opportunities
Training the Next Generation

- Youth Workshop
Collecting Data
Collecting Data
Analyzing Data

Wind Power Estimate from 09-27-10 to 10-07-10
[20 m (60 ft), 15 ft diameter]

Wind Power (kW)
Developing Plans

Ground Mount 3
Development Potential: 572 kW

Ground Mount 2
19 kW, 2,500 sq ft

Ground Mount 2
Development Potential: 590 kW
Developing Plans

Roof Mount 4
35 kW, 3,250 sq ft

30kW Generator Shed
Inverter Shed
4x 250 battery sheds

Administrative Building
Head Start building

250 battery shed
Inverter Shed

Ground Mount 3
50 kW, 9,000 sq ft

Roof Mount 3
99 kW, 9,400 sq ft

PPN Greenhouse
Developing Plans
Tribal Electric Vehicle (EV) Station and Infrastructure Along CA Highway 101 and 1 Overview

- Goal: Creation of a ‘green corridor’ electric vehicle station along Highway 101 & 1

- Stations would be owned and managed by several Pomo tribes

- Focus on sustainable tourism to wines, cultural attractions, parks, casinos, etc..

- Identify chargers and locations suitable for EV charging
Analyze the current market for EVs within the Northern CA and estimate the future market

Conduct user studies; determine the number of visitors and the time spent at various visitors attractions within 100 miles of Ukiah, CA

Develop conceptual designs for the EV charging station and additional infrastructure

Identify chargers and locations suitable for EV charging
Possible Strategies Part B

• Perform economic and greenhouse gas emission analysis for Level 1, Level 2, and Level 3 EV charging station options

• Compare the economic costs and greenhouse gas emission of the EV charging station options to public transit and gasoline powered vehicles

• Estimate revenue generated from sell of additional electrical capacity under various CA Programs
Finding Non-federal partners

Grid Alternatives

EnLink

CARES/UCB
Federal partners

• EPA: Technical Assistance, Administrative Support, Policy/Code Development
• NREL: Feasibility Study, Data Collection, Proposal and Project Review
• HUD: Funding for the House, but not for Renewables, Sustainability
• BIA: Funding for Water Infrastructure
• USDA: EV Proposal Review
• Department of Transportation: EV Proposal Review
Making It Work

• Notes for the tribes
  – Partnerships
  – Tribal Buy In: Top down and Bottom Up

• Notes for the agencies:
  – Financing is huge problem;
  – Bias for commercial projects;
  – Little implementation funding;
  – TDC, codes, & other regulatory barriers

Need for multi agency collaboration and financing