Ute Mountain Ute Tribe
Local Scale Solar Energy Development

Ute Mountain Ute Tribe
Renewable Energy Committee
Agenda

• Introduction to the Tribe and Tribal Natural Resources
• Looking to the Future, Expanding the Portfolio of Natural Resource Development
• Focus on solar energy development
• The DOE-funded feasibility study
Introduction to the Tribe and Tribal Natural Resources
Quick Description
Ute Mountain Ute Tribe and Reservation

- Reservation of approximately 600,000 acres, with lands located in Colorado, Utah, and New Mexico
- Tribal communities in Towaoc (southwestern Colorado) and White Mesa (Southeastern Utah)
- Approximately 2,300 enrolled Tribal members (but non-members live in Tribal communities)
Current Uses of Tribal Natural Resources

- Oil and gas development
- Gravel and mineral development
- Farm & Ranch Enterprise
- Ute Mountain Tribal Park
- Ranching/livestock grazing uses
- Traditional/cultural uses
- Hunting/gathering
- Firewood cutting and gathering
- Easements for roads/energy infrastructure
Looking to the Future,
Expanding the Portfolio
of Resource Development
Looking to the Future

• Creating sustainable and profitable economic development ventures

• Providing employment for Tribal members (includes education and building knowledge and capacity in Tribal members)

• Providing stable income for Tribal governments (includes building institutions to properly balance resource development with culturally appropriate regulation)

• Implementing programs to reduce waste and promote efficient use of resources

• Making the best long-term use of Tribal natural resources and lands
Reviewing the Tribal Energy Portfolio

- **Wind Energy**: Future tech
- **Solar Photovoltaic**: Red Hot Spot
- **Oil & Gas**: Exploiting
- **Geothermal**:?
- **Biofuels**: More Research
- **Uranium**: Waiting development
- **Woody Biomass**: Local scale only
- **Coal/Coal to Liquids**: YES
- **Hydro Power**: YES

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- **Coal/Coal to Liquids**: YES
- **Geothermal**: ?
Creation of the Tribal Renewable Energy Committee, 2008

- Economic Development
- Energy
- Environmental Programs
- Justice (Legal)
- Planning/Land-Use Planning
- Tribal Historic Preservation (Cultural Resources)
- Executive Director
- Tribal Council
- Bureau of Indian Affairs
Focus on Solar Energy Development
Focus on Solar Energy Development

Ute Mountain Ute Tribe
Native American Tribal Nation

Solar Opportunity

There is sun on the Reservation and 2 power plants nearby.
Focus on Solar Energy Development

• Initial work on commercial-scale (>25 MW) began in 2008
• Initial feasibility studies indicate good solar resources, adequate land space, and multiple options for transmission interconnection

• External Obstacles
  • Financing
  • Power Purchase Agreements
  • Development Plans
  • Transmission Access

• Internal Discussions
  • Culturally appropriate land use designations for development
  • Allocation of income to benefit membership
Focus on Local-Scale Solar Development

- Early development of solar-powered livestock wells

- Newer building-scale installations

- Solar air heater demonstration (Lakota Solar Enterprises/TreesWaterPeople)
Focus on Local-Scale Solar Development

- On-Reservation demonstration project
- Tribal ownership
- Energy independence, reliance on environmentally friendly and sustainable energy resources produced on-reservation
- Developing expertise and capacity in the Tribally-owned construction enterprise (Weeminuche Construction Authority), with an eye towards commercial-scale development work
- Educating the Tribal membership on solar energy technologies
  - Demonstrating cost savings to community and government
  - Building capacity in tribal employees and members in solar energy installation work
The DOE-Funded Feasibility Study
The DOE-Funded Feasibility Project
The DOE-Funded Feasibility Study

- Community-scaled project (1-2 MW, net metering capped at 120% of use)
- Located near Towaoc, CO
- Potential for companion project in White Mesa Community
- Large known loads at Tribal enterprises (casino, hotel, travel center, construction company)
- Focus on benefits for Tribal members
- Focus on building Tribal capacity (in anticipation of commercial-scale project development)
DOE Potential Sites

- Ute Mountain Ute Tribe
- 1 mW Solar Array
- Potential Site Considerations

Legend:
- HQ area
- Ranchlands
- Trust Lands
- State2m_IL83
- Montezuma_NAIp.sid
- RGB:
  - Red: Band_1
  - Green: Band_2
  - Blue: Band_3

Sector of Distribution Lines Owned By Ute Mountain Ute Tribe
Towaoc, CO Community
Towaoc Substation (Empire Electric)
Farm and Ranch Enterprise
DOE Potential Sites
The DOE-Funded Feasibility Study
Project Objectives

- Determine location, connectivity, deal structure with rural electric coop and power provider
- Identify practical and cost-effective ways to offset on-Reservation energy demands
- Determine how to best benefit Tribal members
- Gain experience to help embrace clean energy
- Education for Tribal members, exposure to technology
Current Project Status

- DOE funds received at end of fiscal year 2012
- Committee is in the process of retaining subcontractors for specific work tasks under the grant
- Committee is excited to undertake work in fiscal year 2013 and to report results next year!
Towaoc!

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