

Navajo Tribal Utility Authority - an enterprise of the Navajo Nation



MULTI-UTILITY SERVICES FOR THE NAVAJO NATION

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Terry Battiest

Navajo Tribal Utility Authority

Derek Dyson

*Duncan, Weinberg, Genzer and
Pembroke*





- **Overview of NTUA**
- **Developing a Tribal Utility**
- **Financing the Utility**





ORGANIZATION

- The Navajo Tribal Utility Authority (NTUA) is a non-profit enterprise created 1959 to provide utility services to the Navajo Nation
- Navajo Nation Council oversight via Plan of Operation, codified by the Navajo Nation
- Organized for the operation, maintenance, and expansion of utility services to customers within the Navajo Nation
 - To promote employment for Navajo people
 - To improve the health and welfare of the residents of the reservation
- Headed by a General Manager and governed by a seven-member Management Board, which is confirmed by the Navajo Nation Council





THE NTUA STORY

- The Navajo reservation was originally established in Arizona in the region which includes the Navajo seat of government at Window Rock
- The Navajo reservation has increased incrementally until the Navajo Nation covers an area of 27,000 square miles located within the states of Arizona, New Mexico and Utah
- Prior to the establishment of NTUA, the rural electrification of the Navajo Nation fell under the U.S. Bureau of Indian Affairs
- To promote the implementation of water and other utility services, the Navajo Nation Council created the Navajo Tribal Utility Authority in 1959



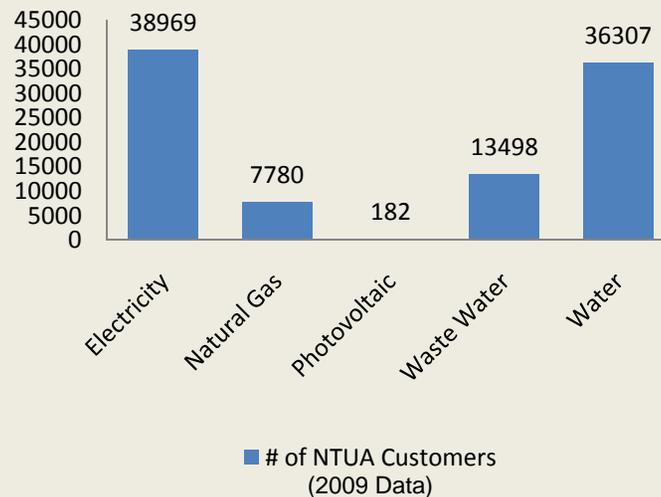


MULTI-UTILITY SERVICES

NTUA provides a range of services on the Navajo Nation in Arizona, New Mexico, and Utah:

- Electricity
- Natural Gas
- Photovoltaic (Off-grid power)
- Waste Water
- Water

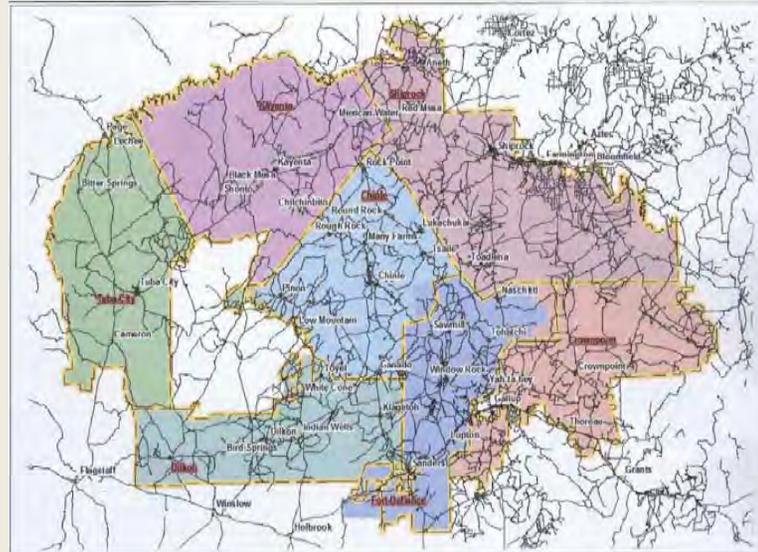
NTUA is in the developmental stages of large scale energy generation, broadband access and wireless services.





SERVICES DELIVERY

- Six District Offices
- Three Sub-Offices
 - Crownpoint
 - Nageezi
 - Red Mesa
- Matrixed Organizations
 - W/WW/NG Construction
 - Electric Construction





GREEN BUILDINGS

- Construction of LEED-certified buildings:
 - Chinle District Office
 - Crownpoint Sub-Office
 - Headquarters Complex
- LEED building initiatives focusing on:
 - Energy Efficient Design
 - Renewable Energy Integration
 - Community Awareness and Education





OFF-GRID POWER



- Access to residential power using photovoltaic and wind generation
- Systems are skid-mounted for portability and ease of installation
 - Latest generation includes wind power generation
- NTUA currently has 260 installed photovoltaic systems





OFF-GRID REFRIGERATION



- In 2010, NTUA introduced a 1,080w PV array and 400w wind hybrid system designed to provide base power and support an energy efficient refrigeration solution
 - Refrigeration has been identified as the single-most important factor affecting the quality of life for off-grid customers





ENERGY EFFICIENCY AND CONSERVATION ACTIVITIES

- Energy Auditing and Measures Implementation
- Energy Efficient Equipment and Appliances
- Smart Grid Investment: AMI Metering
- Net Metering
- EEC Awareness and Promotion Campaign
- Navajo Nation Energy Plan





LARGE-SCALE RENEWABLE ENERGY GENERATION PROJECTS

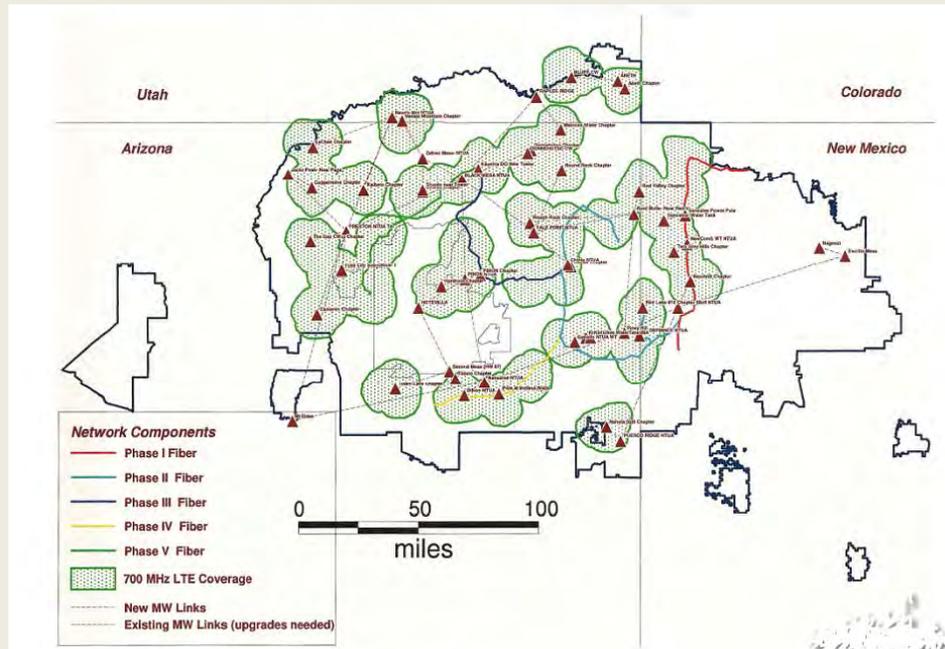
- Development of utility-scale renewable energy resources on the Navajo Nation
- Prospective wind project sites:
 - Boquillas Ranch, Seligman, Arizona
 - Black Mesa, Kayenta, Arizona
- Prospective solar project sites:
 - Reclamation Mine Sites
 - Chapters initiatives
 - Non-Trust lands





TELECOMMUNICATIONS

- Broadband Access
 - Middle-mile aerial fiber backbone
 - Last-mile wireless connectivity to end-users
- Wireless Services
 - NTUA Wireless





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WHY DEVELOP A UTILITY?

- Community
- Cost
- Control
- Reliability





COMMUNITY

- Tribalization builds:
 - Shared Ownership and Benefits
 - Community Development
 - Education
 - Public Services
 - Economic Vitality
 - Diversity of Electricity Sources
 - Renewable Energy
 - Energy Efficiency
 - Distributed Energy
 - Accountability to Citizens– not Shareholders
 - Savings





COSTS

- Rate of return more favorable to tribal members
- Customer Savings: lower rates for same energy consumption as with local utility/IOU's
- A tribal multi-utility can leverage costs for multiple public services (water, sewer, natural gas, roads, etc.)
- Tribal Utilities can buy power on wholesale system as efficiently as local utility/IOU's
- WAPA Hydro allocation





CONTROL

- Tribal utilities are controlled by leadership designated by the tribe
 - Creates opportunities for job growth within the tribe
- Tribal utilities are able to set their own policies
- Increases efficiency in local distribution operations and management
- Increased responsiveness to customers





RELIABILITY

- Similar to municipal utilities, a tribal utility can respond faster to local issues
- Outages can be detected more quickly and mitigated more quickly
- Customer satisfaction can be increased





COSTS OF TRIBALIZATION

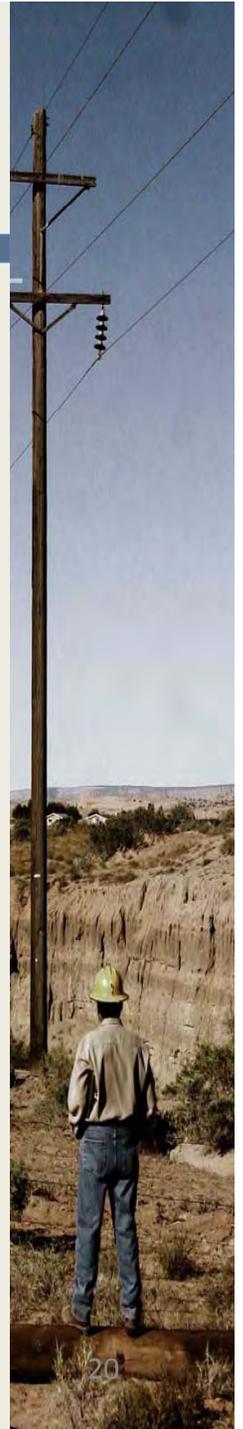
- Startup Costs
 - Costs to acquire lines and facilities
 - Local utility/IOU's possible assertion of stranded costs
- Operational Costs
 - Power purchase
 - Annual operating costs
 - Debt service costs





HOW TO DEVELOP A TRIBAL UTILITY

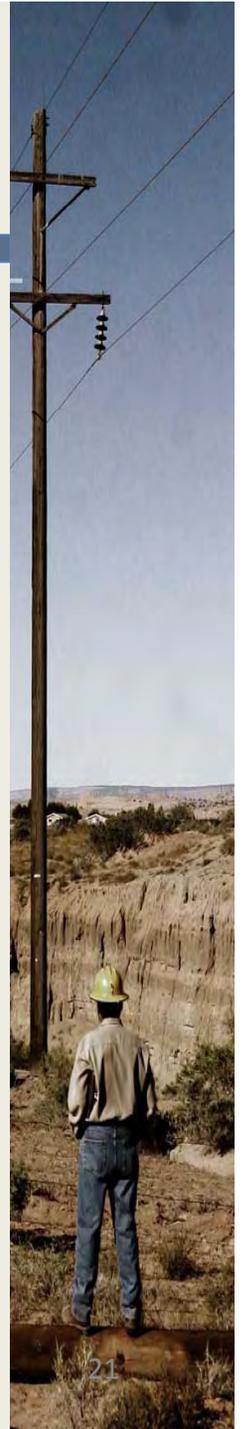
- Step 1: Conduct an engineering and regulatory study to confirm cost savings and service improvements
 - Operational feasibility
 - Financial feasibility
 - Loss of franchise fees from local utility/IOU's
 - Determine the regulatory requirements
- Step 2: Tribal governing body must pass laws and regulations authorizing creation of a tribal utility





HOW TO DEVELOP A TRIBAL UTILITY

- Step 3: Begin the regulatory process
 - Possible litigation from local utilities/IOU's
- Step 4: Identify financing resources
- Step 5: Identify management team





ROADMAP TO TRIBALIZATION

- Know the system
 - Create a map of the proposed service area
 - Evaluate the supply, transmission and distribution channels
 - How will these be affected by tribalization and any further restructuring
 - Evaluate the technical issues
- Develop an operating strategy
 - What makes the plan viable?
 - Economic factors
 - Operational factors
- Develop a project plan
 - Regulatory proceedings
 - Potential legal proceedings





ROADMAP TO TRIBALIZATION

- Transmission and Distribution
 - What are the incentives for improvement?
 - Does the topography create challenges and cost increases?
 - Evaluate possible permitting delays for new transmission lines
 - Study traditional utility operations





ROADMAP TO TRIBALIZATION

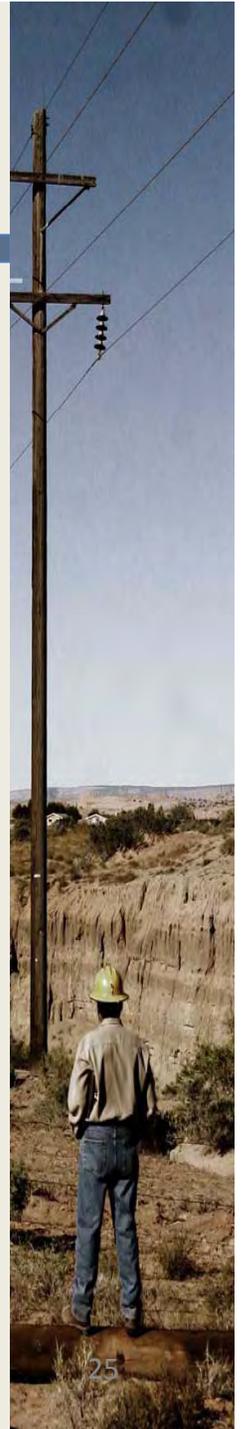
- Technical Issues
 - Reliability – switching and duplication
 - Grid – identify weaknesses
 - Generation: interconnection standards
 - Voltage limits – reactive power control
 - Power flow balance conditions – match generation and load
 - Reserve load requirements – economies of scale





ROADMAP TO TRIBALIZATION

- Operational Analysis
 - What kind of utility:
 - Single or multi-utility distribution system
 - Water, Gas &/or Electric
 - Generation/asset management
 - Customer interface
 - System viability
 - Economic
 - Tax implications
 - Risk
 - Financing
 - Municipal failure
 - Legal issues
 - Damages (stranded costs, disconnection charges)
 - Valuation, bonding





ROADMAP TO TRIBALIZATION

- Economic analysis
 - Rate comparison by customer class
 - Balance sheet comparison of local utility/IOU vs tribal utility
 - Power supply cost comparison of local utility/IOU v tribal utility





ROADMAP TO TRIBALIZATION

- Develop a project plan
 - Regulatory and/or legal proceedings
 - Negotiations with local utilities/IOU's
 - Eminent domain proceedings
 - Review other tribal laws for creation of tribal utilities
 - Review state and federal law related to municipalization, as applicable
 - Obtaining the system
 - Take over the local utility/IOU system or create a completing system
 - Continuity of service considerations
 - Examine contractual obligations with local utility/IOU
 - Develop best- and worst-case scenarios





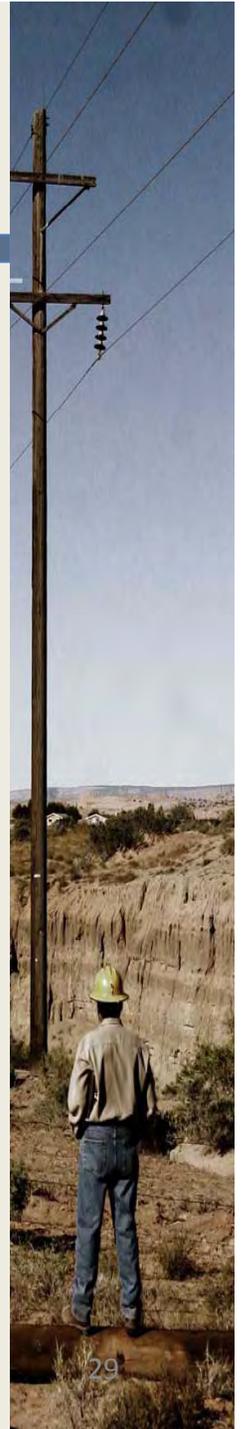
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LOAN FINANCING

- USDA Rural Utilities Service
 - Low cost loan financing for electric, water, telecommunications
 - Five year project outlook to authorize loan
 - Utility provide project financing upfront for loan reimbursement
 - RUS is the utility's "banker" institution





GRANT FINANCING

- Community Block Development Grant
- Energy Efficiency and Conservation Block Grant
- Smart Grid Investment Grant
- Workforce Training Development Grant
- Broadband Technologies Opportunity Program





TRIBAL AND FEDERAL PARTNERSHIPS

- Chapter-initiated Projects
- Navajo Agricultural Products Industry
- Navajo Gaming Enterprises
- Indian Health Services
- Environmental Protection Agency
- Navajo Gallup Water Supply Project





STATE AND FEDERAL INCENTIVES

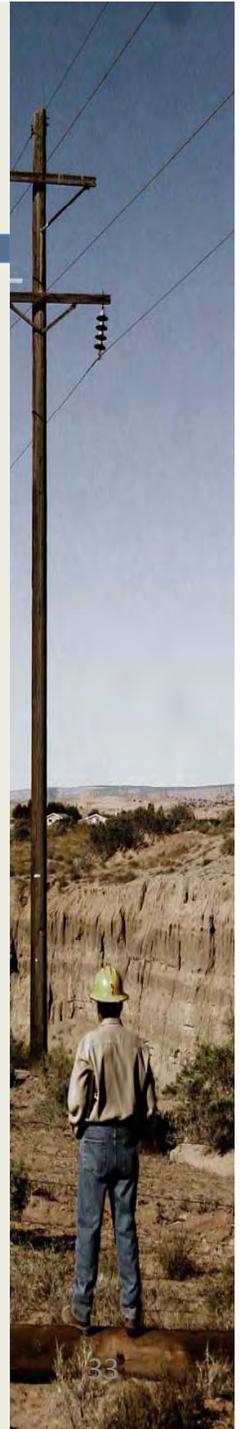
- New Market Tax Credits
- Investment Tax Credits
- Accelerated Depreciation
- Renewable Energy Credits





FUTURE OUTLOOK

- Electricity distribution has been the core service for NTUA -> Broadband, Renewable generation and other utilities developments will change this mix
- NTUA currently purchases almost all of its electricity from external suppliers -> Renewable generation will allow NTUA to self-generate
- NTUA looks forward to partnering with other Navajo Nation entities to utilize the Navajo Nation's vast resources, including renewable energy -> NTUA works closely with the Navajo Nation Energy Advisory Committee to achieve its goals
- The NTUA is an instrumental tool in helping the Navajo Nation to achieve a paradigm shift toward a new energy economy



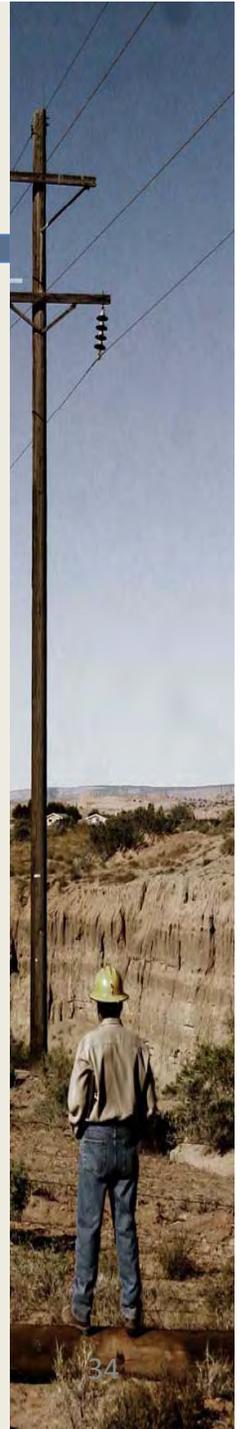


THANK YOU!

- For additional information about the NTUA Renewable Energy Program:

Derek A. Dyson
DWGP
1615 M Street, NW
Suite 800
Washington, DC 20036
(202) 467-6370
dad@dwgp.com

Terry W. Battiest
NTUA
P.O. Box 170
Fort Defiance, AZ 86504
(928) 729-6263
terryb@ntua.com





SERVICES DELIVERY

