U.S. DEPARTMENT OF ENERGY | Office of Indian Energy

Alaska Strategic Energy Plan and Planning Handbook

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DOE/IE-0028 ● August 2013

Printed with a renewable-source ink on paper containing at least 50% wastepaper, including 10% post consumer waste.

List of Acronyms and Abbreviations

AEA	Alaska Energy Authority
ANSCA	Alaska Native Settlement Claims Act
Btu	British thermal unit
DOE	U.S. Department of Energy
EERE	Office of Energy Efficiency and Renewable Energy
kW	kilowatt
kWh	kilowatt-hour
LCOE	levelized cost of energy
NSEDC	Norton Sound Economic Development Corporation
NREL	National Renewable Energy Laboratory
REAP	Rural Energy for America Program
START	Strategic Technical Assistance Response Team
SWOT	strengths, weaknesses, opportunities, threats
USDA	U.S. Department of Agriculture
VAGP	Value-Added Grant Program

Acknowledgments

This report is made possible by and at the direction of the U.S. Department of Energy Office of Indian Energy Policy and Programs (DOE Office of Indian Energy). This document was developed as part of the DOE Office of Indian Energy Strategic Technical Assistance Response Team (START) Program. The National Renewable Energy Laboratory (NREL) would like to thank our colleagues at NREL who reviewed this report for accuracy: Dan Beckley and Brian Hirsch. We would also like to thank our external partners at the DOE Office of Indian Energy, who provided insights throughout the report's development: Director Tracey LeBeau and Deputy Director Pilar Thomas. Finally, we would like to thank Rachel Sullivan and Stacy Buchanan with the NREL Communications Office for providing editorial and graphics support.

Some of the source material for this document came from NREL's *Community Greening: How to Develop a Strategic Plan*, which can be downloaded at www.nrel.gov/tech_deployment/pdfs/community_greening.pdf.

About the DOE Office of Indian Energy

The DOE Office of Indian Energy was established by Congress to provide federally recognized Tribes and Alaska Native entities with technical and financial assistance to encourage, facilitate, and accelerate energy and energy infrastructure development in Indian Country.

In direct response to the requests of Tribes and Alaska Native villages, the DOE Office of Indian Energy has designed key programs to supply tribal leaders and their staffs with the knowledge needed to make informed energy decisions—decisions with the power to help:

- Stabilize energy costs
- Enhance energy security
- Strengthen tribal energy infrastructure
- Promote tribal self-determination.

By providing reliable, accurate information, quality training, and expert technical assistance, the DOE Office of Indian Energy seeks to empower Tribes with resources, skills, and analytical tools that bolster decision making and increase capacity to advance the next generation of energy development in Indian Country.

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What is the Alaska Strategic Energy Plan and Planning Handbook?

The Alaska Strategic Energy Plan and Planning Handbook is a tool for Alaska Native villages and communities to use in achieving energy goals in both the near- and long-term. This Handbook intends to help Alaska Native leaders and community members define their unique energy goals and priorities through stakeholder input, dialog, and consensus-building. It provides a step-by-step process, which Alaska Native villages and communities may wish to use as a roadmap for discussion and decisions related to strategic energy planning and energy project prioritization. The steps outlined in the Handbook include blank text boxes; these are provided for communities to input their own information and outcomes from energy planning discussions. A benefit of using the Handbook in this manner is that the information entered is automatically compiled into a cohesive summary, in effect establishing the community's strategic energy plan. The inclusiveness of this planning process intends to cultivate broad community buy-in, promoting the likelihood that the energy goals and priorities established last over time and can stand alone or be incorporated into part of a Native community's economic development plan, sustainability plan, climate action plan, or master plan.

Such a planning effort can serve as the framework of a sustained and thoughtful approach to local energy use into the future. It can create opportunities to integrate energy, environmental, economic development, and community interests in the same way that a business might create a vision and a business model around sustainability.

Developing an energy plan for your community is good planning and sound business practice. It involves developing a comprehensive understanding of current energy use and costs, provides insight into efficiency and conservation strategies already underway, and reveals valuable opportunities to further reduce energy costs through new programs and activities moving forward.

In this Handbook you will find:

A step-by-step process for Alaska Native villages and community leaders to use in developing a strategic energy plan—a roadmap toward achieving shared energy goals in their communities.

What are the benefits of a strategic energy plan?

In recent years, American Indian and Alaska Native Tribes have become much more aware of the many benefits of energy planning. Having an energy plan in place—developed to meet identified objectives—clearly spells out your community's priorities. These may include:

- Cost savings for village members
- Potential revenue from renewables
- A stronger economy
- Greater energy independence and security
- Local influence over energy facility siting
- More energy efficient communities
- Healthier communities
- A cleaner environment
- Regional tribal coordination and collaboration
- A chance to demonstrate leadership

Community priorities can provide valuable guidance in times when tough decisions need to be made amid tightening budgets, natural disasters, or changing regulations. In addition, having a strategic energy plan in place positions your community to be ready for new opportunities as they arise.

The planning process is also an effective way to engage the community in a discussion of shared concerns and values and for community members to prepare for the future. Asking community members and stakeholders for their input, setting goals in collaboration, and engaging all stakeholders in choosing the best and most practical steps to accomplish these goals can be a very rewarding endeavor and a great opportunity to build community and community member capacity.

What does it look like? Does this apply to me?

Yes! The strategic energy plan process can benefit all types of villages, regardless of their size, financial resources, energy environment, or level of previous planning. Strategic energy plans can be brief documents used to inform decisions in tribal and utility planning, or they can be detailed guidebooks with goals, implementation plans, measurement and verification procedures, and reporting requirements. Plans can focus solely on energy use within village buildings, facilities, and fleets; or they can encompass activities for the entire community, coordinated with existing utility, private sector, regional, and state activities.

When should I start? How long does it take and what kind of investment will it require?

The initial strategic energy planning can take between several months to one year to complete, depending on the objectives and the breadth of the plan, the extent of stakeholder engagement, and previous planning experience. Launching a planning process while you have federal funding or other support in hand can enhance your community's ability to implement initial activities, programs, and practices that enable a transition to a sustainable, long-term approach that operates independently of federal financial assistance.

The largest investment needed for the planning process itself is time—community members and leaders will need to devote enough time to make the plan inclusive and thoughtful. Typically, there is no single funding source for projects identified and prioritized within a strategic energy plan; but, in most cases, it is helpful to have a designated tribal contact for writing and proposing grant applications for project funding and financing.

How to use the Alaska Strategic Energy Plan Handbook

This guide provides an overview of community energy planning for Alaska Native communities, using a step-by-step approach to develop the plan. This method has a high chance of success, because it is based on community member and stakeholder buy-in and tribal leader commitment. Not all communities will need to follow all steps, nor follow them in the exact order presented, but the process is designed to incorporate a broad range of relevant parties, maximize solution-based thinking, and develop an actionable plan that can be carried out by community leaders.

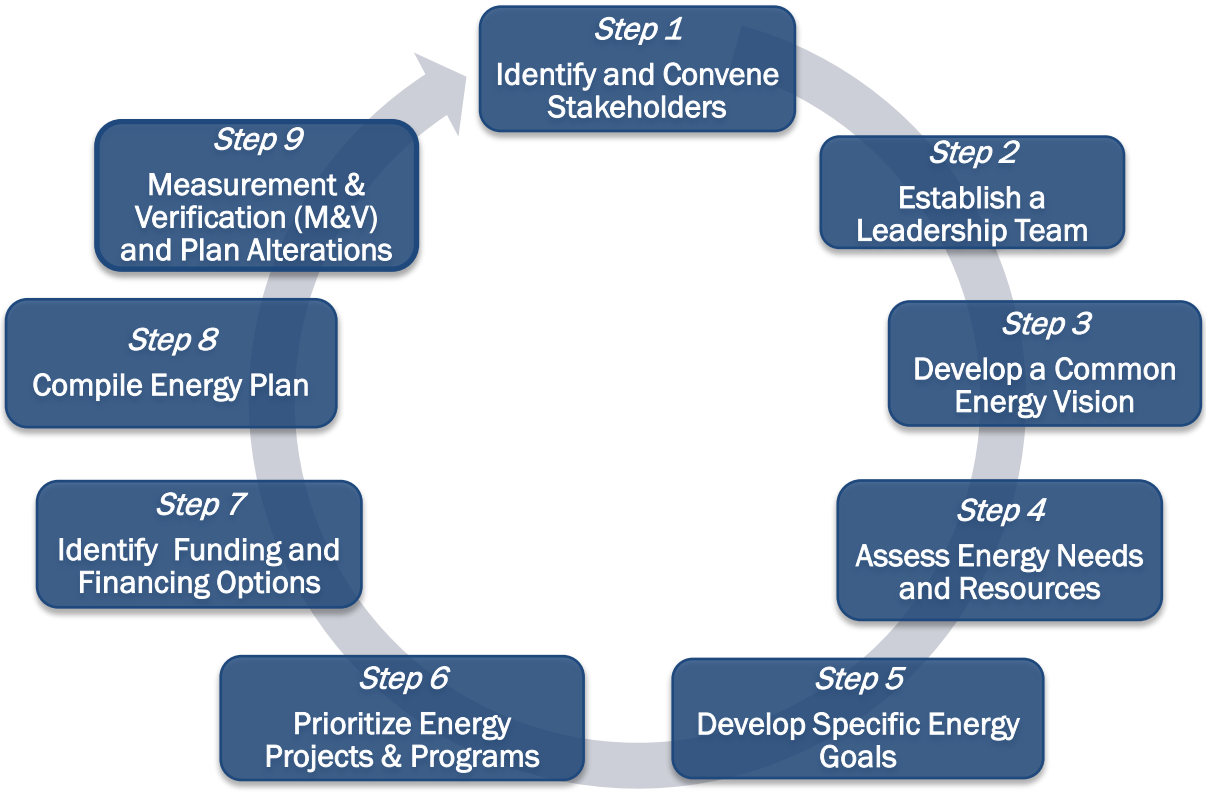
As an extension of this Handbook, the DOE Office of Indian Energy has developed an online webinar on strategic energy planning available at www.nterlearning.org (search "Indian Energy"), as well as an Energy Resource Library that provides links to helpful tools and resources to assist Tribes in the actual processes outlined here.

Strategic Energy Planning Process

The basic cycle for the development of an effective strategic energy plan is illustrated in the figure below. This step-by-step approach will lead you through a process developed from experience with community, city, state, and tribal energy planning. The process is represented as a continuous cycle, indicating that, even once you have a completed plan in place, revisiting, revising, and updating the plan is a valuable exercise.

Each step in the strategic energy planning process is discussed in more detail below. There are some activities, however, that are not limited to particular steps but should be in place at the beginning and integrated throughout the planning project, including:

- Secure a champion of the strategic energy planning process; having top-down commitment is critical
- Network with other Alaska Native villages, communities, and organizations to learn about plans, practices, and opportunities for collaboration
- Communicate activities to your community often. Consider using interactive Web-based features, including a community planning website and regularly scheduled community meetings.



STEP 1: Identify and Convene Stakeholders

Stakeholder and key community member engagement is central to the development of the strategic energy plan. This outreach should include representation of all those who generate, control the sale of, sell, or use energy. It is important to consider the following stakeholders.

- **Local utility representatives:** Utility involvement in the process is important because the utility has the most access to the customer (the consumer), as well as institutional memory and unique knowledge of the energy system's opportunity and limitations. They will prove invaluable as you collect data on energy usage. They may also provide essential program implementation and help in securing funding. Utility buy-in to changes in the status quo is invaluable to the effectiveness of any proposed implementation.
- **Community leaders:** Leadership representation and support from government leaders such as tribal or village council, chairman/chairwoman, school district board members, and decision makers from multiple agencies provides confidence in the process, increases participation interest, and can improve quality implementation. In the end, the agencies are the locations where the majority of the plan will be carried out, so participation, understanding, and buy-in to the process is critical.
- **Local facilities managers:** These represent the on-the-ground users of energy with practical information on the community's practices and infrastructure, and they can help identify strategies and actions that can save taxpayers money by making government operations more energy efficient.
- **Community businesses and industry:** The community's energy users often have constraints that must be considered to maintain and grow economic development through a strategic energy plan. This especially applies to Alaska Native corporations at the village and regional level. Some may also serve as very effective champions for energy efficiency and renewable energy.
- **Regional intertribal organizations:** Regional intertribal organizations can provide insight and resources to assist various regional interests.
- **Community members:** While recognizing that organizations that represent many people will likely have a more powerful voice; individual residents should be welcomed at the discussion table as well. Input and reactions from residents can be very useful in identifying potential implementation challenges. Include homeowner associations, neighborhood representatives, community activists, low-income advocates, and senior tribal members.
- **State- or regional-level administrators with an energy focus:** Other public administrators can provide information on energy programs that exist at the state and regional levels. Whatever strategies you choose to adopt, it is important to keep in mind that they will be implemented within the context of existing statewide energy strategies.
- **School districts:** These represent large energy users and also often provide excellent sources of insight and enthusiasm for the process.

Step 1 is important because:

You are proposing to spend public money for public benefit. You need to get buy-in from **stakeholders**. These people will tell you important things about energy use and current activities.

Stakeholder engagement is a critical undertaking to developing an effective and enduring plan. It can be the longest and most time-intensive step. Identify and include the stakeholders who *must* be engaged for this to work, rather than all who would be *nice* to have engaged. When identifying stakeholders, having a balanced representation is also important for success. Ensure that both extreme and moderate viewpoints are represented in your stakeholder group to get the most representative outcome.

Tip: *Develop an "organizational chart" or graphic of the stakeholders involved and how they relate to each other. While strategic energy plans do not always complete this step, it can be an effective tool to have on hand. It can help the leadership team identify and engage all of the right stakeholders and governing bodies. This can be an effective means of demonstrating the breadth of interests and support around the strategic energy plan to potential partners and funding sources.*

Consider using some or all of the following to gather input across your stakeholder groups:

- Workshops/Open Houses
- Surveys/Questionnaires
- Public Displays
- Informational Campaigns
- Interviews and Focus Groups
- Websites and Social Networking
- Attending *Their* Meetings

Effective engagement requires open, informed dialogue. Ideally, this leads to tribal member buy-in and the recognition that the process and outcomes were designed by and for the community. Stakeholder meetings can focus on introducing the planning project or gaining support of key stakeholders. Be sure to engage every stakeholder to solicit their cooperation, and encourage them to share what they have already accomplished in terms of energy efficiency, conservation, and sustainability. Good facilitation is key—take extensive notes and check in often with participants so they can validate your understanding of their points and feel they have been heard.

Tip: *This outreach effort is often supported by a village planning budget or general funds, or perhaps by grant funds. You may find inexpensive help with meeting administration and facilitation from regional intertribal organizations, nongovernment organizations, graduate students, or interns from local colleges.*

Handbook Activity-Step 1: Identify and Convene Stakeholders
Identify and list those who generate, control the sale of, sell, or use electricity, gas, and heating fuel within the community or region

Stakeholder	Name/Title	Organization	Contact Information
Local utility representative(s)			
Village leaders			
Village facility managers			
Village corporation			
Community businesses and industry			
Alaska Native Settlement Claims Act (ANSCA) Native Association			
Alaska Native Regional Corporation			
Community members			
State- or regional-level administrators with an energy focus			
Colleges, universities, and other large institutions			

STEP 2: Establish a Leadership Team

No successful strategic energy plan has ever been accomplished without effective leadership to drive the process and provide continuity across many diverse stakeholder and interests. This leadership ideally has a few active advocates:

- Champion: An executive-level authority that will champion the process
- Plan Advocate: At least one on-the-ground advocate to drive the process on a daily basis
- Leadership Team: A cross-cutting group of stakeholders to provide broader support and visibility.

These roles may be held in a number of different configurations—the structure outlined here is not a requirement—but having clear and visible leadership and the ability to motivate others to keep the process underway is vital.

Champion: Any successful community energy program must have a top-down commitment to reduce energy consumption. The energy planning process should have a highly visible, executive-level sponsor, or other influential member(s) of the community. This component of the leadership team is a political or management designation—it provides executive sponsorship and the sustained vision throughout the planning process. If a village lacks a champion for energy issues, it can be difficult to implement recommendations. Many communities assign energy issues to an internal department, such as the planning department. Relying solely on one departmental assignment may not result in the broad-based support needed to carry this effort forward.

Plan Advocate: Just as important is a day-to-day advocate who is prepared to spend the time necessary to organize and communicate the energy planning effort. This person can be a volunteer from tribal council or another committed party or member within the village. This person's persistence will be critical to the success or failure of the energy planning effort—they must also be, in effect, a champion of the process. This role will likely require a great deal of administrative and management work, as well as good communication skills, as the responsibility for coordinating most of the activities outlined in the following steps will fall to this role.

Leadership Team: In addition to these critical individuals, designating a formal leadership team will drive the process more effectively. It is necessary to choose a team that has the power to make decisions, direct the funding resources, and promote the strategic energy plan throughout the process. It is important to match who will be involved with the depth of planning activities, for instance:

- If the planning effort is focusing on tribal and village operations, this leadership team may be set up at the leader and facility manager level
- If the planning effort seeks to include community-wide activities and projects, the leadership team may be set up as a broader Energy Planning Task Force, Sustainability Advisory Board, or Energy Advisory Board.

Step 2 is important because:

A **leadership team** has the power to make decisions, direct funding resources, and promote the project throughout the process.

If possible, including a few active tribal advocates may lend transparency to the process, encourage buy-in, and expand the realm of ideas incorporated into the plan. This is an opportunity to form teams that build bridges across villages and beyond to accomplish community-wide energy goals.

The visibility of this team is also very important, as they will be the public face of the process and will be charged with developing pride in the process and the outcome.

Tip: *As you engage stakeholders and get to know the players in the community and the Tribe, you may find "hidden stars," or individuals who have, on their own, been quietly taking action to drive efficiency or renewable energy projects in their sphere. Take advantage of the passion you find and recruit them to serve on your committees!*

Once leadership has made a visible commitment, other communities are more likely to feel empowered to participate actively in the planning process and to develop practical implementation measures that lead to diesel oil reduction and energy savings.

Tip: *The members of the leadership team should be prepared to have an "elevator speech" ready at all times. They will be called upon to talk to countless community members about the plan and its value, so having a consistent message is important to a successful process.*

Handbook Activity-Step 2: Form Leadership Team
Identify those who will be tasked with making decisions, directing the funding resources, and promoting planning and energy project development in the long term

Role and Strategic Purpose	Name	Organization	Contact Information
Champion: Elected leader(s) that support(s) the planning process			
Plan Advocate: Coordinator that manages the planning process and activities			
Leadership Team Member:			
Leadership Team Member			
Leadership Team Member			

STEP 3: Develop a Common Energy Vision

A primary purpose of the planning process is to clearly articulate the community's long-term vision and goals with regard to its energy future and to lay out the means with which the community will achieve those aspirations. Having a clear vision of what you hope to accomplish keeps subsequent discussion focused on the issues that matter most to your community. Developing a common vision with input from key community members and across the stakeholder group helps assure that the broader community agrees with and will support the actions that follow.

Step 3 is important because:

A well-articulated **energy vision** provides the motivation for action and the focus for choices encountered throughout the process.

The energy vision illustrates what your community's energy landscape will look like if your strategic plan is 100% successful. Energy planning can lead to a host of diverse benefits for communities. Identifying the top priorities for the village help develop a unified vision, as well as narrow the types of energy activities and projects that will fit the community's needs. Some examples of common energy-related priorities are to:

- Assure affordable and reliable energy
- Reduce infrastructure redevelopment and maintenance costs
- Strengthen economic development
- Build workforce and job skills
- Minimize environmental impacts
- Diversify energy supply
- Use local resources
- Save tribal member money
- Support community engagement

Establishing a stakeholder consensus on community energy priorities allows the planning process to move forward with the development of an energy vision. Well-designed vision statements include a short, broad sentence or set of sentences that can guide an overall process but not get caught up in details. The vision statement should be outcome-focused and express not only quantitative measures but anything that articulates the desired state of the community's energy structure and use or the potential outcomes from energy performance improvement. It will be most effective if it is general enough for all members of the community to rally around, but also specific enough to guide concrete goals and subsequent activities. Here are some examples of vision statements:

"To provide electric, natural gas, water, wastewater treatment and related services at competitive prices, while contributing to the economy of the Navajo Nation, consistent with the improvement of the health and wealth of the residents of the Navajo Nation, and the employment of the Navajo people."
Navajo Tribal Utility Authority

"To provide affordable and environmentally safe energy for local residents and businesses for the purpose of economic self-sufficiency."
Hopi - Hopit Potskwaniat

"The purpose for which the Utility is organized is to provide an entity through which the Tribe may exercise all natural gas utility, electrical utility, other energy utility, water and sewer utility, telecommunications utility, and mineral use and development functions for the benefit of the Tribe, and to regulate all such utility matters of third parties on the Reservation."
Cow Creek Band of Umpqua Tribe of Indians, Tribal Legal Code, Title 300

"The Fort Mojave Tribal Council hereby finds and declares that the creation of AMPS is necessary and desirable in order to promote the development of the Tribe's resources, to promote the prudent economic vitality of the Reservation and surrounding communities, to protect the health and welfare of tribal members, and to provide employment and training opportunities for tribal members."

Aha Macav Power System (AMPS), the tribal utility for the Fort Mojave Indian Tribe

Discovering shared priorities among village members and leaders is important to accomplish. This information, which can be gathered during your stakeholder meetings, will provide a starting point for the visioning process and can help communicate a common message about where the community stands on energy planning issues. Be sure to circulate drafts of the vision statement among key stakeholder representatives to solicit their feedback before finalizing. The leadership team should be prepared to make the vision statement a highly visible public statement in order to drive the success of the planning project.

Handbook Activity-Step 3: Define Energy Priorities & Develop Energy Vision Provide energy priorities and define the energy vision	
Energy Priority	
Energy Priority	
Energy Priority	
Energy Vision Statement:	

STEP 4: Assess Energy Needs and Resources

An effective strategic plan needs to build upon what has already been accomplished in the community before establishing goals and actions for the future. In addition, your energy plan will be carried out in the context of your state, regional, and utility regulations, policies, and programs. Therefore, a clear assessment of the energy environment is vital to the success of your plan.

The most useful energy environment assessment will have several important parts:

- A review of the community's current energy use baseline and forecasted energy use, including:
  - Current and forecasted energy usage in government, residential, commercial, and industrial buildings
  - Current and forecasted energy usage for government operations, including water and wastewater treatment, heating fuel transportation, and waste collection and disposal
  - Current and forecasted energy use for private and public transportation, as well as government vehicle fleet
  - Current energy programs, including government, utility, non-profit, and other
- An understanding of strengths, weaknesses, opportunities, and threats (SWOT analysis) to the local energy environment
- Inventory of the external energy landscape, including state, regional, and utility policies, programs, projects, and plans
- List of current energy systems and energy resources used and understanding of the existing energy market.

STEP 4.1 Develop a Current Energy Baseline

Include all relevant sectors and identify the largest energy users and potential program and policy targets as a starting point for analysis. This baseline is critical because it helps design cost/benefit rankings for potential actions and programs. Without it, there is no way to determine which proposed actions are the most cost-effective for a specific community. The level of detail can range from an overview provided in a utility annual report, to a more-detailed sector or subsector review, depending on the availability of information and budget to collect the information. The more detailed the baseline, the more detailed the plan design and impact information will be. It is important that, during this process, the methodology for measuring the baseline is clearly defined so that future measurements can verify the effectiveness of policy implementation.

Step 4 is important because:

A community **energy baseline** is the starting point for all analysis and planning. Understanding your utility, state, and regional context provides information on resources available to you.

Establishing an inventory of these activities is important. The projects and activities currently underway that both save energy and money throughout the community provide a terrific starting point for implementing new and expanded efficiency, conservation, and renewable energy activities in the future. Be sure to gather this information broadly as there may be little-known individuals or groups who are quietly moving energy efficiency or renewable energy forward in interesting ways; you will want to tap into their knowledge and enthusiasm.

The following worksheet is an effective first step in documenting a community's baseline. This worksheet is provided by the Denali Commission and is very useful in targeting the specific energy uses across the community.

Handbook Activity-Step 4.1: Develop a Current Energy Baseline
Use the following chart to establish and document an accurate and up-to-date snapshot of the community's baseline energy use and opportunities

Existing Community Facility Energy Usage

Facility Type	Electric usage (annual, kilowatt-hour [kWh])	Heating fuel usage (annual, gallons)	Other heating sources	Date of last major facility renovation
Power Plant				
Water Treatment Plant				
Washeteria				
Clinic				
Tribal Office				
City Office				
Community Shop				
School Building				
School Building				
School Building				
Store				
Store				
Other Community Building				
Other Community Building				
Other Community Building				
Other Community Building				

Planned New Construction - Community Facility

Facility Type	Estimated size (square foot [f^2])	Heating source	Estimated start date of construction	Other information
Planned Community Building				
Planned Community Building				
Planned Community Building				

Description of Community Electrical Generation System				
	Size (f²)	Originally constructed	Date of last major facility renovation	Other information
Power Plant				
	Make/Model	Size (kilowatt [kW])	Operational (Y/N)	Other information
Generator #1				
Generator #2				
Generator #3				
Generator #4				
Generator #5				
Description of Heat Recovery System				
	Existing (Y/N)	Heat provided to what structures	British thermal unit (Btu) provided	Can more structures be served? (Y/N)
Heat Recovery System				
Residential Housing Description				
	How many units?	Electric usage (annual, kWh)	Heating fuel usage (annual, gallons)	Other information
Teacher Housing				
HUD or Housing Authority Housing				
Owner Built				
Renewable Energy Sources				
	Readily available resource? (Y/N)	Feasibility/resource assessment/study completed? (Y/N)	Potential project identified? (Y/N)	Past projects complete? (Y/N)
Hydroelectric				
Heat Recovery				
Solar				
Biomass				
Wind Turbines				
Hydrokinetic				
Ground-source, Air-source Heat Pumps				
Other (describe)				

In addition to this activity, you may find the following resources helpful as you develop your community energy baseline:

- DOE Office of Energy Efficiency and Renewable Energy (EERE) Project Development Tool http://apps1.eere.energy.gov/office_eere/project_development/
- U.S. Environmental Protection Agency ENERGY STAR® Portfolio Manager
    - ENERGY STAR Portfolio Manager Overview http://www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfoliomanager
    - ENERGY STAR Portfolio Manager Benchmarking Starter Kit http://www.energystar.gov/index.cfm?c=evaluate_performance.bus_portfoliomanager_benchmarking

STEP 4.2 Consider Community Strengths, Weakness, Opportunities and Threats

This classic assessment can prove to be an effective tool for diagnosing current challenges and sketching out future directions. Ask your stakeholders to assist in identifying the following items, which will then help inform how you set goals (Step 5) and identify action items (Step 6).

- **Strengths:** What qualities, resources, and characteristics exist that can be applied to the strategic energy plan? This can include tangible resources such as funding or more abstract things such as leadership or community mindset. You will also want to assess the kinds of specialized expertise that exists in your community. This can include individuals, elected officials, businesses, or organizations with skills to apply to the effort.

  Example: Village staff has great experience with building retrofits and weatherization.

- **Weaknesses:** What obstacles, constraints, or disincentives exist within the community that might limit adoption of strategic energy initiatives? Be sure to identify all weaknesses, not only the obvious.

  Example: Village member attitudes toward early upfront costs of plan implementation.

- **Opportunities:** What are the trends, conditions, or events that your community could capitalize on?

  Example: Many natural resources available in the area.

- **Threats:** Are there external challenges that could impede the implementation of effective energy strategies? This might include the state and utility policy and program framework, or threats outside of your control, such as economic downturn.

  Example: Power cost equalization is currently suspended.

Handbook Activity-Step 4.2: Community Strengths, Weakness, Opportunities and Threats Using these categories, document feedback developed through discussions with stakeholders and leadership team	
Strengths (Internal) *Ex: Informed energy staff with experience building retrofits* • • • • •	Weaknesses (Internal) *Ex: Turnover in staff has presented challenges for the Village* • • • • •
Opportunities (External) *Ex: Many natural resources available in the area* • • • • • •	Threats (External) *Ex: Power cost equalization is currently suspended* • • • • • •

STEP 5: Develop Specific Energy Goals

Step 5 is important because:

Specific and actionable **goals** provide the framework for choosing among alternatives and designing actions.

Now that you have a clear understanding of where you are, what you want to accomplish, and the resources you have in hand, it is time to establish the energy goals that you want to achieve. Energy efficiency and renewable energy can meet multiple goals, so there is no reason to limit your village to only one goal. However, establishing primary goals will help determine the best projects to meet those goals later on. It is crucial that stakeholders define the scope of their strategic energy plan in this step. For example, some Alaska Native villages choose to focus on addressing energy issues related to village operations first, later expanding the plan to incorporate community-wide goals. Ensuring that all of the stakeholders understand the goals is crucial at this stage of the process.

Increasingly, communities throughout Alaska are setting specific goals related to energy savings, sustainability, and reduction in the use of diesel and heating oil. Articulating and promoting such high-level goals sends a strong policy message to community members and stakeholders and provides an important focus for a variety of energy projects planning and implementation activities. Similar goals have been set in other communities and can vary widely. For example:

Make all City of Austin facilities, fleets, and operations totally carbon neutral by 2020.
City Council of Austin, Texas

Reduce total, current, community-wide fossil fuel consumption by 50% by 2030.
Climate and Energy Action Plan, City of Eugene, Oregon

80% reduction in greenhouse gas emissions … by 2050, using baseline data from 2005.
Climate Action Plan, City of Lawrence, Kansas

The goal is to ultimately eliminate the Tribe's carbon footprint, be energy self-sufficient, and to be a provider of carbon-free energy to others.
Project Greenfire Goals, Forest County Potawatomi Community, Wisconsin

Some communities prefer to set very aggressive long-term goals and often struggle to achieve them over a relatively long period of time. Others choose symbolic goals, recognizing that they are stretch goals and not readily achievable with present day knowledge and technology. They reason that big, aspirational goals can often act as drivers and return unexpectedly big results. Other communities prefer to set more immediate goals that they are confident can be achieved.

Once a stakeholder process is underway, the larger goals can be broken down into more community-driven specifics. For example, how much of that goal will be met with energy efficiency, and how much from renewable energy? How much will come from tribal operations, and how much will be promoted in the private sector? Answering these questions provides more insight into community wants and needs and increases the effectiveness of the overall program.

Goals that address more detailed actions will be more effective if they are specific, measurable, actionable, realistic, and time-bound (also called SMART goals):

- Specific—Be sure goals are clear and have enough detail to adequately focus on the objective. When goals are specific, they tell audiences exactly what is expected, why is it important, who is involved, where is it going to happen, and which attributes are important.
- Measureable—Be sure that there is a way to assess that the outcome shows a change in the number of units or a relative change in baseline conditions. If goals are not measurable, you never know whether you are making progress toward their successful completion.
- Actionable—Goals should be realistic and attainable by the community. The best goals require the team to stretch a bit to achieve them but are not extreme. The goals are neither out of reach nor below standard performance.
- Realistic—The goal should be clearly achievable within the timeframe, personnel, and other resources available.
- Time-bound—Be sure to set a clear time frame for goal completion, or outline a sequential order among milestones.

This process can take months and a good amount of stakeholder effort, or it can happen at a planning meeting over a few days with a good facilitator. A champion is a great asset for moving the process along and making sure all voices are heard. At this point, the funding that will be required to support the goals is not a critical part of the brainstorming (although stakeholders are always welcome to suggest ideas for funding programs). Instead, ideas should be freely flowing to maximize creativity and applicability to the specific community vision. Be sure also to establish priorities among goals in case constraints arise in the future.

Handbook Activity-Step 5: Develop Specific Energy Goals

Document the goals developed by the leadership team and community stakeholders. As these are developed and documented, consider:

- Is the goal specific and focused?
- Is the current energy baseline used to set the goal?
- Can progress toward the goal be measured?
- Is the goal realistic?
- Does the goal have a timeline or order?

Community Energy Goal	
Community Energy Goal	
Community Energy Goal	

STEP 6: Prioritize Energy Projects and Programs

This evaluation typically determines which strategies will achieve the greatest results with the least amount of effort (or money). Why it's critical: every community is resource-limited. By pursuing the strategies with the highest impact first; your community can build a record of success that should free up additional support for these efforts in the future.

Using the baseline and the program and project ideas, develop a ranking system to understand cost-effectiveness of different projects. This part of the process requires a strong leader to ensure that:

a. All the information for the proposed projects is available from the proposing entities
b. The same methodology is used to evaluate each project
c. Draft results are reviewed by the project proposers to ensure that all the correct project aspects are considered.

There are many methods for evaluating cost-effectiveness, and the one that is most appropriate depends largely on program goals. The total resource cost test is most commonly used because it considers a wide range of life-cycle benefits for policy and programs. It is considered a best practice by the National Action Plan for Energy Efficiency. A methodology for how it was applied in California is found here: http://www.apscservices.info/EEInfo/CA_Stndrd_Prac_Man.pdf.

Another valuable method in determining which projects to prioritize is to understand the levelized cost of energy (LCOE) of a project. NREL's LCOE calculator provides data for both utility-scale and distributed generation renewable energy technologies and compares capital costs, operations and maintenance, performance, and fuel costs: http://www.nrel.gov/analysis/tech_lcoe.html.

Handbook Activity-Step 6: Prioritize Projects and Programs
Develop a ranking system to understand cost-effectiveness of different projects using NREL's LCOE Calculator. http://www.nrel.gov/analysis/tech_lcoe.html

Potential Project #	Project Description	Cost and LCOE Estimate	Priority Level	Project Timeline	Relationship to Community Energy Goals

STEP 7: Identify Funding and Financing Options

Various options are available to fund and finance energy projects. In addition to federal, state, and non-profit grants, private investment opportunities are viable as well. The table below provides information about select grant opportunities. The DOE Office of Indian Energy offers free on-demand webinars to help Tribes and Alaska Native entities capture the potential of private project financing opportunities for projects. View available webinars on the National Training & Education Resource website at www.nterlearning.org (search for "Indian Energy").

Organization: EERE Tribal Energy Program **Grant Opportunity:** Various grants available for energy efficiency and renewable energy projects **Grant Webpage**: http://apps1.eere.energy.gov/tribalenergy/financial_opportunities.cfm	**Eligible Projects:** Biomass, energy efficiency, geothermal, hydropower, solar photovoltaics, solar water heat, wind, and other renewable energy projects
Organization: Alaska Energy Authority (AEA) **Grant Opportunity:** AEA Grant Fund **Grant Webpage:** http://www.akenergyauthority.org/	**Eligible Projects:** Solar water heat, photovoltaics, landfill gas, wind, biomass, hydroelectric, geothermal electric, fuel cells, geothermal heat pumps, combined heat and power/cogeneration, hydrothermal, waste heat, transmission or distribution infrastructure, anaerobic digestion, tidal energy, wave energy, fuel cells using renewable fuels, geothermal direct-use
Organization: U.S. Dept. of Agriculture (USDA) Rural Development - Rural Utilities Service **Grant Opportunity:** Rural Utilities Service Assistance to High Energy Cost Rural Communities Program **Grant Webpage:** http://www.rurdev.usda.gov/UEP_Our_Grant_Programs.html	**Eligible Projects:** Funds may be used to acquire, construct, extend, upgrade, or otherwise improve energy generation, transmission, or distribution facilities and to establish fuel transport systems that are less expensive than road and rail
Organization: USDA Rural Development - Rural Energy for America Program (REAP) **Grant Opportunity:** Renewable Energy System and Energy Efficiency Improvement Guaranteed Loan and Grant Program **Grant Webpage:** http://www.rurdev.usda.gov/BCP_ReapResEei.html	**Eligible Projects:** Grant assistance to rural small businesses in rural America to purchase, install, and construct renewable energy systems; make energy efficiency improvements to non-residential buildings and facilities; use renewable technologies that reduce energy consumption; and participate in energy audits, renewable energy development assistance, and feasibility studies

Organization: USDA Rural Development - REAP **Grant Opportunity:** Feasibility Studies Grant Program **Grant Webpage:** http://www.rurdev.usda.gov/BCP_ReapEaReda.html	**Eligible Projects:** Grant assistance to eligible applicants in completing a feasibility study for an eligible renewable energy system that can qualify for a REAP Renewable Energy System Grant and/or Loan Guarantee application
Organization: Rasmuson Foundation **Grant Opportunity:** Tier 1 Grant Program **Grant Webpage:** http://www.rasmuson.org/index.php?switch=viewpage&pageid=32	**Eligible Projects:** Capital projects, technology updates, capacity building, program expansion and creative works, including building construction/renovation/restoration, technology upgrades in community facilities, and capacity building grant support

STEP 8: Compile the Energy Plan

The strategic energy plan is a document that summarizes all the data, information, vision, goals and priorities identified during the energy planning process. This is a public document for the community and becomes most effective after it has been formally adopted and approved by the village or tribal council. The prioritized energy projects listed within the plan serve as a pathway for implementation and provide leadership with energy development recommendations. The strategic energy plan may stand alone as its own guiding community document, or the energy plan can be embedded into updates of existing community plans such as a community comprehensive plan, master plan, or economic development plan.

The following elements are critical to include in a strategic energy plan:

- Community energy objectives and energy vision
- Specific energy goals
- Snapshot of current energy baseline (usage, cost, supply, generation)
- Community energy SWOT
- A prioritized list of programs and projects (addressing energy goals, community opportunities, technology and scale, and strategies for implementation)
    - Demand side (e.g., energy efficiency retrofits for facility "x," weatherization upgrades to "y" set of residences)
    - Generation (e.g., development of photovoltaic system for community facilities, wind power project for community- wide energy benefit)
- Identified funding and financing mechanisms for prioritized projects
- Recommendations and strategies for energy project implementation.

By taking the time to document these elements in the strategic energy plan, lasting value is created. Benefits include:

- Document near-term goals and actions
- Sustain momentum created during the community planning process
- Establish a roadmap for achieving long-term energy goals
- Enable the community to mobilize the long-term support necessary for energy project development that extends beyond changing community leadership due to elections
- Provide the means to consistently share the story with others
- Create resources to help guide and filter priorities, providers, and decisions.

STEP 9: Measurement and Verification and Plan Alterations

Once adopted, the strategic energy plan is ideally treated as a "living" document. It is important to:

- Establish how often the plan will be updated (e.g., every 1, 2, 3, or 5 years)
- Update the plan when:
  - Energy projects listed in the original strategic energy plan are completed
  - The community's population grows or shrinks
  - Overall energy demand and supply shifts
- Refer to the plan when selecting an energy project or program and measuring success
- Use the plan to reflect and verify that projects are moving the community closer to its stated vision and goals.

Sustained energy planning fosters community interest and understanding of the energy landscape, identifying where a community is in that landscape, and more importantly, setting goals and prioritizing projects that move the community toward its sustainable energy destination.

Additional Resources

- DOE Office of Indian Energy online educational courses on Strategic Energy Planning and renewable energy: www.nterlearning.org (search "Indian Energy")
- Apply for up to 40 hours of free technical assistance from DOE to help with strategic energy planning at www.energy.gov/indianenergy/technical-assistance
- DOE Office of Indian Energy Resource Library: www.energy.gov/indianenergy/resources/energy-resource-library/strategic-energy-planning.
- DOE Office of Indian Energy brochure on *Developing Tribal Energy Projects: Community Energy Planning*: http://www.nrel.gov/docs/fy13osti/56272.pdf
- DOE Office of Indian Energy brochure on *Advancing Efforts to Energize Native Alaska*: http://www.nrel.gov/docs/fy13osti/57797.pdf
- DOE Office of Indian Energy technical report on *Financing Opportunities for Renewable Energy Development in Alaska*: http://www.nrel.gov/docs/fy13osti/57491.pdf

Strategic Energy Plan

STEP 1: Identify and Convene Stakeholders

Stakeholder	Name/Title	Organization	Contact Information
Local utility representative(s)			
Village leaders			
Village facility managers			
Village corporation			
Community businesses and industry			
ANSCA Native Association			
Community members			
State- or regional-level administrators with an energy focus			
Colleges, universities, and other large institutions			

STEP 2: Establish a Leadership Team

Role and Strategic Purpose	Name	Organization	Contact Information
Champion: Elected leader(s) that support(s) the planning process			
Plan Advocate: Coordinator that manages the planning process and activities			
Leadership Team Member:			
Leadership Team Member			
Leadership Team Member			

STEP 3: Develop a Common Energy Vision

Energy Priority	
Energy Priority	
Energy Priority	
Energy Vision Statement:	

STEP 4: Assess Energy Needs and Resources

STEP 4.1 Develop a Current Energy Baseline

Existing Community Facility Energy Usage				
Facility Type	**Electric usage (annual, kilowatt-hour [kWh])**	**Heating fuel usage (annual, gallons)**	**Other heating sources**	**Date of last major facility renovation**
Power Plant				
Water Treatment Plant				
Washeteria				
Clinic				
Tribal Office				
City Office				
Community Shop				
School Building				
School Building				
School Building				
Store				

Store				
Other Community Building				
Other Community Building				
Other Community Building				
Other Community Building				
Planned New Construction - Community Facility				
Facility Type	**Estimated size (square foot [f²])**	**Heating source**	**Estimated start date of construction**	**Other information**
Planned Community Building				
Planned Community Building				
Planned Community Building				
Description of Community Electrical Generation System				
	Size (f²)	**Originally constructed**	**Date of last major facility renovation**	**Other information**
Power Plant				
	Make/Model	**Size (kilowatt [kW])**	**Operational (Y/N)**	**Other information**
Generator #1				
Generator #2				
Generator #3				
Generator #4				
Generator #5				
Description of Heat Recovery System				
	Existing (Y/N)	**Heat provided to what structures**	**British thermal unit (Btu) provided**	**Can more structures be served? (Y/N)**
Heat Recovery System				

Residential Housing Description				
	How many units?	Electric usage (annual, kWh)	Heating fuel usage (annual, gallons)	Other information
Teacher Housing				
HUD or Housing Authority Housing				
Owner Built				
Renewable Energy Sources				
	Readily available resource? (Y/N)	Feasibility/resource assessment/study completed? (Y/N)	Potential project identified? (Y/N)	Past projects complete? (Y/N)
Hydroelectric				
Heat Recovery				
Solar				
Biomass				
Wind Turbines				
Hydrokinetic				
Ground-source, Air-source Heat Pumps				
Other (describe)				

STEP 4.2 Consider Community Strengths, Weakness, Opportunities and Threats

Strengths (Internal) *Ex: Informed energy staff with experience building retrofits* •	Weaknesses (Internal) *Ex: Turnover in staff has presented challenges for the Village* •
Opportunities (External) *Ex: Many natural resources available in the area* •	Threats (External) *Ex: Power cost equalization is currently suspended* •

STEP 5: Develop Specific Energy Goals

Community Energy Goal	
Community Energy Goal	
Community Energy Goal	

STEP 6: Prioritize Energy Projects and Programs

Potential Project #	Project Description	Cost and LCOE Estimate	Priority Level	Project Timeline	Relationship to Community Energy Goals