Southwest Alaska Energy Network – Final Report

Recipient Organization:	Southwest Alaska Municipal Conference
Project Title:	Establishing a Technical Assistance Network to Build Capacity in Southwest Alaska
Award Number:	DE-IE0000057
Type of Award:	Establishment of an Inter-Tribal Technical Assistance Energy Providers Network (2016)
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Background Information

The Southwest Alaska Municipal Conference (SWAMC) is a regional membership economic development organization incorporated in January 1988 as a 501(c)(4) non-profit. SWAMC's mission is to advance the collective interests of southwest Alaska people, businesses, and communities, promoting economic opportunities that improve quality of life and influence long-term responsible development. SWAMC is a state-designated Alaska Regional Development Organization (ARDOR) and a U.S. Department of Commerce-designated Economic Development District (EDD). In fulfillment of these roles, SWAMC uses local knowledge and collaboration to prepare and implement a Comprehensive Economic Development Strategy (CEDS) for the Southwest region and provide funding partnerships for community development projects. SWAMC membership includes cities, boroughs, villages, tribal councils, businesses, and nonprofits who reside or do business in Southwest Alaska.

The SWAMC region is comprised of three sub-regions: the Kodiak Archipelago, Bristol Bay, and the Aleutian/Pribilof Islands. It is a vast area that includes portions of mainland Alaska as well as hundreds of islands encompassing four incorporated boroughs and two federally recognized census areas: the Aleutians East Borough, the Aleutians West Census Area, the Bristol Bay Borough, the Dillingham Census Area, the Kodiak Island Borough, and the Lake & Peninsula Borough. The combined area, including water, equals 93,875 square miles, and just including land is 60,907 square miles.

The Southwest Alaska economy is substantially dependent upon fishery and marine resources. Commercial, sport, and subsistence fishing, as well as seafood processing, play a role in virtually every community in the region. Most communities in the region have mixed cash and subsistence economies, sustaining a social and cultural lifestyle. Development and investment activities of the three Alaska Native Regional Corporations and many Native village Corporations formed by the Alaska Native Claims Settlement Act (ANCSA) of 1971 is a critical element of the economy as well.

There are around 30,047 residents living in fifty-four communities in the SWAMC region. Located within the SWAMC region are 53 native villages and tribes who are recognized and eligible to receive services from the U.S. Bureau of Indian Affairs. These tribes are made up of Alutiiq, Aleut, and Central Yup'ik indigenous peoples. The three sub-regions within SWAMC correlate with the three regions of southwest Alaska established by ANCSA, the borders of which are defined by the common heritage and shared interests of the indigenous peoples within each geographic area. The regional boundaries do not represent land owned by the regional corporations; instead, they establish which regional corporation will serve the people, villages, and communities in that area. The Aleut Corporation, the Bristol Bay Native Corporation, and Koniag, Inc. are the three Regional Corporations in the SWAMC region. Within each region there is a complex landscape of governance, land ownership, and relationships; while there is overlap in who the organizations represent, each entity plays a distinct role. This intricate network of organizations is made up of Alaska Native regional corporations, Alaska Native regional non-profit organizations, Alaska Native village corporations, federally recognized tribes, and city and borough governments.

Between 2012 and 2016, SWAMC received funding from the Alaska Energy Authority (AEA), the state energy office, to develop Regional Energy Plans for the Aleutians, Bristol Bay, and Kodiak. These regional energy plans were part of a statewide effort being led and supported by AEA to develop a stakeholder-driven blueprint for sustainability. Through significant local and regional input, the goal was to identify

energy priorities and provide recommendations for activities and actions to help reduce the long-term cost of energy (and increase efficiency and reliability) through improved electricity, heat, and transportation systems. The energy planning effort included collaboration with regional entities, cities, and tribal representatives to understand their energy needs, evaluate solutions, and provide a prioritized action plan to improve energy systems. As this state-funded energy planning initiative wound down in 2016, SWAMC applied for the DOE-OIE *Establishment of an Inter-Tribal Technical Assistance Energy Providers Network* grant FOA to continue working with our partners to provide energy planning and project development technical assistance. As a predominantly municipal organization, SWAMC has little experience working directly with tribes, so we sub-contracted with the three Alaska Native regional non-profit organizations for this project to create an inter-tribal network.

Project Overview & Executive Summary

The **project team** was made up of SWAMC, three regional organizations, a management consulting firm, and a panel of technical consultants. SWAMC housed the project manager/multi-region energy coordinator. SWAMC sub-contracted with the three Alaska Native regional non-profit organizations – Aleutian Pribilof Islands Association (APIA), Bristol Bay Native Association (BBNA), and Kodiak Area Native Association (KANA) – to fund full or partial Regional Energy Coordinator (REC) positions. The REC position funded at BBNA was a full position as the Bristol Bay region has substantially more communities than the other two and so BBNA received more funding as a result. Project management assistance and expertise was provided by Information Insights, a small consulting firm based in Fairbanks. A Technical Panel of energy consultants included individuals familiar with energy in rural Alaska: Peter Crimp of Crimp Energy Consulting, Brian Hirsch of Deerstone Consulting, Connie Fredenberg of Utility Management Assistance, Douglas Vaught of V3 Energy, Jim Fowler of Energy Audits of Alaska, and staff members of TDX Power.

The **project goal** was to help southwest Alaska regional tribal partners and communities to develop efficient and financially sustainable structures for identifying and developing energy projects that enhance community resiliency and energy sustainability. This project established energy coordinators and management structures in the Aleutian, Bristol Bay, and Kodiak regions to expand technical assistance capacity of regional residents; demonstrate this capacity by advancing energy efficiency, heat, and power supply projects; and secure long-term funding commitments to establish a sustained technical assistance structure.

The project team expanded technical assistance capacity of energy coordinators and regional stakeholders in several ways. This grant provided funding for the SWAMC project manager to attend three Office of Indian Energy trainings; for the SWAMC project manager and the three Regional Energy Coordinators to attend numerous energy conferences such as the AEA Rural Energy Conference and DOE's Alaska Regional Energy Workshops; for utility clerks from several villages to receive one-on-one reporting training on Alaska's Power Cost Equalization electric subsidy program; and for the Kodiak REC to complete the Arctic Remote Energy Networks Academy and NREL's Executive Energy Leadership Academy. The energy coordinators demonstrated and shared their increased capacity by hosting several public events: SWAMC hosted two full-day energy workshops in February 2017 and 2018, attracting over 60 attendees at each event; the Kodiak REC hosted seven Energy Committee meetings for Kodiak stakeholders and gave

several presentations at other events; and SWAMC and BBNA organized a Bristol Bay Regional Energy Visioning Session in May 2019. The project team created several platforms to both share and request information to involve energy stakeholders in this project, including an energy website, a Facebook group, a periodic newsletter, surveys, mass emails, and paper mailers.

An increase in regional capacity was demonstrated through several grant awards, including a $1.2 million USDA grant for Akhiok for an electric distribution infrastructure replacement; an AHFC Kickstarter grant for Aleknagik to audit 2 Tribal and 3 City buildings; and installation of an Air Source Heat Pump demonstration project in Atka. Two communities and one region – Ouzinkie (May 2017), Ugashik (July 2017), and the Bristol Bay region (May 2019) – utilized DOE's technical assistance services to hold Strategic Energy Planning sessions with NREL and DOE facilitation assistance. And in early 2018, SWAMC established a parallel program, funded through a USDA Energy Audit and Renewable Energy Development Grant (EA-REDA) to provide 75% reduced-cost energy audits for small businesses in the region. By taking advantage of the network of contacts and outreach channels developed through this capacity building program, SWAMC and partners have now completed energy audits of over 60 businesses (buildings and fishing vessels) and are currently operating a third round of the USDA program. Fifteen of those business owners have now received additional grant funding to cover 25% of the cost of the energy efficiency upgrades identified in the audit.

This technical assistance structure will be sustained beyond DOE grant funding in several forms. As a sign of increased grant writing and project management capacity, the Kodiak Regional Energy Coordinator applied for and received a USDA Community Facilities Technical Assistance and Training grant to continue work begun under this program. Energy coordination tasks have been folded into existing economic development positions at SWAMC and at BBNA, ensuring long-term outreach and support in the region. And SWAMC's energy audit program for businesses is thriving and has expanded statewide to increase adoption of energy efficiency and conservation measures and reduce costs of doing business.

This Southwest Alaska inter-tribal technical assistance network was most successful where the Regional Energy Coordinator worked one-on-one with communities to connect their needs with available resources. By staying in the loop with community stakeholders to understand their energy projects and current status, the REC was in the position to offer up assistance from the project Technical Panel, state or federal energy agencies, or their own time and expertise to help the community move forward when they hit a roadblock. This technical assistance structure is nimble and responsive to both the needs of the stakeholders as well as the needs of the assistance providers. Outreach methods established through this program also provided inexpensive and efficient ways to get information out quickly about funding opportunities, training programs, workshops and conferences, and energy success stories.

There are some areas in which this project could have been stronger. Defining the type of capacity that this project was aiming to build and identifying metrics by which to measure increases in capacity in the very beginning would have helped to tether abstract project work to the grant's core mission. Additionally, the project management team likely put too much pressure on the energy coordinators to carry this project in their regions, which opened the program up to weaknesses and vulnerabilities based on each REC's individual traits. Instead, the team should have involved senior leadership at each regional organization from the beginning to ensure they understood and supported this project for long-term organizational buy-in and support.

Objectives

Objective 1: Build in-region technical and management capacity. This includes creation of four permanent positions at SWAMC and three regional organizations, creation of a technical panel to address lack of information and direction, establishment of peer networks for each region, and development of communication and data management systems to be used to conduct trainings with the aim of increasing resident's energy capacity.

Objective 2: Demonstrate improved regional capacity by identifying and developing energy efficiency, heating, and power supply projects that reduce community costs, improve energy systems, and utilize alternative sources of energy. Project activities related to energy efficiency will focus on increasing awareness, baseline data collection, and analysis to enable communities to make the decisions on whether and how to move forward on energy efficiency projects. Project activities related to heating and power initiatives will focus on moving communities to the application-ready stage – whether this is reconnaissance, feasibility, concept and design, or construction.

Objective 3: Entrench energy positions and management structures at the regional level including ensuring strategic and financial support for these positions, incorporate energy planning into project development region-wide, and lay the sustainability groundwork for continued future efforts using tools and expertise developed under this project.

Description of Activities Performed

Activities performed under this grant are outlined in relation to the tasks in the original Statement of Project Objectives.

Task 1.0: Establish regional structure for energy coordination. Create new positions at SWAMC and in the Aleutian, Bristol Bay, and Kodiak regions to lead a program focused on regional energy issues, individual projects, and delivering focused energy solutions.

- *Establish Energy Coordinator positions* – SWAMC Energy Coordinator Laura Vaught served as project manager and was the point of contact for the Regional Energy Coordinators, the Technical Panel consultants, and DOE-OIE staff. Laura worked out of SWAMC's Anchorage-based office. Regional Energy Coordinator (REC) positions were staffed at each of the three regional native non-profit organizations. In the Aleutian/Pribilof Islands region, the REC role was filled by an existing employee at the Aleutian Pribilof Islands Association based at APIA's office in Anchorage. The individual held this role until retirement in August 2019. In the Bristol Bay region, the first REC hired by the Bristol Bay Native Association served from late 2016 until resignation in June 2017; the position was vacant and duties were fulfilled by a supervisor until a second REC was hired in December 2017. Both RECs worked out of BBNA's office in Dillingham. The BBNA REC position was eliminated in September 2019 with the loss of this grant funding. In the Kodiak region, the REC position was filled by an existing employee at the Kodiak Area Native Association, working out of KANA's office in Kodiak. Tyler Kornelis, Program Manager, remains in this capacity at KANA as of June 2020.

- *Attend Office of Indian Energy trainings* – The SWAMC project manager attended two technical trainings hosted by DOE-OIE in Golden, CO and one held in Anchorage, AK. Relevant materials from these trainings were shared with the RECs.

- *Establish Technical Panel* – Energy consultants who served on the Technical Panel included Peter Crimp of Crimp Energy Consulting, Brian Hirsch of Deerstone Consulting, Connie Fredenberg of Utility Management Assistance, Douglas Vaught of V3 Energy, Jim Fowler of Energy Audits of Alaska, and staff members of TDX Power. These consultants provided expertise to RECs and energy stakeholders on renewable energy integration, wind energy, solar power, energy efficiency and conservation, energy project development, and Alaska's Power Cost Equalization program.

- *Develop peer network* – RECs each managed an email contact list for their respective regions with which they shared current funding opportunities, energy education programs, upcoming energy conferences and training workshops, and free resources available through this and other programs. RECs also highlighted success stories from communities that took advantage of these resources to further their own energy projects in efforts to encourage less-involved communities to do the same (positive peer pressure). SWAMC sent out several newsletters and information-gathering surveys to the entire region to facilitate cross-region connections and reach a broader audience. With assistance from partner Information Insights, SWAMC created an energy website – *www.southwestAKenergy.org* – and established a *Southwest Alaska Energy Network* Facebook group as two means to share information.

- *Host energy events* – SWAMC hosted two full-day energy workshops in Anchorage in February 2017 and 2018. They were hosted in conjunction with SWAMC's annual Economic Summit & Membership Meeting to maximize participation. Both workshops featured a "mixer" as a main event, where technical experts from the Technical Panel, state and federal energy agencies, and private industry were available to answer questions and chat with attendees about energy topics ranging from renewable energy technologies to diesel powerhouse generation to energy efficiency to funding programs. Other workshop events included roundtable conversations with regional attendees and facilitated discussion panels with topic-area experts. Both events attracted around 60-70 attendees.

  The Kodiak REC hosted seven Energy Committee meetings in conjunction with the Kodiak Rural Forum, an event held three times per year that brought community leaders from the villages across the Kodiak region into the City of Kodiak to discuss issues affecting their communities. The Energy Committee meetings were used for regular energy updates and information sharing.

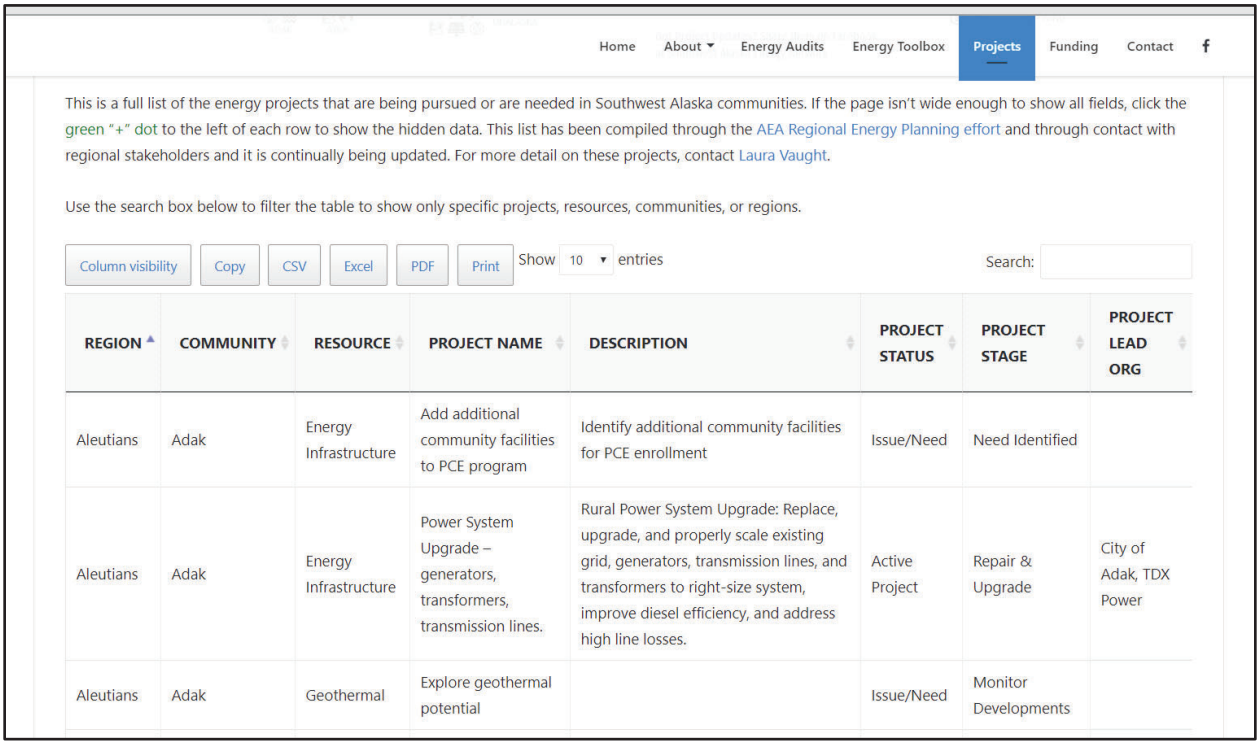
  BBNA and SWAMC hosted a Bristol Bay Regional Energy Visioning Session in May 2019, facilitated by DOE and USDA staff. This one-day event included brainstorming sessions for stakeholders to develop a regional energy vision, establish energy values and priorities, and discuss energy sustainability for the region. It was held in conjunction with a Strategic Energy Management Workshop hosted by the Alaska Housing Finance Corporation, the Alaska Network for Energy Education and Employment, and the Renewable Energy Alaska Project.

- *Maintain databases of energy information* – With help from partner Information Insights, SWAMC maintained an internal database of various types of energy projects: active, under development,

completed, stalled, or needs that had not yet been formalized into a project. The database format allowed staff to be able to sort and filter the information as needed. The technical panel consultants reviewed this information to help staff identify projects that had good potential for success based on feasibility, cost, energy use reduction potential, and financial and management capabilities within the community. The RECs used this data when conducting outreach to a community; by asking the community representative to provide an update on the status of their projects, the RECs built a relationship and rapport upon which more in-depth dialogue was based. Public access to basic energy project data was available through the *www.southwestAKenergy.org* website created under this grant (see *Projects* screenshot below). This public information was a valuable resource to non-profit, university, government, and others interested in rural Alaskan energy issues. The energy website has been discontinued with the end of the grant, but some elements remain available on the main SWAMC website as a legacy of this work. The project database itself remains at SWAMC.

Other databases were created to store contact information and track outreach to regional energy stakeholders and to store information about funding opportunities, including grant and loan programs. The funding information was accessible at *www.southwestAKenergy.org* as well (see *Funding* screenshot below). Each opportunity was linked to its application page.

Projects



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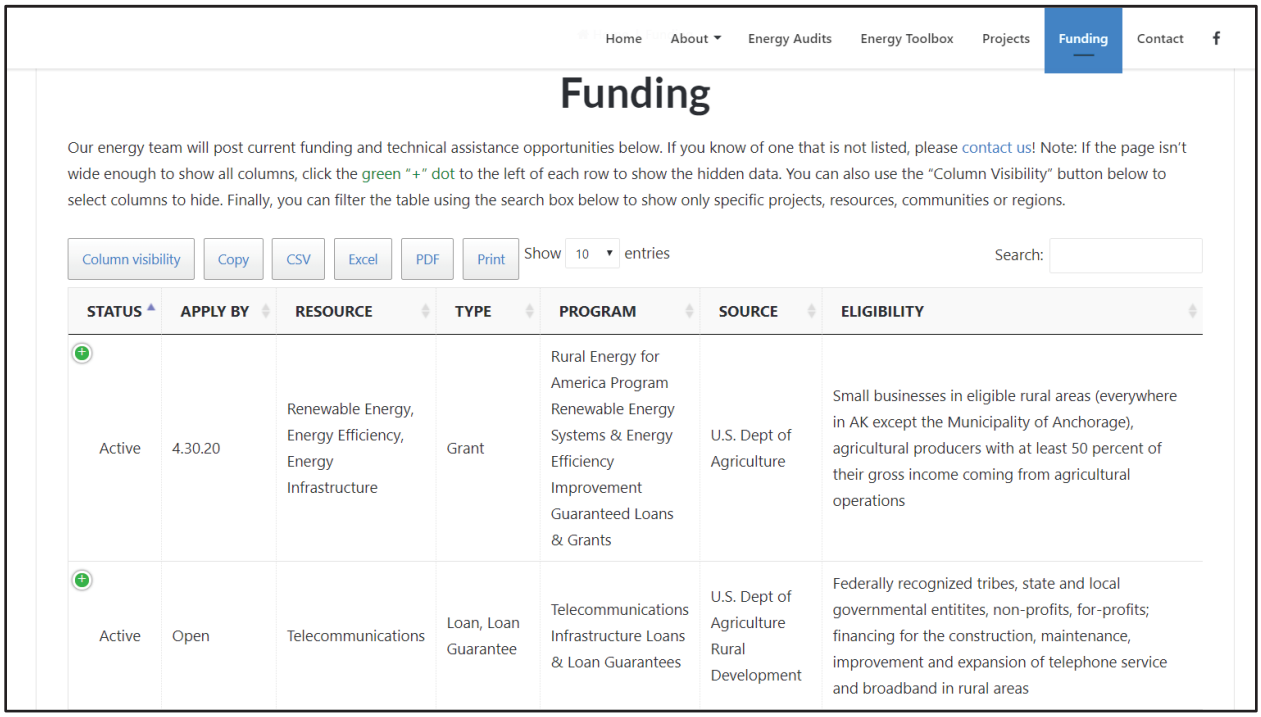
This is a full list of the energy projects that are being pursued or are needed in Southwest Alaska communities. If the page isn't wide enough to show all fields, click the green "+" dot to the left of each row to show the hidden data. This list has been compiled through the AEA Regional Energy Planning effort and through contact with regional stakeholders and it is continually being updated. For more detail on these projects, contact Laura Vaught.

Use the search box below to filter the table to show only specific projects, resources, communities, or regions.

Column visibility | Copy | CSV | Excel | PDF | Print | Show 10 entries | Search:

REGION	COMMUNITY	RESOURCE	PROJECT NAME	DESCRIPTION	PROJECT STATUS	PROJECT STAGE	PROJECT LEAD ORG
Aleutians	Adak	Energy Infrastructure	Add additional community facilities to PCE program	Identify additional community facilities for PCE enrollment	Issue/Need	Need Identified	
Aleutians	Adak	Energy Infrastructure	Power System Upgrade – generators, transformers, transmission lines.	Rural Power System Upgrade: Replace, upgrade, and properly scale existing grid, generators, transmission lines, and transformers to right-size system, improve diesel efficiency, and address high line losses.	Active Project	Repair & Upgrade	City of Adak, TDX Power
Aleutians	Adak	Geothermal	Explore geothermal potential		Issue/Need	Monitor Developments	

Funding



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Funding

Our energy team will post current funding and technical assistance opportunities below. If you know of one that is not listed, please contact us! Note: If the page isn't wide enough to show all columns, click the green "+" dot to the left of each row to show the hidden data. You can also use the "Column Visibility" button below to select columns to hide. Finally, you can filter the table using the search box below to show only specific projects, resources, communities or regions.

Column visibility | Copy | CSV | Excel | PDF | Print | Show 10 entries | Search:

STATUS	APPLY BY	RESOURCE	TYPE	PROGRAM	SOURCE	ELIGIBILITY
Active	4.30.20	Renewable Energy, Energy Efficiency, Energy Infrastructure	Grant	Rural Energy for America Program Renewable Energy Systems & Energy Efficiency Improvement Guaranteed Loans & Grants	U.S. Dept of Agriculture	Small businesses in eligible rural areas (everywhere in AK except the Municipality of Anchorage), agricultural producers with at least 50 percent of their gross income coming from agricultural operations
Active	Open	Telecommunications	Loan, Loan Guarantee	Telecommunications Infrastructure Loans & Loan Guarantees	U.S. Dept of Agriculture Rural Development	Federally recognized tribes, state and local governmental entitites, non-profits, for-profits; financing for the construction, maintenance, improvement and expansion of telephone service and broadband in rural areas

<u>Task 2.0</u>: Expand community and regional awareness and action on energy efficiency and conservation (EE&C) and document energy usage and EE savings in residential and non-residential buildings.

- *Develop Regional EE&C Plans* – SWAMC utilized Technical Panel contractor Jim Fowler of Energy Audits of Alaska to develop an EE&C Plan for each region. These Regional Plans laid out steps to take to get energy efficiency initiatives started, provided reasoning behind recommended actions, and contained information about existing EE programs and past work done. They also ranked communities in the SWAMC region by EE&C retrofit potential based on data of energy use intensity, already-completed work, and EE savings projections, providing a listing of funding sources to help communities pursue these projects. By showing how underrepresented businesses are in energy efficiency programs, these Plans spurred conversations with SWAMC's counterparts in Southeast Alaska who had been operating a USDA-funded program to provide energy audits to businesses. SWAMC ended up applying and being awarded grant funding to start this same program for southwest Alaska in 2018 (see Task 5.0 for more details).

- *Benchmark non-residential buildings* – Benchmarking is a process of gathering information on a building's size, age, condition, location, use, and renovation history, along with monthly energy consumption data, in order to identify buildings with the highest energy savings potential. The goal of benchmarking is to arm cities and tribes with the information needed to move forward on EE&C initiatives on their buildings. The RECs worked with informed community members to collect this data and verify information both remotely and in-person. Some communities were thoroughly benchmarked during this project while some were not at all. The process was a good learning experience for each REC regarding outreach, field work, and energy data management,

but was also tedious and time consuming. SWAMC had originally planned to upload this data to a statewide database hosted by the Alaska Housing Finance Corporation, but due to staffing changes at AHFC, accessibility and usability issues with the database, and a lack of interest by staff and by community members, the benchmarking effort fizzled out.

Task 3.0: Advance community and regional heating and power projects. Identify next steps for projects in energy database.

- *Advance projects* – A primary goal of this project was to help communities identify their energy goals, make progress on energy projects, and access funding and assistance for projects as needed. Below is a listing of specific energy projects that were advanced with support from project staff funded under this grant:
    - Akhiok: The Kodiak REC helped the City successfully apply for a $1.2 million USDA High Energy Cost Grant for an electric distribution infrastructure replacement, also helping to coordinate this project with a concurrent $3 million powerhouse replacement project.
    - Atka: The Aleutians REC utilized residual grant funding from another program to install an Air Source Heat Pump demonstration project in the City office building and highlighted this educational opportunity for Atka residents.
    - Chignik Lagoon: Staff connected the Utility with a Technical Panel consultant to resolve power generation metering issues and incorporate their hydropower generation into Power Cost Equalization (PCE) reporting and rate calculations.
    - Kokhanok: Staff connected the community with a Technical Panel consultant who helped them develop an RFP critical to moving their hybrid wind-diesel-battery project forward.
    - Naknek: Staff and Technical Panel consultants helped Naknek Electric Association plan critical repairs to their failing heat recovery system that serves the school, assess wind power feasibility, and understand funding options.
    - Ouzinkie: Staff helped the tribe request and host a Strategic Energy Planning session which was provided by DOE-OIE and NREL staff in May 2017. The Kodiak REC helped the community access AHFC Kickstarter funding to conduct modeling of energy priorities identified through the SEP session.
    - Pilot Point: Staff connected the utility with several Technical Panel consultants to help them fix significant metering and integration issues with their wind turbines and electric thermal stoves.
    - Ugashik: Staff helped the tribe request and host a Strategic Energy Planning session which was provided by DOE-OIE and NREL staff in July 2017. Technical Panel consultants helped the community with their solar/wind energy infrastructure upgrade project.
    - Unalaska: The Aleutians REC helped the City develop an RFP for a wind resource feasibility project and shared educational information about the project with the community.

- *Identify next steps in database* – Staff utilized the expertise of the Technical Panel consultants to list out next steps for each energy project in the internal project database. This information was used to guide both the RECs and community stakeholders by breaking complex projects down into actionable steps and using data as a resource to maintain organization and momentum.

Task 4.0: Develop training models that address technical and management barriers to successful energy operations and projects.

- *Assess training needs* – The project team assessed training needs in the region based on input from energy stakeholders using web-based survey tools and feedback sessions at in-person meetings. Common topics, questions, and requests were identified so that they could be addressed in future sessions, in upcoming newsletters, and in one-on-one follow-up.

- *Train-the-trainer* – RECs received training from the SWAMC Energy Coordinator via email, phone, and face-to-face meetings with support and instruction as needed; the SWAMC Energy Coordinator also created a Regional Energy Coordinator handbook to help guide their work. RECs pursued their own training with support from this project: all attended energy conferences (AEA Rural Energy Conference, Bureau of Indian Affairs' Tribal Providers Conference, AEA Energy Project Finance Seminar) and online educational webinars; several RECs attended DOE's Alaska Regional Energy Workshops; and soon after being hired, the second Bristol Bay REC traveled to Anchorage in a visit coordinated by the SWAMC Energy Coordinator to meet staff at the state energy agencies in order to better understand each agency's mission and role. The Kodiak REC completed two substantial energy training programs: the Arctic Remote Energy Networks Academy (ARENA), an energy knowledge sharing program focused on isolated power systems integration and professional network development, and the National Renewable Energy Laboratory's Executive Energy Leadership Academy, a program that provides industry and community leaders an opportunity to learn about advanced energy technologies to guide their organizations in energy-related decisions and planning.

- *Training for stakeholders* – RECs implemented region-specific training for stakeholders by sharing information using mass emails, newsletter articles, flyers, and in-person meetings. Through one-on-one support, RECs connected stakeholders with Technical Panel consultants to address training needs; for example, utility personnel in several villages received Power Cost Equalization (PCE) reporting training from a consultant. Staff also connected stakeholders with training sessions hosted by other groups, such as the Alaska Vocational Technical Center's powerplant operator training program and AEA-hosted PCE trainings. RECs trained community leaders on the benchmarking process to help with the collection of building energy usage data.

Task 5.0: Implement regional and community EE&C plans of action, obtain commitments of support from regional organizations, and seek financing for energy audits and upgrades.

- *Energy audits* – RECs conducted outreach in their regions to raise interest and educate building owners on energy audit and funding programs. Staff guided building owners to existing programs to fund energy audits, specifically the Alaska Housing Finance Corporation (AHFC) Kickstarter program. The Bristol Bay REC helped the community of Aleknagik access this program to fund Level 2 energy audits of two Tribal and three City buildings.

  Then in early 2018, SWAMC applied for and received a grant from the U.S. Department of Agriculture (USDA) through the Energy Audits and Renewable Energy Development Assistance (EA-REDA) program to provide highly subsidized energy audits to small businesses in the SWAMC

region (grant funding covers 75% of the cost). Several regional organizations provided letters of support and contributed non-federal cost share to support SWAMC's application. This grant program, now on it's third year after successful 2019 and 2020 applications, is operated separately from this DOE grant, but has allowed SWAMC and the project team to fulfill the energy audit and energy efficiency upgrade tasks outlined in this scope of work by leveraging staff and information-sharing resources and providing a program to funnel building owners to. After they receive an energy audit, staff then directs business owners to a follow-on USDA grant under the Rural Energy for America Program (REAP) which, if their application is approved, can cover 25% of the cost of the energy efficiency upgrades identified in the audit.

In total, 60 businesses have received energy audits, 6 are in progress, and 13 are registered in the SWAMC region. Staff has seen great interest in the program from commercial fishing vessel owners as they look to use the REAP grant to help cover the costs of installing refrigerated seawater systems in their boats, an upgrade that significantly reduces the amount of time (and diesel fuel) spent obtaining ice to chill their catch and garners them a higher price per pound for the fish. Participating fishermen are all from the Bristol Bay fleet and many of those utilizing the program are Alaska native and local to the region and have the greatest need in terms of remaining competitive with the rest of the fleet. Of the program participants, over 15 have received REAP grant awards so far to pay for their energy efficiency upgrades, with the average grant award of $10,000 for a fishing vessel owner. This USDA-funded energy audit program has been so successful due to the network created under this DOE grant that provided the staff time and information-sharing methods to launch it effectively across the region. SWAMC plans to continue operating the program as long as the need and program funding remains.

- *Employ regional housing authorities (RHAs)* – Project staff met with staff of RHAs to assess options for using in-region skilled workforce to conduct non-residential benchmarking, energy audits, and/or retrofits. Some progress was made on this topic, but it ultimately was not a good fit for RHA staff as their focus is on RHA-owned residential units rather than non-residential buildings with varying ownership structures. The RHAs are also stretched thin budget-wise and cannot stray too far from their prescribed mission to focus on housing. Kodiak REC Tyler Kornelis worked with the Kodiak Island Housing Authority (KIHA) in early 2020 to assess the feasibility of doing a heat pump campaign in Kodiak, where electricity rates are low (due to hydro and wind power) and heating fuel rates are high. Tyler worked with KIHA to understand whether Native American Housing Assistance and Self Determination Act (NAHASDA) funding allocated to tribes could be utilized to convert to heat pumps in eligible tribal member homes through KIHA's weatherization program. This is an ongoing project.

- *Document and track EE&C Successes* – Project staff prepared reports and presentations highlighting EE&C project successes and guiding regional stakeholders to additional resources. SWAMC's energy audit program has been highlighted in flyers, Facebook posts, and presentations at SWAMC's annual conference and other regional events to share the successes of the Southwest Alaska Energy Network. Progress made on the program has also been shared in presentations at seasonal Alaska Energy Efficiency Partnership meetings hosted by the Alaska Energy Authority. SWAMC Energy Coordinator Laura Vaught was awarded an Alaska Energy Efficiency Leadership Award in October 2019 for her "significant contribution to advance energy efficiency in Alaska".

Task 6.0: Organizations and utilities incorporate successful energy structures, procedures, and best practices into strategic and organizational plans.

- *Incorporate Regional Energy Coordinator position into long-term plans* – SWAMC's formal Energy Coordinator position ended with the end of DOE grant funding, but energy coordination and outreach tasks have been folded under the Economic Development Specialist position which has secure funding from other sources. Laura Vaught, Multi-Regional Energy Coordinator and Project Manager for this grant, was promoted to Economic Development Specialist in October 2019 and will remain at SWAMC for the foreseeable future, focusing on a broader range of work but maintaining the energy expertise and capacity built under this grant.

  Tyler Kornelis, REC at the Kodiak Area Native Association, secured funding to continue the energy-focused portion of his job beyond this DOE grant through a USDA Community Facilities Technical Assistance & Training grant. The USDA CFTAT grant will support him from October 2019 to September 2021 to continue energy planning and project development throughout Kodiak region communities.

  The individual hired for the REC position at the Bristol Bay Native Association was laid off in September 2019 with the end of DOE grant funding. Neither BBNA nor the REC attempted to secure additional funding for the position. However, energy education and outreach tasks have been informally folded under the Economic Development Program Manager position at BBNA. This individual does extensive outreach to tribal contacts across the region as part of their economic development tasks and has incorporated a focus on energy issues into this role after observing the work of the Bristol Bay REC and learning about regional energy issues and resources.

  The individual who held the REC position at the Aleutian Pribilof Islands Association retired in August 2019. Energy was only a portion of this individual's scope and APIA has not pursued additional funding for energy coordination work at this time.

  The project team did reach out to the Alaska Native Regional Corporations to gauge their interest in contributing funding to support the REC positions beyond this DOE grant. However, funding programmatic activities such as ours is not a typical role for them, as it overlaps with the activities of the regional non-profits who typically secure grant funding for their programmatic work.

- *Assess concept of regional utility operator for troubleshooting and emergency response* – An effort spearheaded by Chris McConnell of the Alaska Network of Energy Education and Employment (ANEEE) and Daniel Cheyette of the Bristol Bay Native Corporation (BBNC) has begun in recent months to form a Bristol Bay Energy Coalition. This effort has involved several videoconferences during spring 2020 to increase communication and knowledge sharing amongst Bristol Bay energy stakeholders and to discuss the potential for creating a shared services model to help combat the high cost of energy through more efficient utility operations and maintenance. Regional attendees so far have included the BBNA Economic Development Program Manager, the SWAMC Economic Development Specialist, and utility managers from across the Bristol Bay region. Discussions have focused on existing educational and training resources and delivery methods as well as identifying and building a network of skilled technicians to serve the Bristol Bay region. This shared-services network of skilled technicians would have the distinct advantage of spreading costs across

communities and capturing economies-of-scale from regionally based services. This is an ongoing project.

- *White paper* – The SWAMC Energy Coordinator, with assistance from a Technical Panel consultant, developed a white paper entitled "*Southwest Alaska Energy Network* – Outline for Future Efforts". This short document provides a high-level overview of the outcomes of this grant and lessons learned, with the intention of being an easily accessible final report for regional organizations to use when further developing their own energy programs so as not to reinvent the wheel, so to speak. Staff knew that a short white paper is more likely to be read than the Final Technical Report and wanted to publish a document that could be easily reviewed and shared by regional energy stakeholders.

Conclusions and Recommendations

The team considers this project to have been successful: this program contributed significantly to an increase in human capacity at SWAMC and across the region. This DOE grant program was the first of its kind and was experimental as it put the burden of defining success and establishing success metrics on the shoulders of the recipient organizations. Grantees were directed to self-define capacity and the type they would be creating through this grant. An existing definition of capacity that the project team used for guidance, developed by the United Nations Development Programme, was: "Capacity is the process through which individuals, organizations, and communities obtain, strengthen, and maintain the capabilities to set and achieve their own development objectives over time". In addition to this, the project team generated an informal definition of our own: "Capacity is institutional knowledge, the ability to communicate ideas and experiences, lessons learned, what's worked well, and what hasn't. Capacity is the successful system architecture and processes that can be copied and used as models for others."

This project certainly built the internal capacity of those who are still involved in this work: the Kodiak Regional Energy Coordinator (REC), the BBNA Economic Development Program Manager under whom energy tasks now fall, and I all received valuable training and gained crucial experience during this project that will benefit all other projects that we as individuals or our organizations undertake in the future. Likewise, the three individuals who previously held REC positions – one at APIA and two at BBNA – are now more informed citizens and are able to apply their training and knowledge gained through this work to further benefit their families and their communities in terms of increased energy literacy, advocacy tools, and ability to understand and implement concepts such as EE&C measures and renewable energy technologies.

As project manager, a role I had never personally held before, the impact that this grant had on my own internal capacity cannot be overstated. I have a much better understanding now of how to manage a project including scope, budget, and schedule; how to manage people and manage expectations; how to define metrics of success; how to run a non-profit; how to apply for and administer federal grants; how to facilitate an event; the structure and history of tribal entities in Alaska; and the history and role of the Office of Indian Energy. I gained public speaking skills, data management skills, marketing and communications skills, and leadership skills, making me a more valuable asset to SWAMC.

Individuals – their personalities, their backgrounds, their strengths, and their weaknesses – can be the determining factor for a capacity building program like this one, likely more so than for traditional construction grants. The time and expertise of contractors and consultants developing tools, outreach methods, and identifying next steps for community energy projects were only as useful as the RECs willingness and ability to utilize and implement them. REC input, of course, was crucially important in the development of these tools, but the energy coordinators in each region were either the weakest link or the biggest factor for success of this program. After reflection, the project team compiled a list of the skillet that best prepared an individual in an energy coordinator position to be successful at their role.

Whether funded through this grant or another source, a regional energy coordinator should be the go-to person for energy, serving as a liaison between the region (individuals, businesses, tribal entities, and cities), and the state and federal agencies, non-profit organizations, and technical experts offering resources. The REC is a central point of contact that anyone in the region can call if they don't know how to begin, who to contact, or where to go to learn more. It is as important for individuals in an energy coordinator position to understand this skillset as it is for the regional organizations seeking to hire for this role:

- *Longevity* – Willing and able to be in the position long enough to become established and known in the region. Building trust and developing personal relationships is critical.
- *Outreach ability* – Comfortable doing extensive outreach by phone, email, fax, and/or personal contact. Must be willing and able to travel within the region. RECs can increase awareness of energy tools that often go unused.
- *Energy knowledge* – Basic understanding of, or willingness and ability to quickly learn, energy terminology, basics of diesel powerhouse systems, renewable energy (and system integration considerations), government grant requirements, and the Power Cost Equalization program and the effect that renewable energy can have on subsidy rates. Must be capable of communicating complex energy information in technical terms or in layman's terms to energy agencies, technical consultants, utility personnel, and rural stakeholders as needed.
- *Funding knowledge* – Know how to track funding opportunities, write grant proposals, and manage a budget.
- *Flexibility and initiative* – The REC position is abstract without a precise roadmap of how things are done. A Regional Energy Coordinator must know the different players, understand their needs and resources, and possess the initiative to make connections that move projects forward when and where needed.

While it is true that personal flexibility is important for the regional energy coordinator, organizational flexibility is a must in hiring for this position – finding the right person can be challenging and, once hired, it is critical that they be retained as long as possible and practicable. This may mean an organization allowing flexibility in personnel policies, as appropriate, to ensure the retention of a good employee when found. The characteristics of the individual matter, and many of these skills are not developed through education or experience but are inherent to an individual's personality, strengths, and weaknesses. This can make recruiting for this position very challenging (and personal), but necessary for success long-term. Without an insistence on this skillset, the Regional Energy Coordinator position risks becoming one that only consumes funding and accomplishes little.

An example of model Regional Energy Coordinator throughout this project is Tyler Kornelis, REC at the Kodiak Area Native Association. Tyler possesses the required skillset for the role: he lives in the region that he serves and is familiar with the communities, the culture, and the economic and energy landscape there; he is motivated to overcome challenges that inevitably arise and is comfortable with stakeholder outreach; he used this grant to build his own capacity by participating in the Arctic Renewable Energy Networks Academy and the NREL Executive Energy Leadership Program; and he sought and secured new grant funding to continue his efforts begun under this program. Important to note is that Tyler's role as REC was only part of his responsibilities at KANA; he also oversees KANA's Economic Development Administration (EDA) Native Planning Grant, working in collaboration with local City, Borough, public and private sectors, and village entities to improve the economic status of Kodiak Island's rural villages. Energy security, energy sovereignty, and affordability is a critical part of economic development for rural communities, and the combination of energy and economic development roles at regional native organizations seems to work well given overlap with workforce development and community planning.

Broadening the roles of existing economic development personnel at regional organizations to harness their stakeholder relationships, networks, and outreach opportunities with a sharper focus on energy seems to be the simplest, most organic, and most sustainable method of entrenching energy capacity building and technical assistance services in each region. This can be especially useful if the regional organization has ongoing funding for economic development work but not always for energy-specific work – if the scope of the economic development funding is broad enough, that individual could incorporate energy planning tasks into their work or they could split their time between multiple funding sources if and when they do secure a grant to do more specific energy-focused work for the region. At the Bristol Bay Native Association, the energy education and outreach tasks that were covered by the REC position have been folded under their Economic Development Program Manager who is funded under the same type of EDA Native Planning Grant as Tyler Kornelis. This has been the case at SWAMC as well: when my position shifted to Economic Development Specialist in Fall 2019, I broadened my focus and role at the organization significantly, but I retain the experience, contacts, and knowledge developed throughout this project.

Elements of this program that are not sustainable post-award include the technical and management consultants who were on retainer to provide free assistance to the RECs and energy stakeholders, the ability to put on full-day workshops free to participants, staff time available to conduct benchmarking of non-residential buildings in each community, and maintenance of tools such as the energy project and funding opportunities databases. However, the staff members remaining at KANA, BBNA, and SWAMC maintain the ability to send energy funding opportunities and program information out to their contact lists, support and participate in local energy initiatives, and manage new or continuing energy grant programs. Tyler Kornelis is now working on a USDA Community Facilities Technical Assistance & Training grant to continue energy planning and project development work throughout the Kodiak region, and SWAMC has secured a third round of USDA Energy Audit and Renewable Energy Development Assistance (EA-REDA) grant funding to continue providing subsidized energy audits to small businesses.

Recommendations: SWAMC recommends that the Office of Indian Energy make changes to their deployment grants to make them more accessible to smaller federally recognized tribes. A common challenge encountered by the project team when sharing OIE funding opportunities with southwest Alaska tribes was the 50% cost share requirement. This restriction excluded many Alaska tribes, effectively screening out the tribes that would benefit the most from federal assistance and favoring wealthier tribes

with a stronger balance sheet. Small tribes in Alaska facing electricity costs well above the national average often cannot afford the cost share required to apply for OIE funding for even moderately sized energy projects. Flexibility for tribes to request a cost share reduction if they can show sufficient financial need would enable more equitable access to Office of Indian Energy funding so that small, disadvantaged tribes could compete alongside larger, wealthier tribes in their pursuit of energy sovereignty. Metrics such as cost of electricity, poverty level, and operating budget could be used to fairly determine when and where to allow for a reduction in cost share down to, say, 10% for tribes with the greatest need.

Additionally, requirements in FOAs that projects be located on tribal lands can be very limiting for Alaska tribes who do not have reservation land[1] on which to develop energy projects like many tribes in other states. Most Alaska native villages are very rural, are inaccessible by road, and are checkerboards of land ownership where other landowners may include the city, the borough, the state, and/or the school district. Many potential energy projects, especially renewable energy projects such as wind or hydro, are extremely location-specific and cannot be moved to another location that's on tribal land in order to fit narrow FOA eligibility criteria. This has resulted in tribes with good projects being unable to apply for OIE funding even though the project would benefit the whole native community. For example, in SWAMC's Bristol Bay region, the Nondalton Tribal Council was interested in applying for an OIE deployment grant in spring 2019 to install a standby generator for emergency use. Nondalton is a stand-alone village at the far end of their electric cooperative's distribution system and their power is provided by an aging underwater cable. Frequent power outages can leave the village in the dark for long periods of time, but a standby generator would allow the village to disconnect from the grid and generate electricity autonomously until they can receive grid power again. Their proposed energy project fell squarely within the tribal resiliency topic area of the FOA, but the tribe did not apply because the standby generator would have been located on Lake and Peninsula School District property adjacent to their fuel tank farm, the most logical and inexpensive location to put it. Greater flexibility in FOA language could allow for tribes with these types of projects to compete for OIE funding.

Lessons Learned

The way that SWAMC sub-divided the grant funding between us and the three regional native organizations (as sub-recipients) did come with some challenges. This structure was important to SWAMC as it distributed funds out to our region and allowed each organization to have local control over who they hired for the REC position and how they spent their funds. But one challenge for me was that as project manager I was responsible for the product of the RECs but was not in a supervisory position over them to enforce directives. The regional native non-profits are typically direct grant recipients, so being a sub-recipient and deferring project management control to SWAMC was not a normal role for them. For the most part this arrangement worked fine, but this was not always an ideal position for SWAMC to be in as it could result in tensions between regional sub-recipients, SWAMC, and OIE project officers.

Developing the database of energy projects, upon reflection, was not as useful as we thought it would be. Keeping it up to date was challenging and that process distracted from what we were trying to achieve

[1] The Metlakatla Indian Community on the Annette Island Reserve in the far southeast corner of the state is the only Native Reservation in Alaska.

with project data. The project team focused on a database format because we were building off the Regional Energy Planning (REP) process, the state-funded multi-year initiative that had been cut short just prior to this grant award due to a decline in state funding. In retrospect, trying to maintain the momentum of the REP process started us off on the wrong foot. The focus of the Regional Energy Plans was developing a resource inventory (Phase I) and then engaging stakeholders to prioritize energy projects (Phase II). The third phase, which was not funded by the state, was to be the development of implementation plans to walk communities through the steps of pursuing their top priority projects. There was a lot of overlap between this task and the tasks under this DOE grant scope of work, notably Task 3.0, so the project team focused heavily on verifying energy project information with stakeholders and assessing feasibility, instead of maintaining a primary focus on bolstering underlying capacity throughout the lifetime of the grant.

If given the chance to do it over, the project team would start the project off by mapping out existing capacity at the regional and community level. Similar to an asset map, this capacity map would identify the roles of regional organizations (native organizations, school districts, boroughs, economic development organizations, and non-profits) and the roles of local organizations (city, tribe, utility) in each community, recognizing both their purview and the work they do in order to better leverage the services (trainings, grant writing assistance) these organizations already offer. Capacity mapping for each community individually is crucial to understanding how to work with local stakeholders – in some cases the tribe is the strong governing body in the community and in some cases, it is the city – and where to access capacity to develop projects. This mapping process, carried out at the very beginning of the grant, would help the project team identify the strengths and weaknesses of the region and of each community to understand where to fill in the holes with specific capacity building efforts. It would also build on existing capacity assessments developed by statewide organizations by taking a deeper dive at the community level. Like the capacity map, developing a communication and evaluation strategy at the beginning of the project would also have been valuable to guide outreach. The project team did develop a communication strategy about halfway through the project, but this was far enough into the project that it did not significantly impact the team's communications as methods were already in place.

The project team likely focused too much on the Regional Energy Coordinators to be everything for the region. Even with the ideal REC with the skillset outlined above, there are going to be some things that they just cannot do. This limitation is magnified at the village level where there are fewer people and fewer resources. The team also did not have a strong, set definition of capacity to guide us in our work. It became clear near the end of the project that OIE leadership, namely Kevin Frost, Director for OIE Policy and Programs, was very focused on grantees developing their own definition of the type of capacity we are trying to build under our programs. With this in mind, and with the benefit of hindsight, it is now clear that defining in the beginning the type of capacity we were trying to build under this program could have prevented us from sometimes losing sight of the big picture.

The project team also should have started the project off with meetings with senior leadership at each regional organization. We thought we had contact with organizational leadership via the RECs, but this did not seem to be enough to rise up to the executive level in terms of importance. Involving senior leadership from the beginning to discuss how they'll prioritize and support this project could have fed into longer term relationships and commitments. Instead of addressing this end goal at the beginning, we approached this project objective too linearly, trying to tackle it in the latter half rather than using it as a guiding principal throughout the entire grant.

There were positive lessons learned throughout this project as well. One community energy project that was a stunning success was the electric distribution infrastructure replacement for Akhiok. The community urgently needed this work done to address frequent power outages and high line loss. The primary contact in the community had a significant need for assistance with project development and grant writing as they were planning to apply for a USDA High Energy Cost Grant. Kodiak REC Tyler Kornelis pulled in staff from Technical Panel consultant TDX Power to review and interpret previously developed engineering documents for inclusion in the application and helped the community coordinate with USDA agency staff to ensure they submitted a complete application within the fast turnaround time. A lot of people were involved to help Akhiok get their project over the finish line and having Tyler available as Regional Energy Coordinator to offer his services and be the glue linking the different players together was crucial. Once awarded the $1.2 million grant, Tyler also helped the community coordinate their distribution project with a concurrent state-funded powerhouse replacement project. Combined, the Akhiok electric systems upgrade project is a great example of how an energy coordinator is an asset to the region, helping a community move from energy planning to project development to successfully aligning project funding.