

DOE OFFICE OF INDIAN ENERGY

Strategic Energy Planning



U.S. DEPARTMENT OF
ENERGY

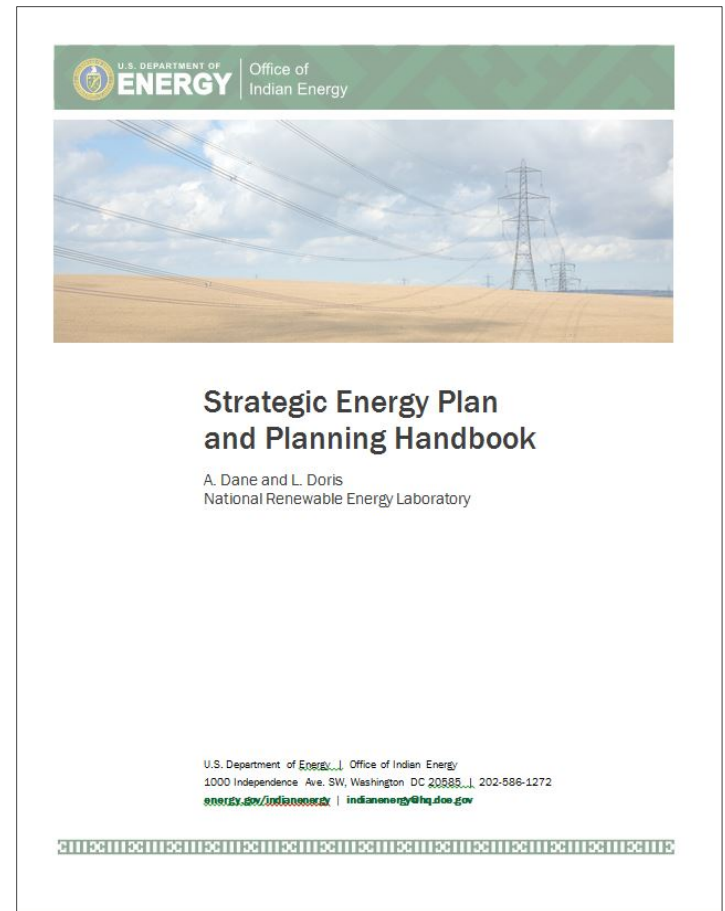
Office of
Indian Energy

Presentation Agenda

- Strategic Energy Planning
 - Strategic Energy Planning (SEP) Workbook
 - What is it?
 - The process
 - The plan
- Activity

Strategic Energy Plan and Planning Handbook

- Provides a step-by-step process that Tribes may wish to use as a road map for discussion and decisions related to strategic energy planning and energy project prioritization
- Includes blank text boxes for communities to input their own information and outcomes from energy planning discussions.



energy.gov/indianenergy/downloads/tribal-strategic-energy-plan-and-planning-handbook

What Is Strategic Energy Planning?

And what does it do for you?

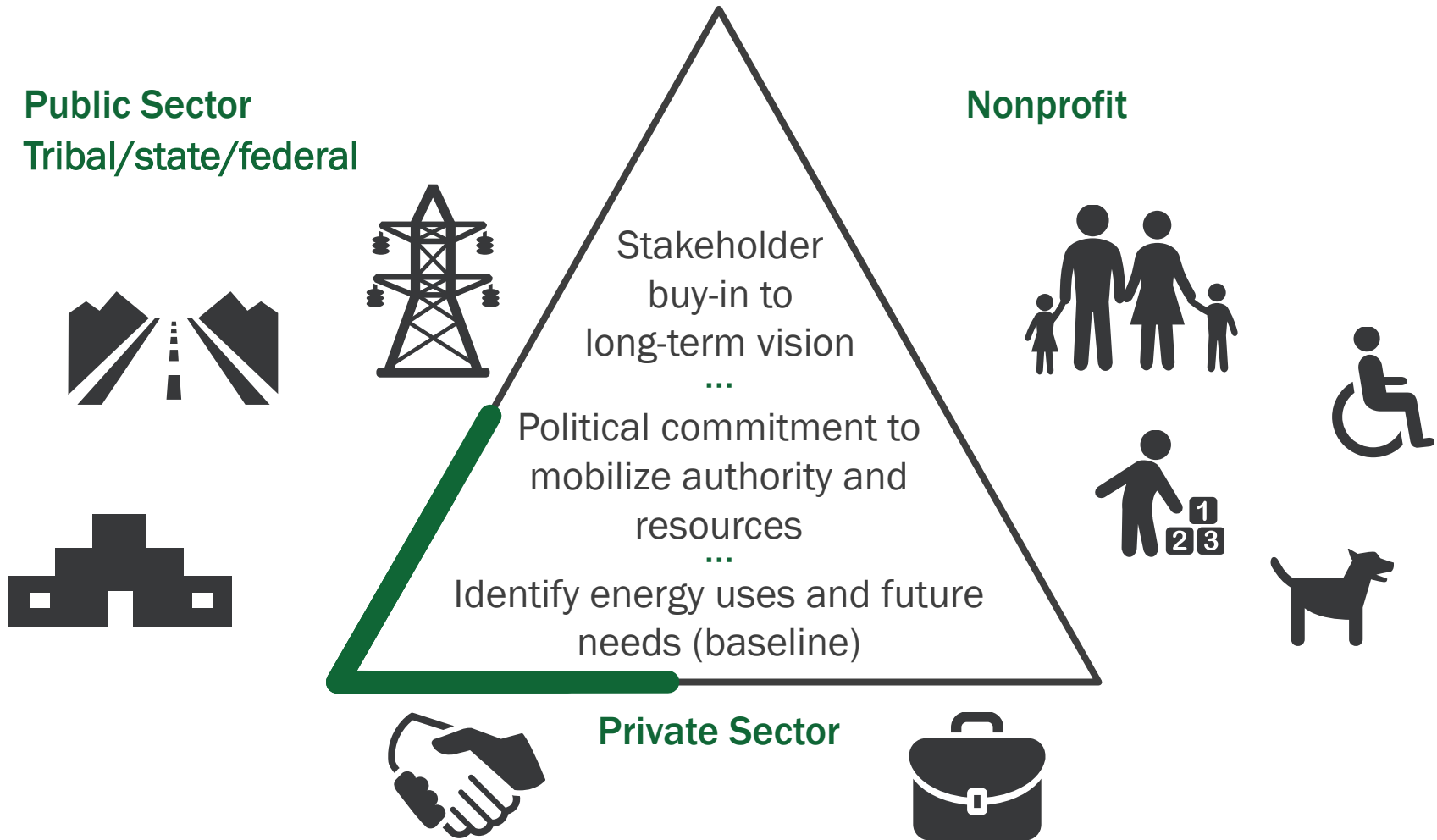


- Brings desired energy future into clear focus
- Considers current reality and leverages local resources
- Considers hurdles/challenges before you reach them
- Maps out efficient path to achieve your desired energy future
- Clarifies progress indicators
- Documents the game plan for short- and long-term success

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What Makes Energy Planning “Strategic”?

Inclusive Energy Planning Process

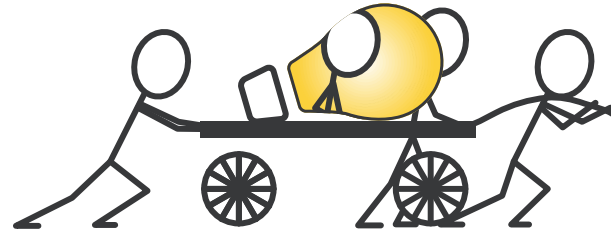


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Strategic Energy Planning: Leadership Team



vs.



Not just people with the “right” idea, but those committed to the long-term task with personal and political influence

✓ Include

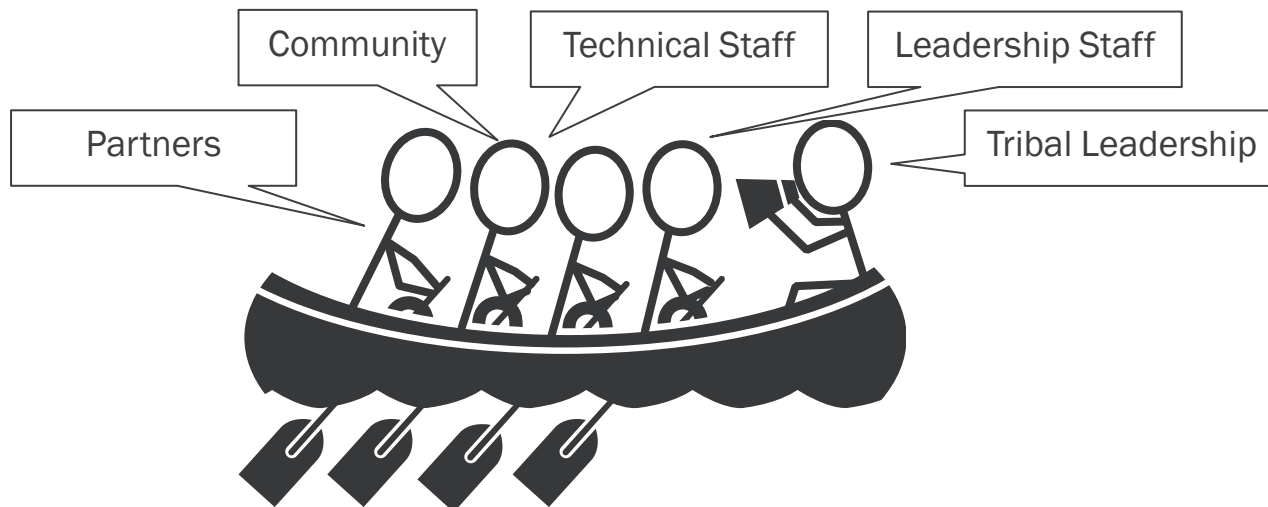
- Individuals with authority to direct resources
- Individuals with a passion for the “destination”
- Individuals with influence in the community and administrative abilities to keep the project alive
- Individuals with the technical ability
- Individuals who can “tell the story”

✗ Avoid

- Exclusively political appointees
- Exclusively technical staff
- Exclusively implementers

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Planning Is Coordinated and Collective Action



Proper planning and strategic energy plan development helps stakeholders:

- Direct action
- Sustain momentum
- Motivate involvement
- Reduce/minimize reactive decision-making
- Go the distance

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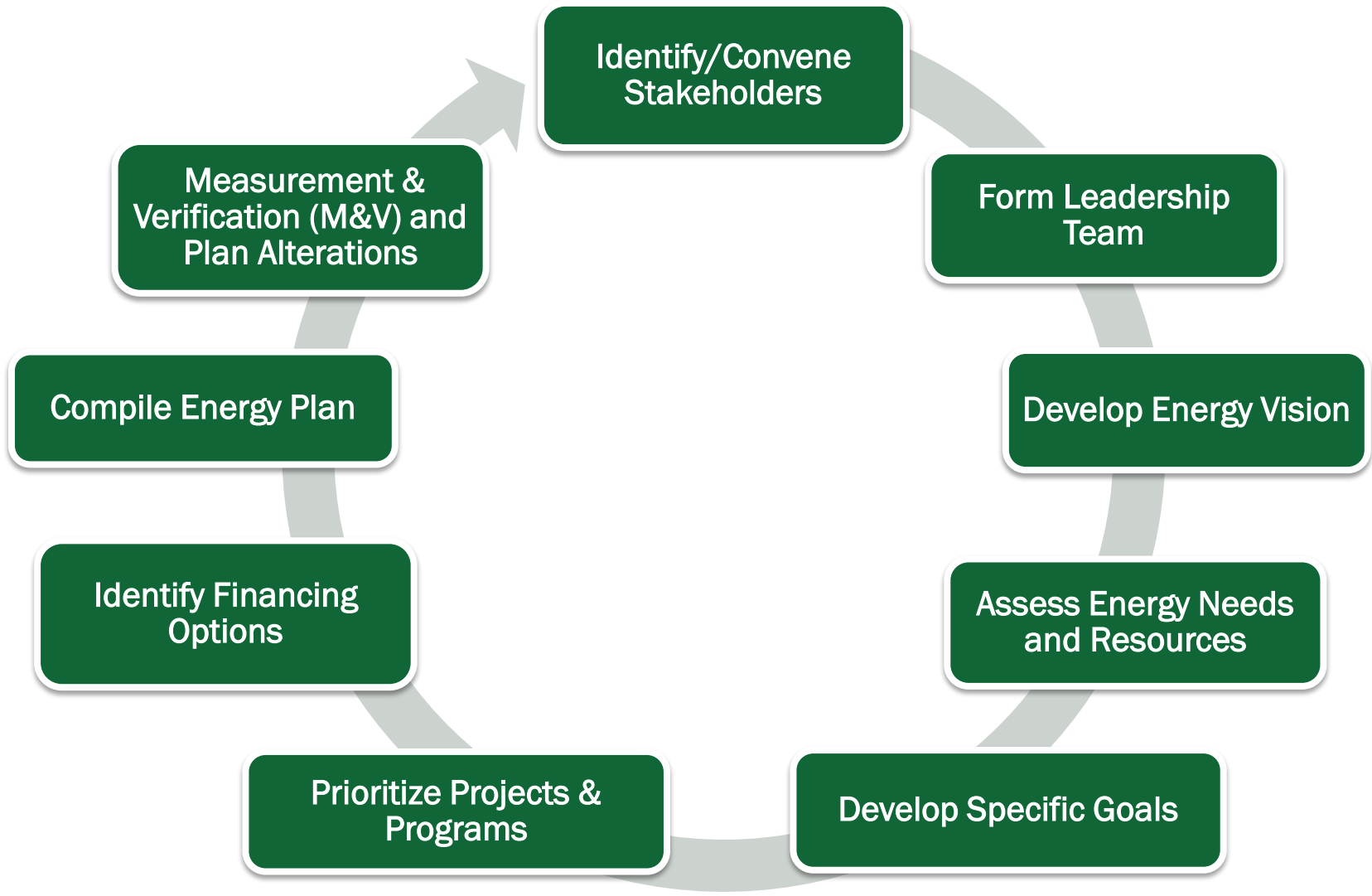
Why Does Strategic Energy Planning Fail?



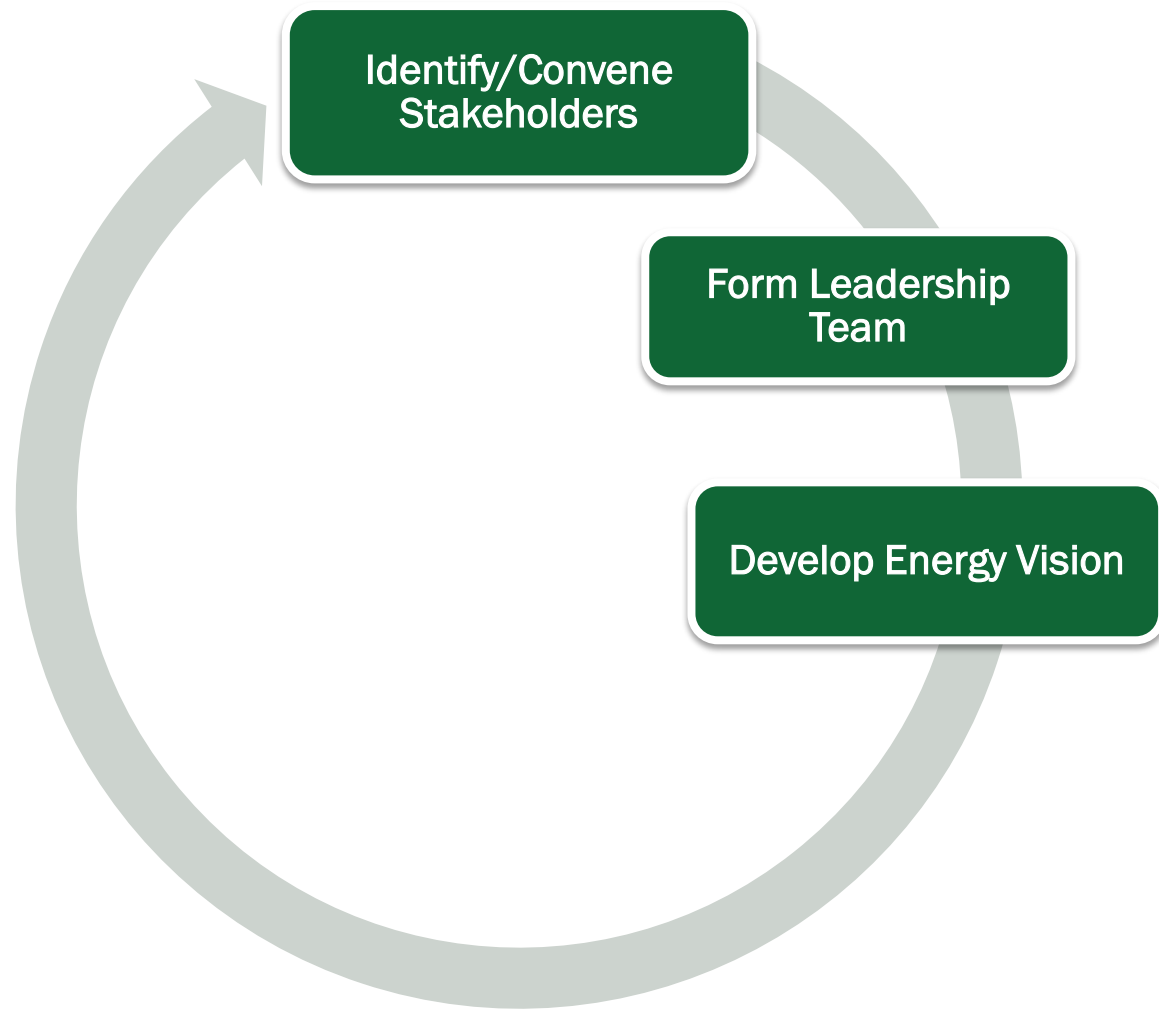
- Short-sighted predictions of the situation, timeline
- Unrealistic predictions of resources
- Uncoordinated implementation
- Narrow ownership
- Failure to follow the plan
- Poor, or casual, communication

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Steps in Strategic Energy Planning



Strategic Energy Planning: First Steps



First Steps: Identify and Convene Stakeholders

- Tribal members
- Tribal council
- Tribal government
- Tribal utilities
- Tribal enterprises
- Large energy users
- Local utilities

**Key success component:
Identify and select an energy
“champion” to shepherd the process**

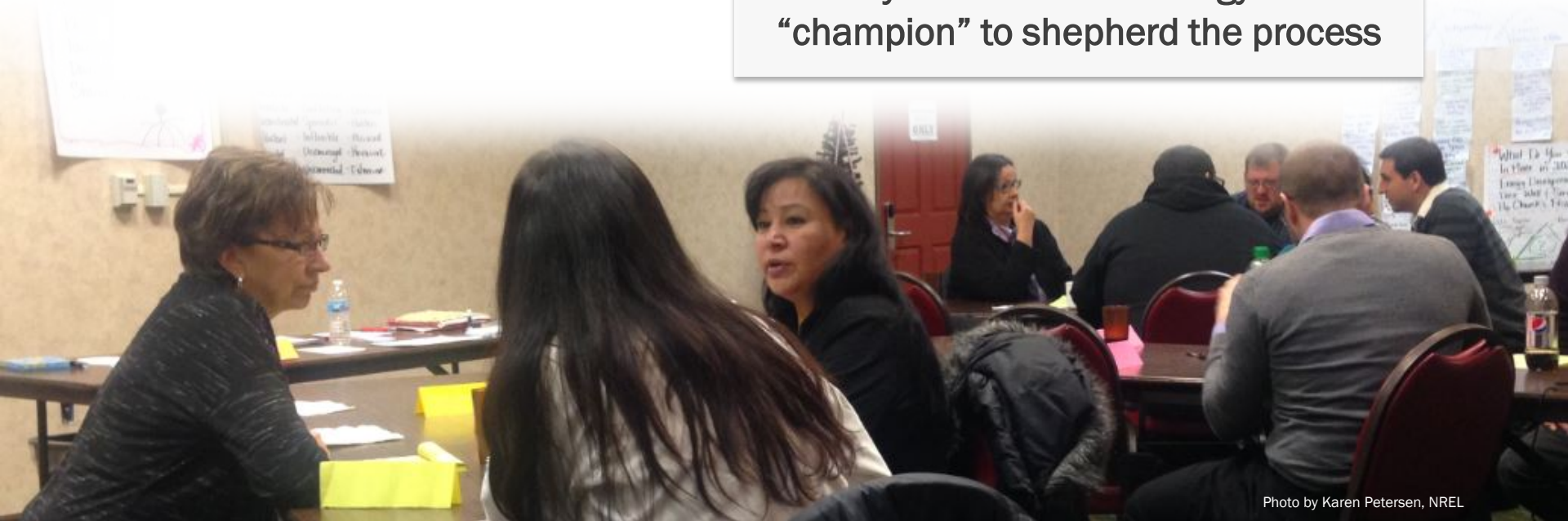


Photo by Karen Petersen, NREL

Activity

- Identify Key Stakeholders

Case in Point: Tribal Roles

Akwesasne Housing Authority/St. Regis Mohawk Tribe, NY

- Applied for help with strategic energy planning through DOE's technical assistance program
- Initial strategic energy planning workshop was held in January 2015 in Florida
- While productive, the Tribe realized that not all of the right people were in the room to participate in developing the plan, which is critical for community buy-in
- The Tribe applied for and was selected to receive additional technical assistance from DOE for a follow-on strategic energy planning workshop with additional attendees from the Tribe, which was held at the Akwesasne Mohawk Casino Conference Center June 2–4

January 2015 Workshop Invitees/Attendees

	Tribal Division/Entity	Role	Job Title
1.	Akwesasne Housing Authority	Housing Administration	Executive Director
2.	Akwesasne Housing Authority	Housing Finance/Administration	Finance Director
3.	Akwesasne Housing Authority	Housing, Construction	Operations Manager
4.	Akwesasne Housing Authority	Housing, Construction Planning	Operations Planner
5.	Akwesasne Housing Authority	Housing Services	Housing Services Manager
6.	Akwesasne Housing Authority	Housing Government	Commissioner of Housing
7.	Akwesasne Housing Authority	Housing Government	Commissioner of Housing
8.	Akwesasne Housing Authority	Special Housing Projects	Special Projects Coordinator
9.	St. Regis Mohawk Tribe	Tribal Government	Tribal Sub-Chief
10.	St. Regis Mohawk Tribe	Infrastructure	Director of Infrastructure & Planning
11.	St. Regis Mohawk Tribe	Tribal Special Projects	Capital Projects Manager
12.	St. Regis Mohawk Tribe	Economic Development (invited)	Economic Development Planner
13.	St. Regis Mohawk Tribe	Environment (invited)	Director of Environment
14.	St. Regis Mohawk Tribe	Environment (invited)	Air Quality Program Manager
15.	Beardsley Design Associates	A & E	AHA's Chief Design Architect
16.	Beardsley Design Associates	A & E	AHA's Project Engineer

June 2015 Workshop Invitees

	Tribal Division/Entity	Role	Job Title
1.	Akwesasne Housing Authority	Housing Administration	Executive Director
2.	Akwesasne Housing Authority	Housing Finance/Administration	Finance Director
3.	Akwesasne Housing Authority	Housing Construction	Operations Manager
4.	Akwesasne Housing Authority	Housing Construction Planning	Operations Planner
5.	Akwesasne Housing Authority	Housing Services	Housing Services Manager
6.	Akwesasne Housing Authority	Housing Services	Housing Services Advocate
7.	Akwesasne Housing Authority	Housing Services	Housing Financing
8.	Akwesasne Housing Authority	Housing Government	Commissioners of Housing (7)
9.	Akwesasne Housing Authority	Special Housing Projects	Special Projects Coordinator
10.	St. Regis Mohawk Tribe	Tribal Government	Tribal Chiefs (3)
11.	St. Regis Mohawk Tribe	Tribal Government	Tribal Sub-Chiefs (3)
12.	St. Regis Mohawk Tribe	Tribal Administration	Tribal Administrator
13.	St. Regis Mohawk Tribe	Legal	General Counsel
14.	St. Regis Mohawk Tribe	Finance	Finance Director
15.	St. Regis Mohawk Tribe	Education	Director of Education
16.	St. Regis Mohawk Tribe	Health	Director of Health Services
17.	St. Regis Mohawk Tribe	Health	Assistant Director of Health Services
18.	St. Regis Mohawk Tribe	Health Critical Care – Outreach	Manager of Outreach
19.	St. Regis Mohawk Tribe	Infrastructure	Director of Infrastructure & Planning
20.	St. Regis Mohawk Tribe	Tribal Special Projects	Capital Projects Manager

June 2015 Workshop Invitees cont.

	Tribal Division/Entity	Role	Job Title
21.	St. Regis Mohawk Tribe	Economic Development	Director, Economic Dev
22.	St. Regis Mohawk Tribe	Economic Development	Economic Development Planner
23.	St. Regis Mohawk Tribe	Environment	Director of Environment
24.	St. Regis Mohawk Tribe	Environment	Assistant Director of Environment
25.	St. Regis Mohawk Tribe	Environment	Air Quality Program Manager
26.	St. Regis Mohawk Tribe	Compliance	Director of Compliance
27.	St. Regis Mohawk Tribe	Grants/Contracts Management	Grants & Contracts Manager
28.	St. Regis Mohawk Tribe	Emergency Services	Emergency Planning Manager
29.	St. Regis Mohawk Tribe	Senior Services	Office of the Aging Director
30.	St. Regis Mohawk Tribe	Social & Human Services	Director of Social Services
31.	St. Regis Mohawk Tribe	Police Services	Chief of Police
32.	St. Regis Mohawk Tribe	Human Resources	HR Director
33.	St. Regis Mohawk Tribe	Tribal Records	Records Department Manager
34.	St. Regis Mohawk Tribe	Family Services	Manager of Each Program Area (9)
35.	St. Regis Mohawk Tribe	Communications	Director of Communications
36.	Mohawk Indian Housing Corp.	Housing	Director of Housing
37.	Akwesasne Museum	Cultural & Archives	Museum Manager
38.	Akwesasne Library	Library Services	Library Manager
39.	Akwesasne Boys & Girls Club	Youth Services	Director of AB&GC
40.	Beardsley Design Associates	A & E	AHA's Chief Design Architect
41.	Beardsley Design Associates	A & E	AHA's Design Engineer

First Steps: Form a Leadership Team

Draw from the stakeholders:

- Tribal council member(s)
- Tribal government executives
- Tribal member representative(s)
- Tribal enterprise leader(s)



Photo by Dennis Schroder, NREL

First Steps: Develop an Energy Vision

Common objectives include:

- Increase and ensure energy reliability
- Minimize environmental impacts
- Diversify energy supply
- Use local, renewable resources
- Strengthen, support economic development
- Build workforce/jobs
- Ensure energy affordability
- Generate revenue for Tribe
- Energy security/self-sufficiency
- Off-grid electrification
- Save money (offset energy costs)
- Keep money in Tribe
- Stabilize energy costs for Tribe and tribal members.



Photo by Karen Petersen, NREL

Energy Vision Example: Blue Lake Rancheria, CA

Ultimately achieve 100% self-sufficiency through renewable energy Rancheria-wide.

Initiatives to achieve this include:

- Blue Lake Hotel Energy Model (First in CA, 17% energy reduction)
- Energy Efficiency Programs
- CasinoGreen Program™
- Low-flow Plumbing
- Economizers on Air Conditioners
- Upgraded 100% HVAC to High- efficiency Standards and Ratings
- Timely Filter Replacements
- Insulated Windows
- All Lighting (bulbs, fixtures) Compliant with Current U.S./California Energy Code
- All New and Replacement Lighting is LED (wherever possible)
- Insulation Compliant with California Building Code
- Recycling Program (70+ tons/year)
- Biodiesel Transit (2014)
- Energy Audits
- Renewable Energy Feasibility
- Waste to Energy Feasibility
- Drought-resistant Landscaping



Blue Lake Rancheria Vice Chairperson Aria Ramsey and Energy Director Jana Ganion at the Tribe's biomass-to-fuel cell power plan. Photo from Jana Ganion, NREL 32766

Source: <http://www.bluelakerancheria-nsn.gov/govLawEnergyTech.html>

Energy Vision Example: Forest County Potawatomi, WI

Ultimately reduce the Tribe's carbon footprint to zero while leading energy strategy initiatives, which support and promote the efforts of others working to reduce their own carbon footprints.

Accomplishments toward this goal to date include:

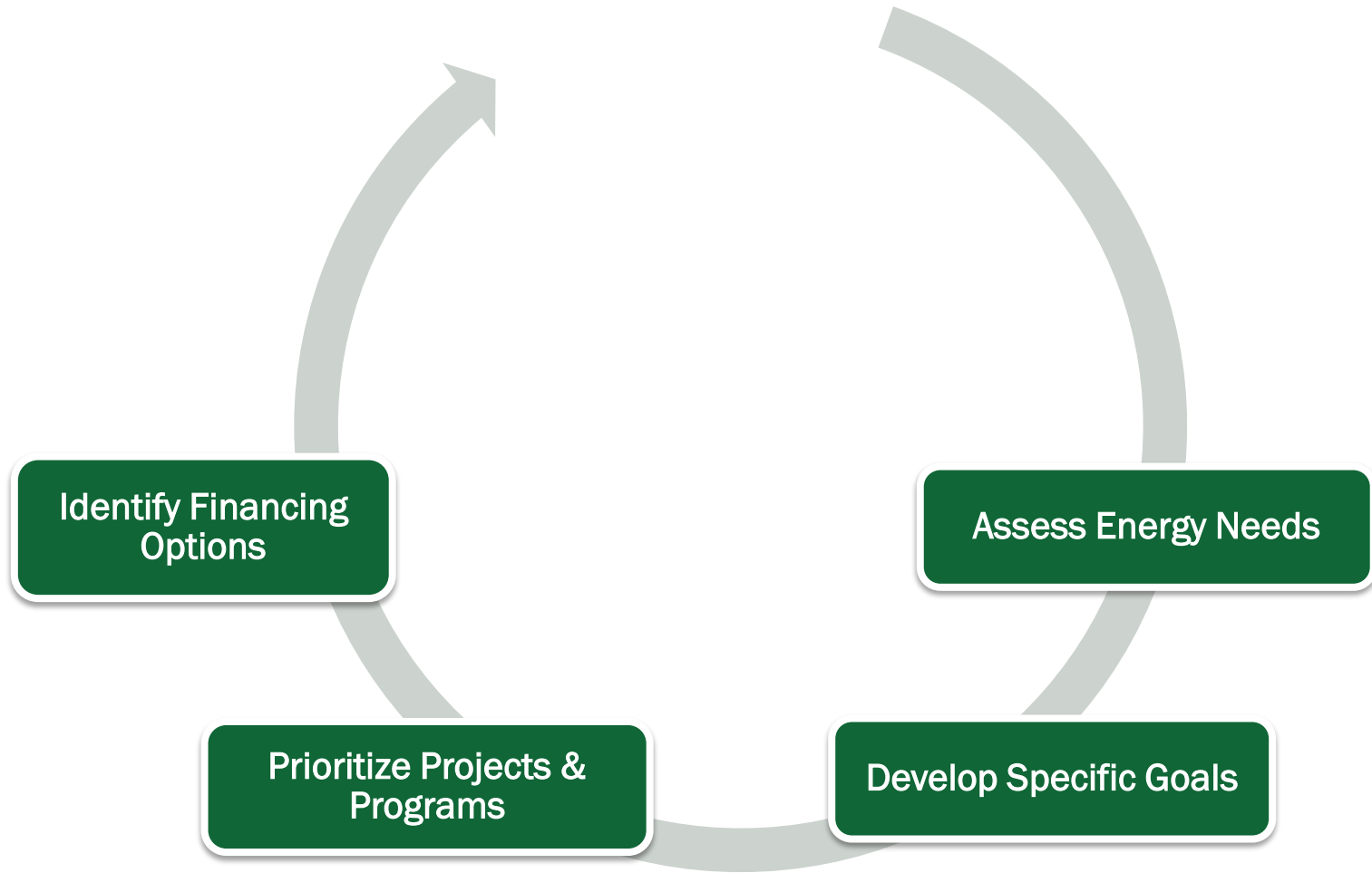
- A 30-kilowatt (kW) rooftop solar photovoltaic array that powers the Tribe's administration building in Milwaukee
- A 2-megawatt anaerobic digester and biogas generation facility that converts food waste into electricity to power 1,500 homes
- An LED lighting project at the Tribe's parking facilities that reduced electricity use by more than 47%
- Energy efficiency upgrades to the Tribe's historic Wunder Hall building, which now houses the Tribe's economic development center, expected to save the Tribe more than 50% on energy costs
- Energy audits of the Tribe's Carter Hotel and Casino to identify potential energy and money-saving upgrades.



The Forest County Potawatomi Tribe's 30-kW solar PV system on the roof of its administration building in Milwaukee, WI. Photo from the Forest County Potawatomi Tribe, NREL 20107.

Source: <http://energy.gov/indianenergy/articles/forest-county-potawatomi-recognized-renewable-energy-achievements>

Strategic Energy Planning: Priorities & Decisions



Priorities & Decisions: Assess Energy Needs

Document the community baseline:

- Determine energy use by “sector” including government, residential, school, commercial
- Use available tools:
 - Energy audits
 - EPA Portfolio Manager (non-residential buildings)
- Forecast future load
 - New housing
 - New government facilities
 - New/expanded enterprises
- Verify current service providers and rates for electricity, gas, propane, wood, and others



Photo by Alex Dane, NREL 22724

Priorities & Decisions: Develop Specific Goals

Examples:

- Reduce electricity use by ___% by 2022
- Obtain ___% of electricity from renewable sources within 10 years (similar to a renewable portfolio standard or RPS)
- Reduce energy costs by ___% within 5 years



Photo by Karen Petersen, NREL

Priorities and Decisions: Prioritize Projects and Programs

- Develop a ranking system to understand cost-effectiveness of different projects
- Best practice models:
 - Total resource cost
 - Model considers life-cycle benefits for projects
 - Levelized cost of energy
 - Allows comparison across different technologies
- Tribal energy policy/program examples:
 - Incentives to reduce energy use
 - Incentives to promote renewable energy
 - Sustainable/green building codes, standards, or other requirements or guidelines



Photo by Bob Gough, NREL 15954

Priorities and Decisions: Identify Financing Options

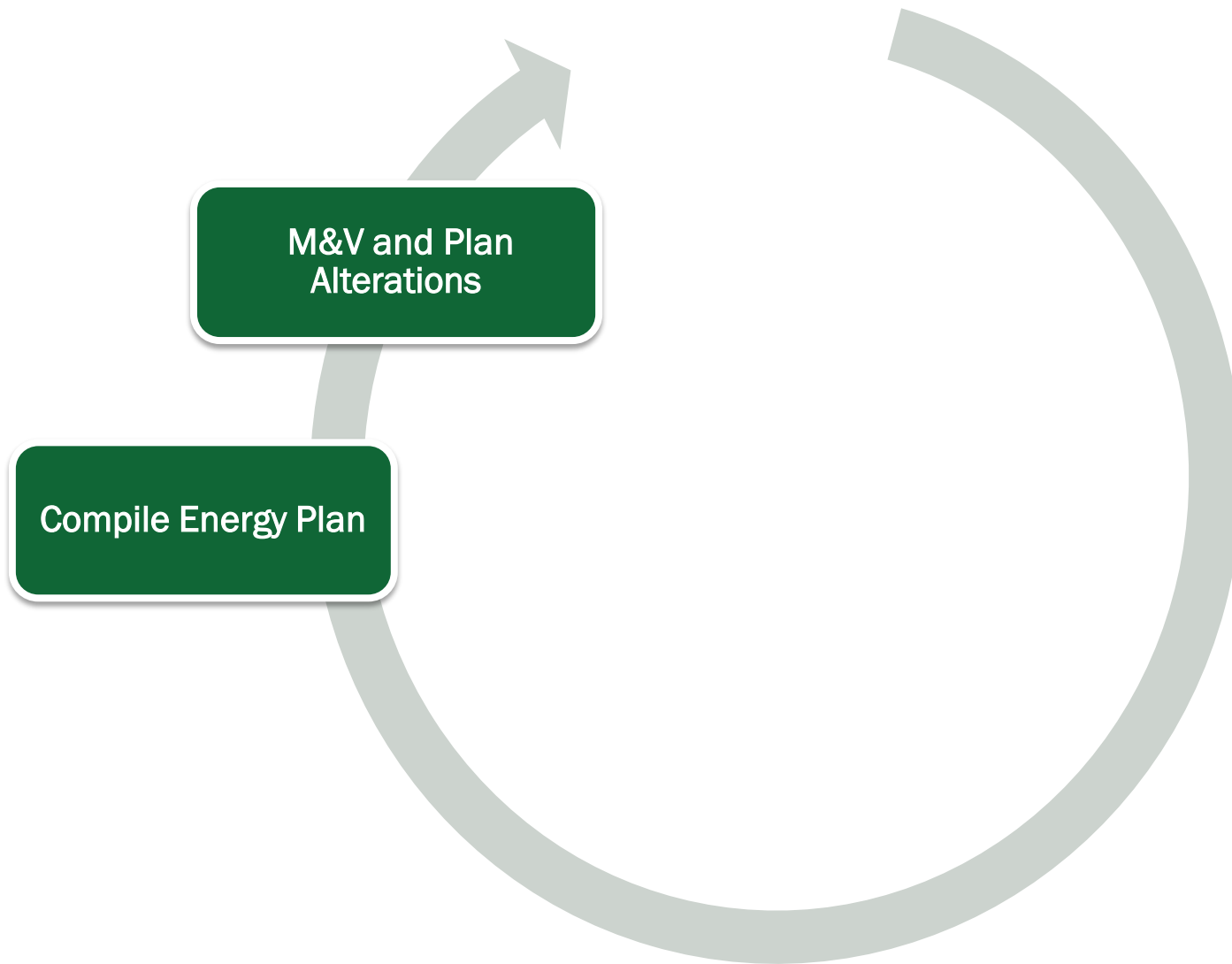
Secure planning and project funding sources:

- Tribal funding (energy.gov/indianenergy/fedprograms)
- DOE Technical Assistance (TA) Program
- Other federal agency TA and grant programs
- State programs
- Non-governmental organizations (NGOs)



Photo by Alex Dane, NREL

Strategic Energy Planning: Energy Plan



Energy Plan: Purpose and Functions

Purpose

- Document near-term goals
- Sustain momentum
- Achieve long-term goals

Functions

- Creates “road map” to hold accountability to the destination
- Provides the means to consistently share the story with others
- Creates resources to help guide and filter priorities, providers, and decisions

Energy Plan: Components

Include:

- Vision
- Objectives
- Goals
- Baseline
- Barriers
- Program/project options
 - Demand side
 - Generation
- Recommendations
- Adoption by Tribal Council



Photo by Paul Dearhouse, NREL 24503



STRATEGIC ENERGY PLANNING CASE IN POINT



Tribal Case in Point: How Did It Work?

Ho-Chunk Nation, WI

Provided Tribe with a preliminary report that:

- Established a community energy baseline
 - Identified available renewable energy resources
 - Outlined energy efficiency and infrastructure considerations
 - Presented a high-level market/economic overview
 - Surveyed the policy landscape
- Provided a preliminary assessment of the Tribe's best opportunities from a resource and economic perspective



Tribal Case in Point: How Did It Work? (Cont.)

Facilitated an on-site Community Energy Planning Workshop

- **Day 1: Historical Review and Current Reality**
 - Document community energy experiences and expectations
 - Discuss tribal values, priorities, energy goals
 - Identify recurring obstacles and challenges
 - Establish consensus-based energy vision
- **Day 2: Strategy Development**
 - Technical resource presentations (National Renewable Energy Laboratory)
 - Small group strategy sessions to prioritize actions for energy development, establish 12-year focus, articulate innovative strategies
- **Day 3: Implementation**
 - Brainstorm strategies/tactics for overcoming obstacles
 - Develop 3-month agenda for building support for tribal energy vision
 - Establish 1-year timeline of specific actions for mobilizing strategies

Tribal Case in Point: How Did It Work? (Cont.)

Delivered final report documenting:

- **Key drivers for energy development**
 - Energy independence: Socially responsible standards to govern energy development
 - Energy efficiency and cost savings: Diverse power generation and efficient, affordable energy practices for homes and businesses nationwide
 - Sustainability: Energy-focused education, training, and jobs
- **Decisions and strategies**
 - Open new opportunities and pierce through obstacles—launch stakeholder engagement and education campaign
 - Build critical mass and support for energy development—research existing energy facilities and benchmark successful practices; integrate and implement energy program initiatives
 - Support long-term stability and viability of energy development—create policies, codes mandating energy efficiency; designate responsibility and oversight for energy development

Activity

- Strategic Energy Planning Key Questions/Considerations