Step 2: Project Options
2 Options

1 Potential

3 Refinement

4 Implementation

5 Operations & Maintenance
Agenda

• Final Site Selection
• Tribal Role Options
  – Business Structure Options
  – Project Role Options
  – Team Members
• Introduction to Financing: Tax Incentives and Up-Front Capital
• Partners and Procurement
• Permitting
• Interconnection and Transmission
FINAL SITE SELECTION
Small Group Exercise

• Review permitting, utility rules and SAM output to choose a single site to pursue
Importance of Choosing the Right Business Structure

- Protect Tribal assets
- Preserve Tribal sovereignty
- Minimize potential liability
- Leads to a successful project

Photo by Brian Hirsch, NREL 20893
Business Structure Options for Tribes

• Tribal government entities
  – Unincorporated instrumentalities
  – Political subdivisions

• Section 17 corporations

• Tribally chartered corporations

• State law entities
  – State law corporations
  – Limited liability companies (LLCs)

• Joint venture
Business Structure: Tribal Government Entities

Option 1: Unincorporated Instrumentalities

**Advantages**
- Easy to form
- Management is centralized
- Not subject to federal income tax
- Same privileges and immunities as Tribal government

**Disadvantages**
- Politics and business are not separated
- Assets and liabilities of the enterprise not separated from governmental assets
- May preclude equity ownership by outside investors

Option 2: Political Subdivisions

**Advantages**
- Exempt from federal income tax
- Retain sovereign immunity
- May issue tax-exempt bonds
- Ability to form a corporate board

**Disadvantages**
- Timely and costly to form the entity
- Not as much flexibility as corporations and LLCs
- May deter certain business partners

Source: Office of Indian Energy & Economic Development 2008
Business Structure: Section 17 Corporations

Tribes can form corporations under Section 17 of the Indian Reorganization Act of 1934

Advantages

• Same privileges and immunity as the Tribal government, including Tribal sovereign immunity
• Separates the assets and liability of the corporation from Tribal asset
• Not subject to federal income tax

Disadvantages

• Lengthy timeline to obtain a corporate charter
• Corporation must be wholly owned by a Tribe
• Example of Section 17 Corp: S&K Technologies, Inc.
  – Environmental restoration
  – Stream channel reconstruction
  – Native plant re-vegetation
  – Civil construction

Source: Office of Indian Energy & Economic Development 2008 and MacCourt 2010
Business Structure: Tribally Chartered Corporations

- Formed by Tribal ordinance or Tribal corporation code
- Must select a name and draft articles of incorporation
- Best utilized to operate on reservation as an arm of the Tribal government
- Example: Ho-Chunk, Inc.
  - Information technology
  - Construction
  - Government contracting

Source: Office of Indian Energy & Economic Development 2008 and MacCourt 2010

Rooftop PV installation on the Forest Country Potawatomi Tribe administration building. Photo from Forest County Potawatomi Tribe, NREL 20107
Business Structure: State Law Entities

State Law Corporations and LLCs (A.K.A. blocker corporations)

Advantages

• Quick and easy to organize
• Familiar to lenders and potential business partners
• Can be used to acquire or merge with an existing state-law entity

Disadvantages

• Subject to federal income tax
• May not issue tax-exempt debt

Source: Office of Indian Energy & Economic Development 2008 and MacCourt 2010

Weather Dancer 1 wind project in Alberta, Canada. Photo from Piikuni Utilities Corporation, NREL 13792
Business Structure: Joint Venture – LLCs or Limited Partnerships

Advantages

- Acquire energy project development expertise
- Secure project financing
- Enjoy benefits of federal incentives (e.g., tax credits)

Disadvantages

- Likely loss of sovereign immunity for the joint venture entity
- Inability to qualify for certain kinds of financing

Source: Office of Indian Energy & Economic Development 2008 and MacCourt 2010
# Evaluating the Options

<table>
<thead>
<tr>
<th>Business Structure Option</th>
<th>Simplicity and Quick Formation</th>
<th>Shield Tribal Assets from Business Liabilities</th>
<th>Avoid Federal Income Taxes</th>
<th>Separate Business from Tribal Control</th>
<th>Ability to Secure Financing</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tribal Instrumentality</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Political Subdivision</td>
<td></td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td></td>
</tr>
<tr>
<td>Section 17 Corporation</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>Tribal Law Corporation</td>
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<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>State Law Corporation</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>LLCs/Joint Venture</td>
<td>☐</td>
<td>☐</td>
<td></td>
<td>☐</td>
<td>☐</td>
</tr>
<tr>
<td>LLC (only if Tribe is sole member)</td>
<td></td>
<td></td>
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</tr>
</tbody>
</table>
PROJECT ROLE OPTIONS
## Key Concept: Tribal Role Options

<table>
<thead>
<tr>
<th>Role</th>
<th>Opportunity</th>
<th>Constraints</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resource/Land Owner</strong></td>
<td>Land rent/royalty, taxes. Low risk, known reward, consistent (small) income.</td>
<td>Limited project control. Must provide site access.</td>
<td>Limited upside potential, limited risk</td>
</tr>
<tr>
<td><strong>Off-taker/Energy User</strong></td>
<td>Only pay if project becomes operational; security.</td>
<td>Only available to Tribes that own utility providers.</td>
<td>Still requires utility interconnection agreement. Med risk.</td>
</tr>
</tbody>
</table>
| **Project Operator/O&M**   | Control and self-determination of project; potential for profits (and losses) is minimal | • Investors require experience  
• Only consider as a new business (act as operator for multiple projects in a portfolio)                                                                                                                                 | • High risk, complex  
• Tribes may be best served by outsourcing                                                                                                                                                           |
| **Lender/Debt Provider**    | Help finance a project (e.g., cash or New Market Tax Credit (NMTC), or Qualified Energy Conservation Bonds (QECBs)) with lower risk | • Requires ready capital  
• May be cost-prohibitive to document and manage a single debt transaction (multiple more cost-effective)                                                                                       | • Med-risk, more complex  
• Requires lending knowledge  
• Option for Tribes with limited lands, lots of $                                                                                                                                                   |
| **Equity Investor/Gen. Owner** | Provide cash, NMTC or QECB for project development.                       | Higher risk than debt lending. Requires ready capital, or unique source of capital that provides market advantage (like NMTC).                                                                               | • High risk, more complex  
• Competes with other investments  
• Option for Tribes with limited lands, lots of $                                                                                                                                                  |
| **Project Developer**       | Self-determination of project; potential for profits (and losses) is highest. Tribes with cash on hand don’t need investors, but could still consider engaging tax equity partners. | • Investors require experience  
• Only consider as a new business (act as developer for multiple projects in a diverse portfolio)  
• Tribes investing money may not want this high risk/return investment                                                                                                                   | • High risk, complex  
• Tribes may be best served by outsourcing  
• A project pipeline/portfolio mitigates some risks                                                                                                                                                    |
TEAM MEMBERS
Potential Team Members

• **Tribal Members**
  – Leadership, staff, community members
  – Attorneys, engineers, professionals

• **Developer**
  – Business managers, engineers, permitting specialists, investors, banks, attorneys, accountants, power marketers, procurement specialists, communications, public relations, government relations, corporate finance, project finance, construction managers, O&M specialists, asset managers, etc.

• **Utility**
  – Engineers, attorneys, planning specialists, operations specialists, regulatory specialists, finance, accounting, public relations, communications, systems operators, construction and field personnel, maintenance and emergency operations, etc.

• **Government**
  – Tribal government, federal, state, local entities, regulating bodies (public utilities commission), Bureau of Indian Affairs, DOE, Federal Energy Regulatory Commission, etc.
Key Success Component

Identify and select an energy “champion” to shepherd the process
Project Champion’s Role

- Ensure all relevant players are engaged in the project at the right time, levels, and roles
- Employ relevant expertise: legal and finance; technical and construction; power marketing
- Engage Tribal leadership, project, and business management (professionals and staff)
Small Group Exercise

• Brainstorm pros and cons of different Tribal roles
Tribe can benefit from tax-equity incentives without being taxable.

Tribes can partner with third-party tax investors and/or developers to gain this incentive/advantage.

- Recent IRS PLR supports Tribal partnerships with third-party tax equity.
- Even with IRS ruling, the Tribe needs capital to build a large renewable project.

Tax incentives (MACRS and either PTC or ITC) can represent up to half the project value, or reduce project’s capital costs by ~50%.

Tribe benefits by offering a more competitive price for energy and RECs from the project to a utility.
**So Why Seek a Tax-Equity Finance Partner?**

- Tax incentives (MACRS and either PTC or ITC) can represent up to half the project value or reduce project’s capital costs by ~50%

- Tax incentives can help to achieve a competitive price of power

- Many projects also require state-level incentives to be economic
Key Concept: Tax-Equity Partnership – Federal Tax Incentives

Internal Revenue Code

• Production Tax Credit (PTC); payment based on kWh produced
  – 10-year, 2.3¢/kWh for wind, geothermal, and closed-loop biomass technologies
  – “Start construction” before 12/31/2014

• Investment Tax Credit (ITC); payment based on % of up-front cost
  – One-time 30% or 10% tax credit (depending on technology) of eligible tax basis
  – “Placed in service” before 1/1/2017

Geothermal eligible for PTC and ITC; can only take one of them

• Cost recovery of plant through depreciation deductions
  – Often called “accelerated depreciation”
  – Officially called Modified Accelerated Cost Recovery System (MACRS)

Need to pay taxes and have enough of the right kind of tax liability to use federal tax incentives
Financial Capital Sources

- Financing structure is highly dependent on capital used for a given project:
  - **Tribal capital**: Tribal investment ($$$) to purchase project equipment
  - **Tribe-private sector capital sharing**: Tribe contributes some resources ($) and partners with third-party capital to leverage tax equity ($$)
  - **Non-Tribe capital**: Developer equity, tax equity, bank debt. Tribe participates in other ways.

- Responsibility to generate capital, collect revenues, and monitor returns will vary according to project structure

- If all framework elements are fully developed and meet market conditions, the project is ready to attract capital
Procurement Process

Commercial-Scale Projects

- Develop and Issue RFP
- Make Selection
- Negotiate Contracts

Potential Project Partners to Procure
- Project Developer
- Engineering Procurement and Construction (EPC) Contractor
- Environmental Permits Contractor
Outline of the RFP Process

• Develop RFP
  – Timeline: 1 month – 1 year (depends on project scale and site complexity)
  – Who creates the RFP: Project leader, contract officer/lawyer, site manager(s), energy manager and technology expert. RFP writers will receive input from utility, Tribal leaders, and stakeholders
  – RFP content

• Issue RFP
  – Tribal networks, federal networks and industry networks

• Administer the RFP
  – Proposal meeting(s)
  – Site tour(s) – can be concurrent with proposal meeting
  – Q&A process – ensure all developers get same information

• Evaluate Criteria
  – Should be a clear process with well defined criteria
  – Evaluation panel recommended to consist of an odd number of members (typically 3 to 7)

• Award Contract
  – Four approaches
Develop RFP

Key Elements of the RFP

☐ Type of procurement:
  o Purchase
  o PPA
  o Other finance structure

☐ Technical specification (scope of work)

☐ Criteria for evaluating proposals: 3–5 of most important project aspects
  o Proposed project solution that meets specified criteria
  o System performance guarantee
  o Developer experience, track record and customer satisfaction
  o Developer financial health/longevity
  o Maintenance plan
  o Reasonable timelines
  o Other
Develop RFP (continued)

Key Elements of the RFP

☐ Description of RFP administration process
  o Typically 2–5 months
  o Key dates: proposal meeting(s), sites visit(s), proposal due date
  o Description of how questions will be handled and answered

☐ Defining responsible parties
  o Who is responsible for permits
  o Who is responsible for interconnection agreements
  o Who is responsible for applying for incentives

☐ Any preferences on parties allowed to submit proposals
  o Small business
  o Minority-owned
  o Other

☐ Land use agreements
  o Address site access and land use issues as relevant to ownership model
Technical Specifications

Define Scope of Work

• What is the project scale
• Type of RE technology
• Site information:
  – Location
  – Interconnection requirements as known
  – Applicable codes and standards
  – Roof structure, soils, other (as applicable and available)
  – Site prep: fencing, roads, grading limitations, etc.
  – Installation requirements: min/max heights of equipment, vegetation mitigation, design standards for structural/electrical

• Equipment minimum standards and warranties
• Expected minimum performance (recommended) or capacity
• Commissioning plan
Evaluation Criteria

Two Typical Approaches

• Best value:
  - Typically 3–5 criteria with weighting based on importance
  - Score proposal on each criteria
  - Somewhat subjective and can lead to contentious, time-consuming evaluations but good method to capture best value

• Low price, technically acceptable
  - Proposals initially stripped of pricing/cost information
  - First evaluation determines proposals that meet technical hurdle
  - Technically acceptable proposal with lowest cost gets award
  - More transparent process but may not capture best value
Choose One of These Four Typical Approaches

• Award based on proposal
  – Awarded solely on merits of proposal

• Award with discussion
  – Awarded on proposal but contingent on clarifying discussions

• Award with discussion and negotiation
  – Awarded on proposal but contingent on further negotiation

• Award with best proposal
  – Best proposals are short-listed
  – Short-listed proposals asked for best final proposal revision
  – Award based on final proposal revision
Post-Procurement

Project Gets Built

Project Gets Commissioned

Ongoing Monitoring and Maintenance
Summary: Project Procurement and Implementation

• Procurement strategy will vary depending on the project scale and financing solution selected
• Increasingly more complex for larger projects
• Post procurement issues are critical as these are very long term assets and relationships
Permitting

• Permitting Example – City Level
• Permitting Example – Federal Level
• Permitting Checklists and Guide Examples
• Hiring a Consultant
• Common Missteps and Caveats
What is Interconnection?

“The technical rules and procedures allowing customers to ‘plug in’ to the grid.”

Common Interconnection Elements

• Application
• Designated interconnection utility representative
• Generator size thresholds
  – Different tracks for generators of certain sizes
  – Fast-track procedure for systems smaller than a certain size (generally ~2 MW)
  – Technical screens, feasibility studies, etc., for larger, more complex systems
• Timelines for each step
• Standard agreement between utility and customer
### Database of State Incentives for Renewable Energy

**Check DSIRE:** [http://dsireusa.org](http://dsireusa.org)

<table>
<thead>
<tr>
<th>Name</th>
<th>State/Territory</th>
<th>Category</th>
<th>Policy/Incentive Type</th>
<th>Created</th>
<th>Last Updated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Business Energy Investment Tax Credit (ITC)</td>
<td>US</td>
<td>Financial Incentive</td>
<td>Corporate Tax Credit</td>
<td>03/15/2002</td>
<td>05/13/2015</td>
</tr>
<tr>
<td>Residential Energy Conservation Subsidy Exclusion (Personal)</td>
<td>US</td>
<td>Financial Incentive</td>
<td>Personal Tax Exemption</td>
<td>03/05/2002</td>
<td>02/16/2015</td>
</tr>
<tr>
<td>Residential Energy Conservation Subsidy Exclusion (Corporate)</td>
<td>US</td>
<td>Financial Incentive</td>
<td>Corporate Tax Exemption</td>
<td>03/05/2002</td>
<td>04/24/2015</td>
</tr>
<tr>
<td>Renewable Electricity Production Tax Credit (PTC)</td>
<td>US</td>
<td>Financial Incentive</td>
<td>Corporate Tax Credit</td>
<td>03/11/2002</td>
<td>04/13/2015</td>
</tr>
<tr>
<td>Energy Efficient Mortgages</td>
<td>US</td>
<td>Financial Incentive</td>
<td>Loan Program</td>
<td>03/21/2002</td>
<td>06/24/2015</td>
</tr>
<tr>
<td>USDA - Rural Energy for America Program (REAP) Grants</td>
<td>US</td>
<td>Financial Incentive</td>
<td>Grant Program</td>
<td>04/09/2003</td>
<td>08/08/2015</td>
</tr>
</tbody>
</table>
Database of State Policies for Renewable Energy

Check DSIRE: http://dsireusa.org

Filter Options

<table>
<thead>
<tr>
<th>Name</th>
<th>State/Territory</th>
<th>Category</th>
<th>Policy/Incentive Type</th>
<th>Created</th>
<th>Last Updated</th>
</tr>
</thead>
<tbody>
<tr>
<td>Net Metering</td>
<td>CO</td>
<td>Regulatory Policy</td>
<td>Net Metering</td>
<td>12/16/2004</td>
<td>06/01/2015</td>
</tr>
<tr>
<td>Interconnection Standards</td>
<td>CO</td>
<td>Regulatory Policy</td>
<td>Interconnection</td>
<td>12/20/2005</td>
<td>08/20/2014</td>
</tr>
<tr>
<td>Federal Appliance Standards</td>
<td>US</td>
<td>Regulatory Policy</td>
<td>Appliance/Equipment Efficiency Standards</td>
<td>06/30/2006</td>
<td>05/21/2015</td>
</tr>
</tbody>
</table>
Sample Interconnection Agreement

http://xcelenergy.com/staticfiles/xe/Marketing/Files/NM-Small-Program-%20Interconnection-Agreement.pdf
Interconnection and Transmission

• Required Agreements
• General Process for Interconnection
• How to Find Utility Rules on Interconnection
• Common Missteps and Caveats
Small Group Exercise

• Utility scavenger hunt! Identify the interconnection rules and process for your identified utility and project size
### Commercial-Scale Project Risks – Post Step 2

<table>
<thead>
<tr>
<th>Risks</th>
<th>Risk Assessment Post Step 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Development</strong></td>
<td></td>
</tr>
<tr>
<td>• Poor or no renewable energy resource assessment</td>
<td>Finalized resource</td>
</tr>
<tr>
<td>• Not identifying all possible costs</td>
<td>Reduced</td>
</tr>
<tr>
<td>• Unrealistic estimation of all costs</td>
<td>Reduced</td>
</tr>
<tr>
<td>• Community push-back and competing land use</td>
<td>Reduced</td>
</tr>
<tr>
<td><strong>Site</strong></td>
<td></td>
</tr>
<tr>
<td>• Site access and right of way</td>
<td>Reduced</td>
</tr>
<tr>
<td>• Not in my backyard (NIMBY)/build absolutely nothing anywhere (BANANA)</td>
<td>Reduced</td>
</tr>
<tr>
<td>• Transmission constraints/siting new transmission</td>
<td>Reduced</td>
</tr>
<tr>
<td><strong>Permitting</strong></td>
<td></td>
</tr>
<tr>
<td>• Tribe-adopted codes and permitting requirements</td>
<td>Reduced</td>
</tr>
<tr>
<td>• Utility interconnection requirements</td>
<td>Reduced</td>
</tr>
<tr>
<td>• Interconnection may require new transmission, possible NEPA</td>
<td>High risk, reduced</td>
</tr>
<tr>
<td><strong>Finance</strong></td>
<td></td>
</tr>
<tr>
<td>• Capital availability</td>
<td>High risk, reduced</td>
</tr>
<tr>
<td>• Incentive availability risk</td>
<td>Reduced</td>
</tr>
<tr>
<td>• Credit-worthy purchaser of generated energy</td>
<td>Reduced</td>
</tr>
<tr>
<td><strong>Construction/Completion</strong></td>
<td></td>
</tr>
<tr>
<td>• EPC difficulties</td>
<td>Low; allocate to EPC or developer</td>
</tr>
<tr>
<td>• Cost overruns</td>
<td></td>
</tr>
<tr>
<td>• Schedule</td>
<td></td>
</tr>
<tr>
<td><strong>Operating</strong></td>
<td></td>
</tr>
<tr>
<td>• Output shortfall from expected</td>
<td>Assumed low, mitigable, or allocatable</td>
</tr>
<tr>
<td>• Technology O&amp;M</td>
<td></td>
</tr>
<tr>
<td>• Maintaining transmission access and possible curtailment</td>
<td></td>
</tr>
</tbody>
</table>

Sources: Adapted from Holland & Hart, RE Project Development & Finance & Infocast, Advanced RE Project Finance & Analysis

NOTE: Underlining signifies that the risk assessment outcome changes during the step at hand.