



## Feasibility Study for a Hopi Utility-Scale Wind Project



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▶ **WIND ENERGY CAN BENEFIT HOPI TRIBE**

▶ **New Economic Development**

- Electricity export sales create new revenues for Nation (lease royalties and equity return on investment)
- Potentially fund rural electrification and smaller off-grid renewable applications
- Contracting work in development and construction phases
- New jobs

▶ **Environmental**

- No air pollution or toxic emissions
- Virtually no water use
- Low land impact, no solid waste
- Compatible with existing grazing/ other land uses

▶ **Capacity Building**

- New business models
- Develop tribal human resources: jobs, training, experience in high-tech renewable energy industry



Biological study work



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▶ **PROJECT HISTORY**

▶ **Hopi interest in diversifying economy and promoting economic development with clean, sustainable businesses**

- DOE TEP First Steps grant helped identify energy opportunities including utility-scale wind power project development

▶ **Foresight Wind Energy was developing the Sunshine project near Hopi private lands and Hopi joined as one of 3 private land owners**

- 60MW project, 1/3 on Hopi private fee lands
- Now fully permitted, most market-ready project in Arizona
- Project initially planned for construction in 2005, now delayed by APS
- More details at [www.sunshinewind.com](http://www.sunshinewind.com)

▶ **Based on strong working relationship, Hopi and Foresight identified new project site Sunset Mountain, entirely on Hopi lands**

- Partnered with DOE support to explore the feasibility of a 100MW wind project on the Hopi mesa tops
- Project feasibility work underway
- Exploring possibilities on two mesas, but if project goes forward, would likely be one mesa



▶ PROJECT AREA MAP

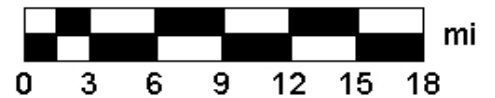


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*Sunset Mountains sites*

*Prevailing  
Wind Direction*  
MN (11.6° E)

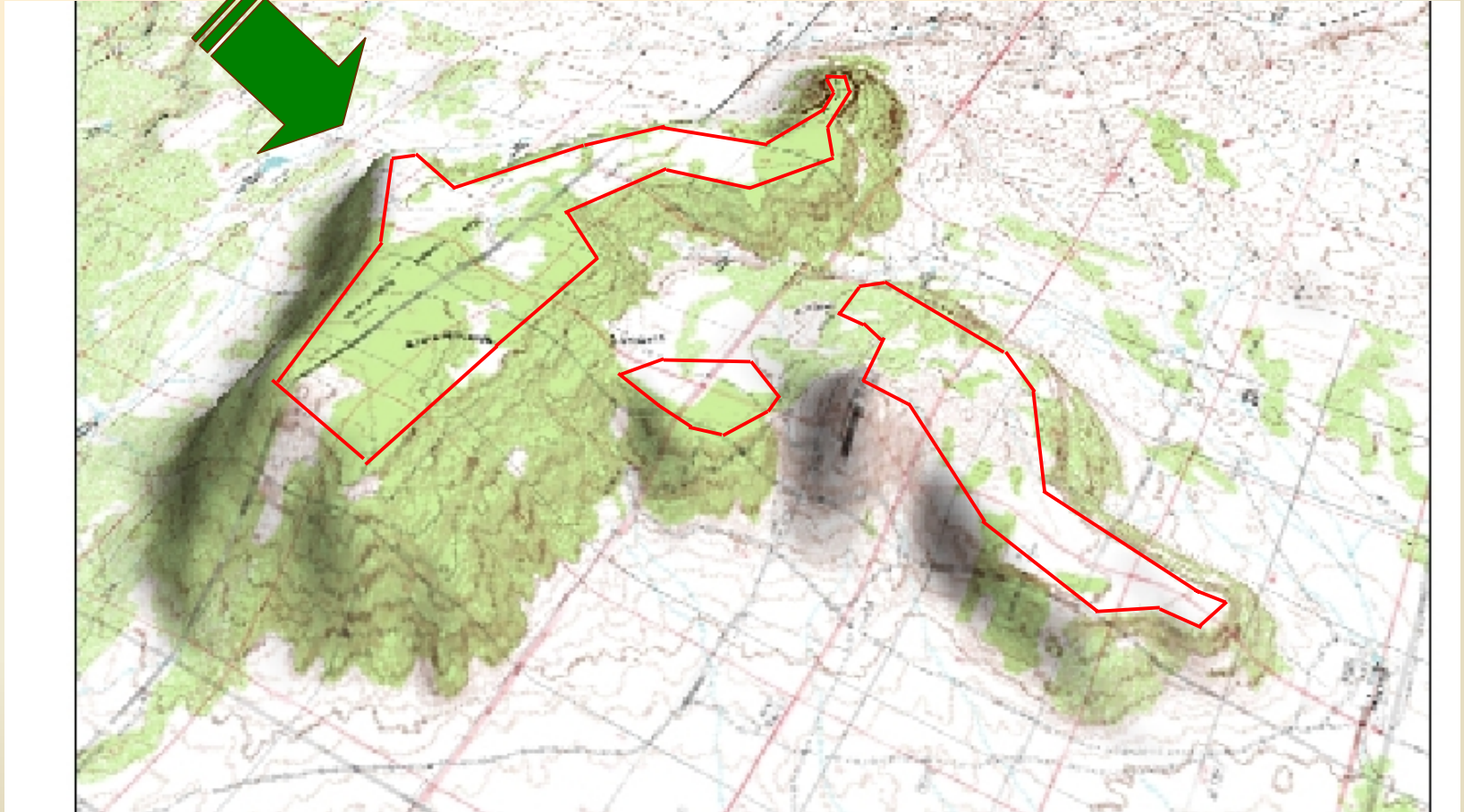


Data Zoom 8-2

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▶ **WEST SUNSET MOUNTAIN**

*Prevailing  
Wind Direction*



**Mesa elevation 300 - 450 feet over prevailing plains**



▶ **EAST SUNSET MOUNTAIN**

*Prevailing  
Wind Direction*



**Mesa elevation 600 - 1100 feet over prevailing plains**



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▶ **PROGRESS TO DATE**

▶ **Wind resource assessment**

- 50m met tower installed in April 2005
- Initial 5 months of data support attractive project economics

▶ **State renewable energy market assessment**

- AZ Corp. Commission has voted to *increase* state's renewable energy requirement from 1.1% by 2006 to 15% by 2025
- Foresight has begun preliminary power marketing activities with target power buyers

▶ **Transmission Studies underway**

- Project is in APS queue for electrical interconnection
- APS is now carrying out joint Feasibility/System Impact Study for the project

▶ **Environmental / Land Assessment started**

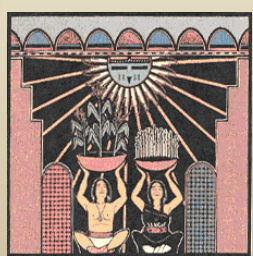
- Phase I biological report is drafted and biological/avian survey work has begun in order to capture part of Fall bird migration at the site
- Foresight is managing third party studies, Hopi Tribal Programs are carrying out on-site survey work and lending their expertise



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▶ **ACTIVITIES STILL TO COMPLETE**

- ▶ **Continue wind resource assessment (install add't 50m and 60m)**
  - County permits secured, installation planned Fall/Winter '05
  - Prove out wind resource and undertake micro-siting
  
- ▶ **Continue and expand Environmental and Land Assessments**
  - On-site Biological and Avian Survey Work (carried out by Hopi Dept of Nat. Resources)
  - Archeological, Cultural, & Historical Studies (by Hopi Cultural Preservation Office)
  - Aviation and military safety review (3<sup>rd</sup> party)
  - Preliminary site construction access and geology review (3<sup>rd</sup> party)
  
- ▶ **Conduct a environmental, economic and cultural benefits assessment**
  - Continue with professional development and capacity building efforts
  - Conduct community awareness outreach
  
- ▶ **Economic Model and Business Structuring**
  - Develop initial financial model and economic pro-forma for the project
  - Establish a suitable preliminary legal and business structure under which the Hopi can effectively pursue development of the project if Feasibility Study determines no adverse environmental impacts
  - Develop a financing option plan and conduct preliminary meetings with industry financiers





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▶ **PATH FORWARD**

- ▶ **Complete DOE funded feasibility work 2006**
- ▶ **If economically viable, continue public outreach and education effort to receive feedback from Hopi people**
- ▶ **Bring project opportunity before Tribal Council for vote whether to continue to move forward**
- ▶ **Potential online date 2007 - 2008**



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▶ **FORESIGHT BACKGROUND**

- ▶ **Foresight Energy Company** - leading renewable energy consulting group founded in 1996, excellent technology, project development, power marketing, analysis and policy skills
- ▶ **Foresight Wind Energy, LLC** formed in 2002 to directly pursue wind project development
  - **Focus:** top utility industry expertise focused on tribal & private wind opportunities
  - **Region:** Southwest market
  - **Relationships:** utilities, state & local governments, landowners, and tribes
  - **Projects:** Over 1000 MW of wind projects under development
- ▶ **Financial backing:** in 2005, secured support of \$75 million green energy fund



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▶ **CONTACT INFORMATION**

▶ **Project Manager**

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