Energy Development Strategies and Considerations

Assistant Secretary – Indian Affairs
Office of Indian Energy and Economic Development
DIVISION OF ENERGY & MINERAL DEVELOPMENT
Mission

Provide the best possible technical and economic advice and services in assisting Indian mineral owners to achieve economic self-sufficiency by creating sustainable economies through the environmentally sound development of their energy and mineral resources.
Who We Are

Division of Energy and Mineral Development

Solid Minerals
- Construction aggregate projects
- Precious metals
- Coal

Renewable Energy and Distributed Generation
- Wind
- Solar
- Biomass
- Hydro

Fluid Minerals
- Geothermal
- Oil
- Natural Gas

Business Development
- Tribal Business Structures
- Good Governance Practices

Programs and Services

- **Energy and Mineral Development Program**
  - Grant program to assess, evaluate and promote development of tribal energy and mineral resources

- **Tribal Energy Development Capacity Program**
  - Grant program to develop tribal managerial, organizational, and technical capacity to maximize the economic impact of energy resource development on Indian land. For more information see: [https://www.bia.gov/WhoWeAre/AS-IA/IUED/DEMD/TEDCP/index.htm](https://www.bia.gov/WhoWeAre/AS-IA/IUED/DEMD/TEDCP/index.htm)

- **Technical Assistance**
  - Technical services to Tribes concerning their energy and mineral resources
  - Liaison between Tribes and Industry
  - Consultation on developing business models on reservations
  - Assist Tribes with negotiation of resource development agreements
Division of Energy and Mineral Development
2016 Active Grant and Technical Assistance Projects

Legend:
- DEMD Office
- Renewable (106)
- Oil & Gas (16)
- Mineral (57)
- TEDC (26)
- Reservation Boundaries
The Average Total Economic Impact per $1 of DEMD Project Funding FROM 2003-2015: $1,442

<table>
<thead>
<tr>
<th>Commodity</th>
<th>Total Economic Contribution (Billions $)</th>
<th>% of Economic Contribution</th>
<th>Total Domestic Jobs Supported</th>
<th>Economic Contribution per Job (Dollars $)</th>
<th>Economic Contribution per Job vs Avg</th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy and Minerals¹</td>
<td>14.66</td>
<td>65.45%</td>
<td>51,695</td>
<td>284,000</td>
<td>126%</td>
</tr>
<tr>
<td>Irrigation Water²</td>
<td>7.41</td>
<td>33.08%</td>
<td>45,212</td>
<td>164,000</td>
<td>73%</td>
</tr>
<tr>
<td>Grazing</td>
<td>0.06</td>
<td>0.27%</td>
<td>718</td>
<td>84,000</td>
<td>37%</td>
</tr>
<tr>
<td>Timber</td>
<td>0.27</td>
<td>1.21%</td>
<td>1,182</td>
<td>228,000</td>
<td>101%</td>
</tr>
<tr>
<td>Total</td>
<td>22.4</td>
<td>100.00%</td>
<td>98,807</td>
<td>226,000</td>
<td></td>
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</table>

¹Does not include sales of renewable energy or sand and gravel on tribal land
²Includes the gross sales of crops

Source – US Department of the Interior Economic Report FY 2015,

In FY 2016, tribal sand and gravel production was associated with about $103 million in value added, about $189 million in economic output, and supported an estimated 834 jobs.
Economic Impact of Tribal Renewable Energy

Tribal renewable energy production was associated with about $100 million in value added, about $171 million in economic output, and supported an estimated 638 jobs.

<table>
<thead>
<tr>
<th>Resource</th>
<th>Installed Capacity Prior to 2016 (MW)</th>
<th>Installed Capacity in 2016 (MW)</th>
<th>2016 Renewable Generation (kWh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hydro</td>
<td>491.77</td>
<td>0</td>
<td>2,589,061,806</td>
</tr>
<tr>
<td>Solar</td>
<td>4.69</td>
<td>253.87</td>
<td>336,685,703</td>
</tr>
<tr>
<td>Wind</td>
<td>51.73</td>
<td>1.80</td>
<td>105,051,125</td>
</tr>
<tr>
<td>Biomass</td>
<td>2.17</td>
<td>0</td>
<td>13,311,988</td>
</tr>
<tr>
<td>Sum</td>
<td>550.36</td>
<td>255.67</td>
<td>3,044,110,622</td>
</tr>
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</table>

TOTAL 806 MW 3,044,110,622
Project Development Strategy

- Develop the resource and the business together
- Integrate with long term economic development plans
- Build tribal capacity to match the development strategy
- Technical assistance throughout project lifecycle
Steps for Generating Effective Development Strategies

1. Identify long term community goals and priorities
2. Identify available resources
   - Energy resources
   - Business resources (investment capital, business capacity, etc.)
3. Evaluate options
   - Iterative process of feasibility studies
Tribal Economic Development through Energy and Mineral Development

Primary reasons behind a Tribe’s desire to develop energy and mineral projects included one or more of the following topics:

- **Enhance Sovereignty**
- **Energy Independence**
- **Environmental Benefits**
- **Economic Impacts**
  - Reduce Energy Costs
  - Generate Revenue
  - Create jobs
  - Energy for new development

**Tribal Consultation**

One project often cannot address all of these topics – so must either:

- assess opportunities and match to goals, or
- prioritize goals and assess opportunities that align with top goal(s).
# Renewable Energy Strategies

Every tribe has renewable energy development potential.

<table>
<thead>
<tr>
<th>Scale</th>
<th>Residential/Commercial</th>
<th>Industrial</th>
<th>Utility</th>
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</thead>
<tbody>
<tr>
<td><strong>Purpose</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Offsetting community</td>
<td>- Supplying energy to local industrial</td>
<td>- Generating and exporting energy to distant users</td>
</tr>
<tr>
<td></td>
<td>energy needs</td>
<td>user</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Fuels production</td>
<td></td>
</tr>
<tr>
<td><strong>Potential</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Economic</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>- Cost savings to</td>
<td>- Energy sales revenue</td>
<td>- Revenue from land lease payments and/or energy sales</td>
</tr>
<tr>
<td></td>
<td>consumers</td>
<td>- Operation jobs</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Energy for businesses on the reservation</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Ancillary revenue and job creation</td>
<td></td>
</tr>
<tr>
<td><strong>Resource/Technology</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Biomass heating;</td>
<td>Biomass; Geothermal; Hydro; Natural Gas</td>
<td>Wind; Solar; Geothermal; Hydro; Biomass</td>
</tr>
<tr>
<td></td>
<td>Geothermal heat pumps; Solar</td>
<td></td>
<td></td>
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</table>
## Oil and Gas Strategies

### Exploration and Well Production for Global Markets

<table>
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<tr>
<th>Strategy</th>
<th>Tribal Ownership</th>
<th>Third Party Lease</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Scope of Activities</strong></td>
<td>- Exploration data collection and drilling&lt;br&gt;- Well operation&lt;br&gt;- Reclamation</td>
<td>- Lease agreement negotiations</td>
</tr>
<tr>
<td><strong>Revenue</strong></td>
<td>- Sales revenue</td>
<td>- Revenue from royalty payments</td>
</tr>
<tr>
<td><strong>Risk to Tribe</strong></td>
<td>High&lt;br&gt;- Exploration costs&lt;br&gt;- Liability</td>
<td>Low&lt;br&gt;- Negotiation costs</td>
</tr>
</tbody>
</table>
Additional Considerations

- Infrastructure availability
- Local policies and standards
- Market forces
  - Current local energy supply mix
  - Power of current utility provider
  - Emerging technologies
  - Industry rivalry
  - Oil Prices (*Supply / Demand; Strength of Dollar; OPEC / NOPEC cuts*)
  - Gas Prices (*Weather; New natural gas power plants; Increase in manufacturing*)
- Risk tolerance
- Tribal capacity (*technical, financial, and business*)
- Alignment with long term development plans
Energy and Mineral Development Program (EMDP)

- **Purpose**: Provides financial assistance and in-house technical support to Tribes for pre-development studies, analysis, and design
- An annual program using a competitive evaluation process to select proposed projects from tribes
- Tribes use this information to:
  - plan where they want development to occur
  - promote their lands to industry partners
  - negotiate the best economically beneficial agreement with partners
  - develop the resource themselves
Tribal Energy Development Capacity Program (TEDC)

Grant program to develop tribal managerial, organizational and technical capacity to maximize the economic impact of energy resource development on Indian land

**Business Entity Formation Activities**
- Develop legal infrastructure for business formation
- Establish tribally chartered corporations under tribal corporation codes
- Establish tribal business charters under federal law (IRA Section 17 Corp)
- Establish Tribal Utility Authority

**Regulatory Activities**
- Developing or enhancing tribal policies, codes, regulations, or ordinances for regulating and developing energy resources
  - Land lease regulations, HEARTH Act
- Adopting secured transaction codes and subsequent joint power agreement with the tribe’s respective state.
## Contact Us!

<table>
<thead>
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