Hualapai
Tribal Utility Project

DOE First Steps Program

Jack Ehrhardt -
Hualapai Planning Director

WHO WE ARE

- ~1 MILLION ACRES IN NW ARIZONA
- 108 MILES OF THE GRAND CANYON
- 2500 Members
- Peach Springs Community
- ~240 electric customers

ECONOMIC SITUATION

- Very Rural- Little opportunity for commercial development
- Route 66 passes through Peach Springs
- River Runners Tourism Enterprise
- Hualapai Lodge
- Grand Canyon West Tourism Enterprise
- Hunting and Fishing
- Timber

Energy Situation

- Mohave Electric Serves Hualapai
- 75-mile Powerline to Havasupai - BIA
- No Power at Grand Canyon West
- No Power to most of Reservation
- WAPA Allocation Sold to NTUA
- Electric Load ~ 800 kilowatts
- Energy Resources:
  - Solar
  - Wind

Energy Projects

- Earthship - Natural Resources Office
  - Passive Solar
  - Photovoltaics
  - Water Conservation

Solar Water Pipeline

- Water for Grand Canyon West
- 26 Miles
- Upgrade Underway

Guano Point

- 2.5 kilowatts for lights, appliances, and evap cooling

Energy Projects

- USDA-RUS High Energy Cost Rural Communities
  - Grand Canyon West Power Project
- BIA Mineral Assessment Program
  - Wind Assessment
- DOE First Steps Toward Renewables Development on Tribal Lands
  - Tribal Utility Feasibility Study

GCW Power Project

- $2 Million Grant - Rural Utilities Service
- 12 kV underground power distribution system
- Solar Hybrid Power Plant
  - Photovoltaics or Thermal
  - Bio-diesel Backup
  - Wind
- RFP for Design-Build is out - due 10-25

BIA Wind Assessment

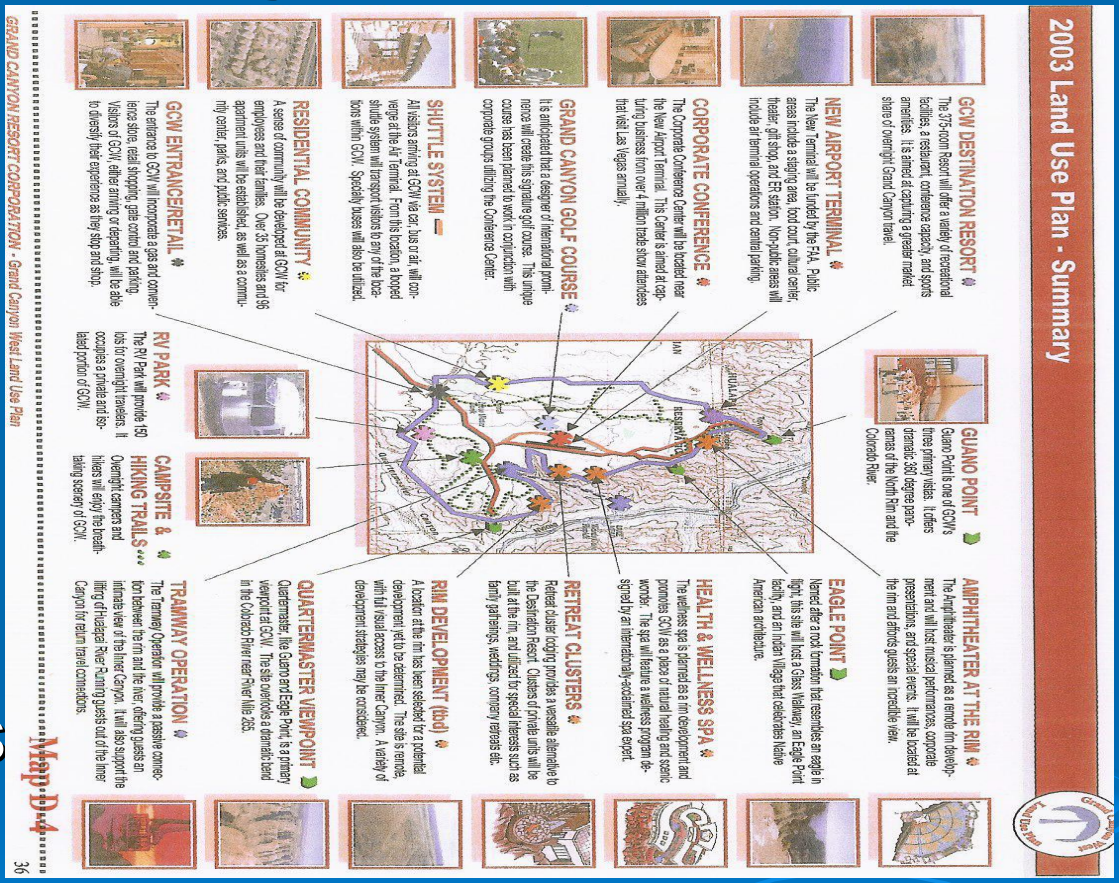
- DOE 20-meter tower at Peach Springs
  - Community Power Project
  - Low Class 3
- BIA 50-meter assessments
  - Peach Springs - Community Power - 2-5 MW
  - Blue Mountain - Wind Farm 5-10 MW
  - Grand Canyon West - Integration with Solar Hybrid system
  - Wind Energy Marketing to Arizona Power Authority, State Facilities, WAPA, APS, Others

Tribal Utility

- DOE First Steps
  - Feasibility of Tribal utility to operate power system at Grand Canyon West
  - Feasibility of tribal take-over of Reservation utility system

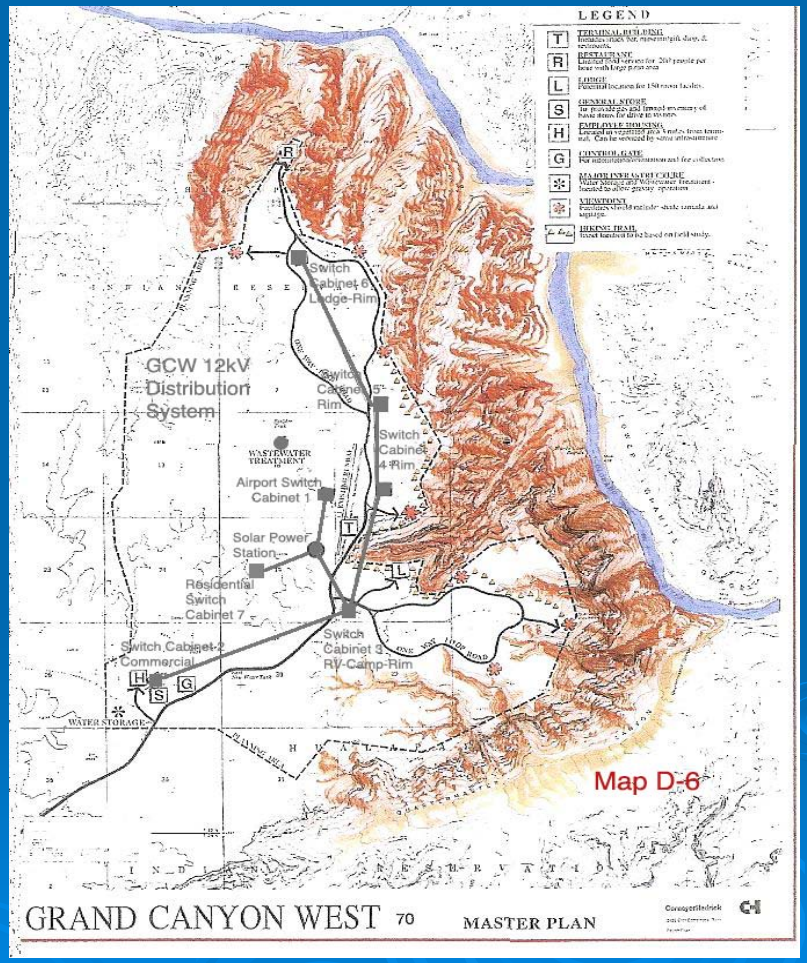
Grand Canyon West

- Currently 150,00 tourists annually
- 9000 acre development
- No Overnight accommodations
- Diesel Gensets



GCW Power Project

- 5 miles of 12kV Underground Distribution Mini-grid
- Solar Hybrid Power System
  - PV or Thermal
  - Wind
  - Bio Diesel
  - Hydrogen



Tribal Utility GCW

- Feasibility Study
  - Organizational Options
  - Operate and Maintain GCW Power System
  - Sell Power to Grand Canyon Resort Corporation
  - Provide expansion
  - Showcase advanced renewables technology in a pristine international setting
- Implementation Plan

System Takeover

- Feasibility study for take over of Reservation electric service
  - System condition and value study
    - Relation to Havasupai
  - Power Resources
    - WAPA Allocation
    - Purchase Power
    - Wind
  - Organizational Options
  - Rates and Policies
  - Implementation Plan

Project Team

- Jack Ehrhardt - Infrastructure planning
- Leonard Gold - Utility Options and Rates
- Ken Saline - Local Utility Interface
- Dean Suagee - Culture and Sustainability
- Mark Randall - GCW Coordination
- Tribal Environmental Review Commission - Oversight