



Aleutian & Pribilof Islands Regional Energy Plan

Phase II Survey Results

Outreach Analysis

11/18/2014

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Overview

The intent of SWAMC's Alaska Energy Authority contract is to complete an Aleutian and Pribilof Island Energy Plan to allow for regional input, which informs future energy systems and identifies priority projects in each of the communities and regionally that will reduce the overall cost of power—making energy systems more effective. Phase II of this process was about reaching out to stakeholders in the region, to ask for their opinion, identify the projects they view as priorities, and create regional buy-in from stakeholders on the plan. This report will outline the survey methods SWAMC used to gather feedback on the Phase I Resource Inventory and analyze the results of the online survey conducted in Spring 2014. The survey results are included in the appendices.

Goals

The goal of Phase II is to engage local and regional stakeholders in the Regional Energy Planning process being conducted by AEA. SWAMC's main objective in designing the online survey was to ensure that the information outlined in the Phase I Resource Inventory was accurate and formed a comprehensive picture of the region's needs, and to identify energy priorities with input and vetting by local and regional stakeholders.

To ensure that SWAMC successfully identified regional priorities, we compiled a list of essential contacts. The Stakeholders Advisory Group, or SAG was a larger and more comprehensive list of people representing key entities within each community. The SAG consists of individuals connected to local government, tribal organizations and corporations, utilities providers, schools, clinics, seafood processors, and other essential entities in the region. The stakeholders represent large energy users in the communities, energy distributors, and regional or local organizations invested in energy issues. Within the SAG another subset was identified who could lead the energy planning process beyond the State's initial planning process. The Representative Stakeholders Advisory Group or RSAG consists key stakeholders representative of the greater Aleutian and Pribilof population who could invest effort into future energy projects and continue to guide the planning process. The RSAG provides the best and most accurate information on energy priorities in the region, and speak on behalf of local stakeholders. RSAG members are influential advocates, users, and distributors of energy in the region; individuals whose input on the project will inform and have the most impact on the final product.

Outreach Methods

After establishing initial SAG and RSAG lists, SWAMC aggregated the contacts lists and organized the *Roadmap* for our outreach methods. The first step was to organize a map of the communities in the Aleutian and Pribilof region, and important entities within each community, allowing us to have a comprehensive overview of important energy users groups. Within each community, contacts were divided into groups: government, tribal, utilities, schools, clinics, and processors. These groups represented the major energy users and energy advocates in individual communities. We used this overview to crosscheck and include stakeholders as necessary to understanding the regional energy need. This map of community contacts allowed us to ensure that the outreach was comprehensive, and the feedback painted an accurate and complete picture of the regional energy needs. The *Roadmap* simply tracked who we contacted, how we contacted them, confirming/denying receipt and review of the original Resource Assessment report and status of a follow up survey in regards to the accuracy of our current understanding of Aleutian Pribilof energy needs.

The *Roadmap* enabled SWAMC to record our progress as we moved forward with Phase II, through organized and methodical outreach. The most essential portion of our outreach was ensuring that as many people as possible in the region were able to receive and review the Phase I Resource Inventory and track whether or not people had taken the feedback survey. We ensured that stakeholders knew there were alternative options for receiving the document; including, sending smaller sections of the document, and mailing it if necessary. We were able to confirm that the majority of the Aleutian/ Pribilof Energy Stakeholders were able to receive the Resource Inventory. Our next effort was to ensure we received feedback on the energy survey, which asked specific community questions about findings in the Resource Inventory, as well as general questions to help gain a better understanding of energy use and prioritization of next steps towards creating better energy systems.

SWAMC began the Phase II outreach with a list of 64 contacts, which grew throughout the outreach process to 72. With so many contacts, coordinating and calling each of the stakeholders to conduct interviews by phone was impractical. After compiling the stakeholder contact list, it was decided that to maximize the number of people contacted an online survey method was more practical. Information Insights set up and regulated the survey website and organized the results. The feedback survey consisted of a number of questions, which were formatted through the collective effort of SWAMC, Information Insights, and Peter Crimp Consulting. The survey was intended to ask the stakeholders to define regional and local energy priorities, the energy needs, and key projects that would receive community support. This would allow the AEA to better understand energy issues in the region, and help them to determine the energy projects that would receive the most support in the future.

Outreach Results

Every instance of contact, whether it was through email or by phone was recorded in the outreach roadmap. On average SWAMC sent out 3 emails per person. A few stakeholders responded promptly and completed the survey after the first email contact, however about 20% of the stakeholders did not respond to either email or phone calls. SWAMC also reached out to stakeholders by phone, conducting three rounds of calls. On average, there were 1.5 phone calls per person, ranging between 1 and 4 calls. The original round of calls was intended to ensure that each stakeholder had access to the document, and could read the resource inventory if they wanted. The second and third round of calls was to ensure that stakeholders had received the link to the energy survey, and to encourage them to complete it. It is important to note here that the RSAG stakeholders were the most important individuals, to whom we exerted a large amount of effort to contact; however, they were also among the most difficult to reach, averaging 2.07 calls.

Our outreach concluded with 84.7% of the stakeholders confirming that they had received the Phase I Resource Inventory, 62.5% taking the survey and 40.3% successfully reviewing the Resource Inventory. Results were compared to the community map to determine distribution of responses regionally, across communities and entities to ensure that there was an even distribution of survey responses from each community. Since the goal of Phase II was to get a representative sample of people from each community to inform the plan on energy issues, SWAMC had to ensure that we contacted an individual from each community who could convey accurate information about energy in individual communities.

The main difficulty throughout this process was *creating by-in* from the stakeholders. Many of the individuals on our stakeholder list required multiple phone calls before we made contact, and still not everyone

was able to complete the survey. In addition to this, SWAMC had many people who logged in to take the survey and only completed sections of it.

Survey Results

The survey results identified a few definite themes. Survey respondents noted that heating and electricity are the biggest financial burden on families in Southwest Alaska. Respondents also emphasized that cost reduction in heating, followed by electricity, and travel to and from communities as areas of greatest need for energy relief.

The results of the survey showed that we receive a wide range of responses, both regionally and across all communities. The main objective of the survey was to identify energy project priorities and identify errors in the Phase I Resource Inventory. Across all eleven communities and regionally, we received 45 responses to the survey. The distribution of responses can be seen here in *Table 1: Community Response Distribution*.

Table 1: Community Response Distribution

Community	# of Responses
Adak	2
Akutan	3
Atka	1
Cold Bay	3
False Pass	3
King Cove	3
Nelson Lagoon	1
Other/Regional	8
Sand Point	5
St. George	1
St. Paul	5
Unalaska	5

Over all, there was an emphasis on the need for improved energy efficiency at all levels (residential, community, and businesses). The survey responses also revealed a large amount of support for renewable energy projects (wind, hydro, and tidal, etc.). Many community's energy needs varied but still followed a similar theme of needing increased energy efficiency and renewable energy projects. A common theme, featured by every community was the number and importance of needs. Every community ranked four to five (or more) of the identified needs as important to extremely important. This shows that the need for projects that will reduce the cost of energy in the Aleutian and Pribilof region is great throughout region.

Based on the identified energy projects and needs, the survey results were synthesized down to short term and long term priorities.

Short Term Priorities

- Affordable energy
- Complete and maintain current energy projects
- Energy Efficiency and Conservation
- Lower fuel costs and electricity costs
- Look at LNG
- Weatherization
- Diesel generator efficiency

Long Term Priorities

- Develop alternative energy sources- wind, hydro, geothermal, heat pumps, tidal
- Reliable, local, sustainable energy
- Conservation and Efficiency
- Upgrade distribution systems

Conclusion

Through considerable effort, SWAMC was able to receive valuable feedback from Aleutian Energy Plan Phase II – Outreach. Responses from a representative and well-informed sample of the Aleutian and Pribilof Islands population will prove sufficient to inform the primary direction that most residents of the Aleutian region wish to take their Energy Plan. Many individuals expressed enthusiasm for the project and a desire to be involved. Responses we received contributed to a comprehensive energy picture in the region, and feedback from the survey has allowed us to compile a list of regional and community priorities that can be used to guide the next stages of the Aleutian and Pribilof Energy Plan.

Appendix 1.

Responses -- Aleutian & Pribilof Islands Energy Plan Surveys

Community	# of Responses
Adak	2
Akutan	3
Atka	1
Cold Bay	3
False Pass	3
King Cove	3
Nelson Lagoon	1
Other/Regional	8
Sand Point	5
St. George	1
St. Paul	5
Unalaska	5

Appendix 2. Numerical Survey Responses

Adak Community Results

Adak – Ranking of Community Projects

Adak – Community Project Ranking	Upgrade diesel power system to improve efficiency, prepare for integration or renewables and facilitate heat recovery for community buildings	Improve energy efficiency of residential and community buildings	Pursue hydro at Bonnie Rose Lake	Identify a less turbulent site for wind turbines using met towers.
Rank (1 Most Important	3	4	1	2
4 Least Important)	1	3	2	4

The survey respondents in Adak ranked the four identified energy projects in order of importance. Overall, pursuing hydro at Bonnie Rose Lake was identified as the most important project. Following energy efficiency in importance was an emphasis on energy efficiency. Respondents noted that identifying a less turbulent site for wind turbines using MET towers as a high priority.

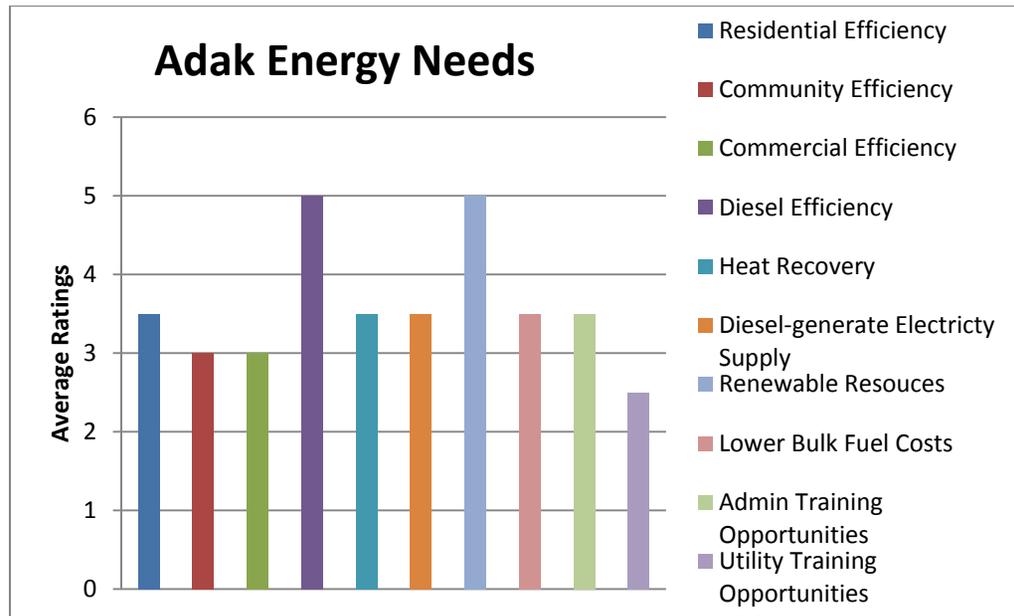
Adak - Community Priorities

Adak-Community Priorities	What is the highest priority energy project for your community or region?	Are there other high-priority energy projects that should be pursued in your community or region? If so, what are they:	Are there any infrastructure projects that are a high priority for your community that would lower the cost of fuel or transportation?	What are the biggest barriers, other than financing, to advancing energy projects in your community?
<p>Priorities Listed by Respondent: 1</p>	<p>No answers</p>	<p>Tidal appears to be something Adak may have going for research. Until better demand figures can be produced long-term projects will be harder to ascertain for proper sizing. Wind/Hydro pump storage solution identified in City/EDA commissioned study should be explored further.</p>	<p>Complete reworking of the electrical distribution system</p>	<p>None</p>
<p>Priorities Listed by Respondent: 2</p>			<p>Increased general commerce and volume transactions. Until new distribution grid/efficient diesel can be installed the other side of the economic development coin will never be recognized.</p>	<p>Getting by-in from others about the true nature of the disaster of energy on the island. The local community is actively ready to commit, state and federal sources seem to be lacking in general support. The standard models do not work on Adak, something State and Federal agencies fail to recognize until they come to the island and see for themselves.</p>

Adak - Energy Needs

Adak Ranking Energy Needs

Energy Need	Improving residential energy efficiency	Improving energy efficiency in community buildings	Improving energy efficiency among commercial and industrial users	Improving diesel efficiency by upgrading/replacing power plant infrastructure	Expanding heat recovery (use of waste heat) to heat community buildings	Increasing the supply of diesel-generated electricity	Increasing the supply of electricity from renewable resources (wind, hydro, solar, biomass, etc.)	Looking for opportunities to lower bulk fuel costs by improving operations, reducing transportation costs, partnering with other buyers, etc.	Building local capacity by pursuing administrative training opportunities for local leaders and utility and bulk fuel managers	Building local capacity by pursuing training opportunities in operations for local utility and/or bulk fuel operators
Ranking										
5- Extremely Important	3	3	3	5	3	2	5	4	4	2
4										
3										
2										
1- Not Important	4	3	3	5	4	5	5	3	3	3



Adak identified increasing the supply of electricity from renewable sources, and improving energy efficiency in community buildings as the two top energy needs. These were followed by improving residential energy efficiency, expanding heat recovery to heat community buildings, looking for opportunities to lower bulk fuel costs by improving operations, reducing transportation costs, partnering with other buyers, etc., and building local capacity by perusing training.

Akutan Community Results

Akutan - Ranking of Community Projects

Akutan- Community Project Ranking	Maintain the existing hydro-diesel power system and identify ways to improve performance and reduce diesel consumption	Improve energy efficiency of residential and community buildings	Continue geothermal exploration and pursue development in Hot Springs Bay Valley with Trident Seafoods	Identify a viable site for wind turbines using met towers
Rank (1 Most Important	1	3	2	4
4 Least Important)	1	2	3	4
	3	2	4	1

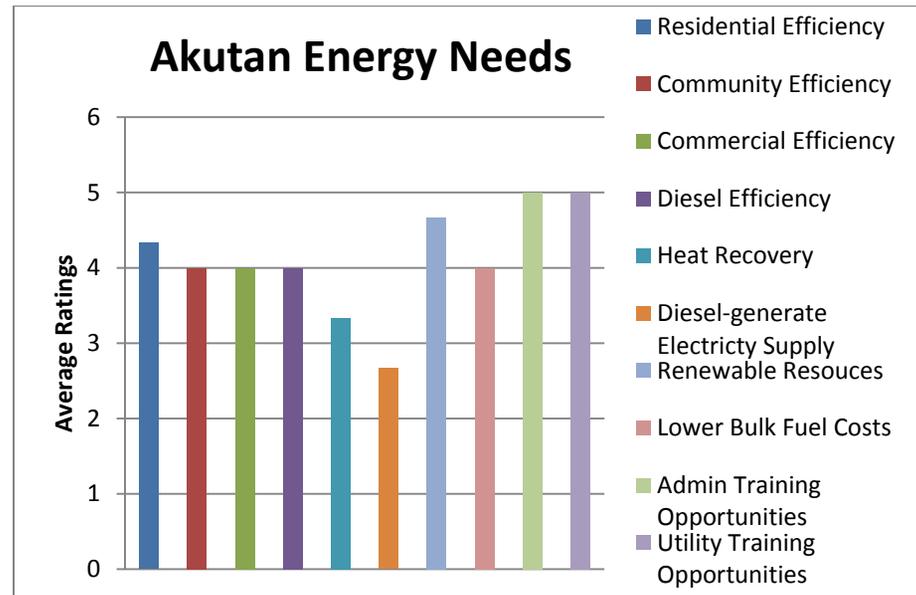
Akutan identified two projects as their top priorities endeavors, maintaining the existing hydro-diesel power system and identifying ways to improve performance and reduce diesel consumption, and identifying a viable site for wind turbines using MET towers. These were followed by improving the efficiency of residential and community buildings.

Akutan – Community Priorities

Akutan- Community Priorities	What is the highest priority energy project for your community or region?	Are there other high-priority energy projects that should be pursued in your community or region? If so, what are they:	Are there any infrastructure projects that are a high priority for your community that would lower the cost of fuel or transportation?	What are the biggest barriers, other than financing, to advancing energy projects in your community?
<p style="text-align: center;">Priorities Listed by Respondents</p>	<p>No answers</p>	<ul style="list-style-type: none"> - Long-term assessment of renewable energy potential for the new airport and surrounding development areas - Ocean and wave power 	<ul style="list-style-type: none"> - Continuing the dock and harbor project are a high priority for Akutan as they will both help lower fuel and transportation costs for those living and working in the region. - Harbor access road between the village and the new harbor - City dock/small boat harbor; airport runway and harbor road 	<ul style="list-style-type: none"> - Finding and training qualified local employees is a barrier to advancing energy projects in Akutan; Having a short window of time for construction is a barrier, as is the cooperation with other government entities. -High cost of construction in remote sights - Geographical location in terms of mobilization of good and materials and local manpower pool.

Akutan - Energy Needs

Akutan Ranking Energy Needs										
Energy Need	Improving residential energy efficiency	Improving energy efficiency in community buildings	Improving energy efficiency among commercial and industrial users	Improving diesel efficiency by upgrading/replacing power plant infrastructure	Expanding heat recovery (use of waste heat) to heat community buildings	Increasing the supply of diesel-generated electricity	Increasing the supply of electricity from renewable resources	Looking for opportunities to lower bulk fuel costs by improving operations	Building local capacity by pursuing administrative training opportunities	pursuing training opportunities in operations for local utility and/or bulk fuel operators
Ranking										
5- Extremely Important	4	3	3	3	3	3	4	4	5	5
4	4	4	4	5	2	1	5	4	5	5
3										
2										
1- Not Important	5	5	5	4	5	4	5	4	5	5



The identified energy needs in Akutan are great. survey takers all ranked building local capacity by pursuing administrative training opportunities for local leaders and utility and bulk fuel managers, building local capacity by pursuing training opportunities in operations for local utility and/or bulk fuel operators, increasing the supply of electricity from renewable resources (wind, hydro, solar, biomass, etc.), and improving residential energy efficiency as top energy needs in the community. These were closely followed by looking for opportunities to lower bulk fuel costs by improving operations, reducing transportation costs, partnering with other buyers, etc., improving diesel efficiency by upgrading/replacing power plant infrastructure, improving energy efficiency among commercial and industrial users, improving energy efficiency in community buildings; all of which ranked high as an energy need.

Atka Community Results

Atka – Projects and Energy Needs Not Ranked & Priorities not listed

Atka projects and energy needs were not identified by the survey respondent; however, Atka responded with corrections to the Phase I Resource Inventory. These can be found in appendix 12.

Cold Bay Community Results

Cold Bay – Ranking of Community Projects

Cold Bay - Community Project Ranking	Complete work to assess the feasibility of a district heating loop for government buildings and pursue development if proven viable	Improve energy efficiency of residential and community buildings	Engage federal landowners in discussions to determine definitively the constraints on hydro development at Russell Creek and other streams	Complete wind feasibility work and pursue development if wind resources is found to be viable
Rank (1 Most Important 4 Least Important)	3 1	2 3	1 4	4 2

Not all respondents ranked projects.

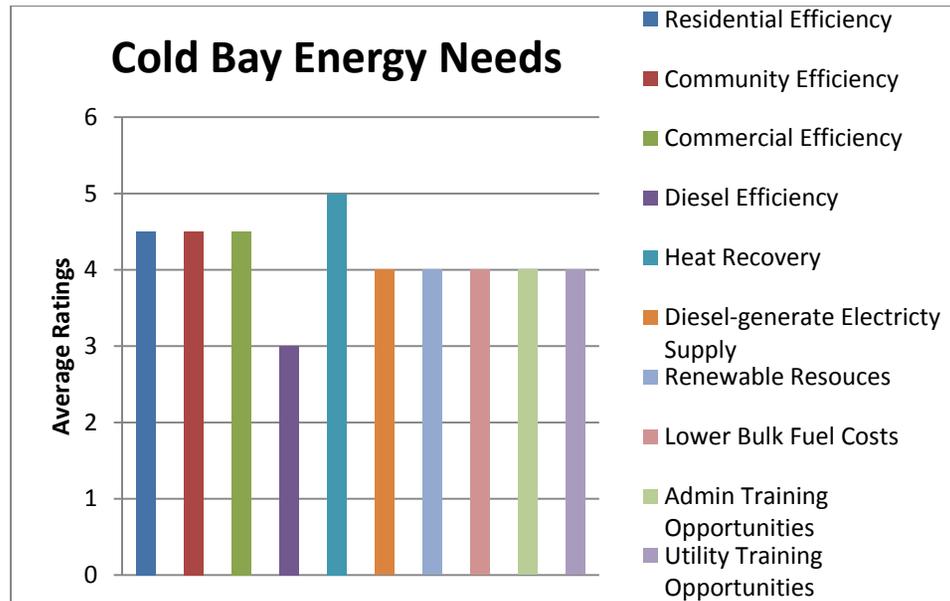
The ranking of community projects was variable in Cold Bay. Not all of the survey respondents from Cold Bay provided rankings, but from those that did there was no clear “Top Ranking” to emerge. The results can be seen above. From the table featured below, we can see that engaging federal landowners in discussion to determine definitively the constraints on hydro development at Russell Creek and other streams, and completing work to assess the feasibility of a district heating loop for government buildings and pursue development if proven viable were the two top ranked projects. The results of the next two top ranked community projects were also split between completing wind feasibility work and pursuing development if wind resources are found to be viable and pursuing development if proven viable an improving energy efficiency of residential and community buildings.

Cold Bay – Community Priorities

Cold Bay- Community Priorities	What is the highest priority energy project for your community or region?	Are there other high-priority energy projects that should be pursued in your community or region? If so, what are they:	Are there any infrastructure projects that are a high priority for your community that would lower the cost of fuel or transportation? Examples might be a high-priority dock/harbor, airport runway, road or bridge project. If so, what are they?	What are the biggest barriers, other than financing, to advancing energy projects in your community?
Priorities Listed by Respondents	No answers	Tide	<ul style="list-style-type: none"> - City fuel farm - Protected Marine Infrastructure 	<ul style="list-style-type: none"> - Politics - Quality of power generated from green energy projects

Cold Bay - Energy Needs

Cold Bay Ranking Energy Needs										
Energy Need	Improving residential energy efficiency	Improving energy efficiency in community buildings	Improving energy efficiency among commercial and industrial users	Improving diesel efficiency by upgrading/replacing power plant infrastructure	Expanding heat recovery (use of waste heat) to heat community buildings	Increasing the supply of diesel-generated electricity	Increasing the supply of electricity from renewable resources	Looking for opportunities to lower bulk fuel costs	Pursuing administrative training opportunities for local leaders and utility and bulk fuel managers	Pursuing training opportunities in operations for local utility and/or bulk fuel operators
Ranking										
5- Extremely Important	5	5	5	2	5	5	5	5	5	5
4										
3										
2										
1- Not Important	4	4	4	4	5	3	3	3	3	3



The survey results identified four top energy needs for Cold Bay. The most important, with the highest ranking from both survey takers is expanding heat recovery to heat community buildings. Following this was improving residential energy efficiency, improving energy efficiency in community buildings, and improving energy efficiency among commercial and industrial users. Overall, the survey responders both ranked every need that was given, other than increasing the supply of diesel as important (over three).

False Pass Community Results

False Pass – Ranking of Community Projects

False Pass - Community Project Ranking	Repair and upgrade the diesel power system to reduce high line losses and improve overall efficiency	Assess feasibility of delivering heat to the school from the power plant	Finish uncompleted wind feasibility project and pursue development if proven viable	Improve energy efficiency of residential and community buildings	Reevaluate potential hydro sites at Unga Mans Creek, Waterfall Creek, and other creeks in cooperation with Isanotski Corp	Conduct further tidal energy feasibility analysis
Rank (1 Most Important 6 Least Important)	1	6	4	3	5	2

Not all respondents ranked projects & respondents did not provide community priorities

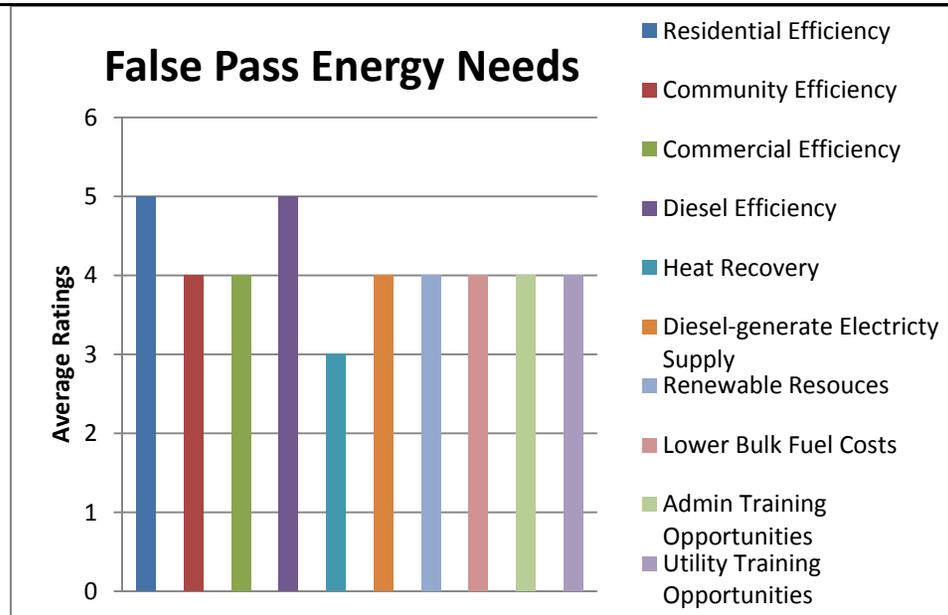
The survey results from False Pass show that the repair and upgrade of the diesel power system to reduce high line losses and improve overall efficiency is the highest priority. This is followed by conducting further tidal energy feasibility analysis and improving the energy efficiency of residential and community buildings.

False Pass – Community Priorities

None Listed

False Pass - Energy Needs

False Pass Ranking Energy Needs										
Energy Need	Improving residential energy efficiency	Improving energy efficiency in community buildings	Improving energy efficiency among commercial and industrial users	Improving diesel efficiency by upgrading/replacing power plant infrastructure	Expanding heat recovery (use of waste heat) to heat community buildings	Increasing the supply of diesel-generated electricity	Increasing the supply of electricity from renewable resources	Looking for opportunities to lower bulk fuel costs	Pursuing administrative training opportunities for local leaders and utility and bulk fuel managers	Pursuing training opportunities in operations for local utility and/or bulk fuel operators
Ranking										
5- Extremely Important										
4	5	4	4	5	3	4	4	4	4	4
3										
2										
1- Not Important										



The respondent for False Pass identified two major energy needs for the community. First, improving residential energy efficiency, and second is improving diesel efficiency by upgrading/ replacing power plant infrastructure. All other needs were listed as important. Improving energy efficiency in community buildings, improving energy efficiency among commercial and industrial users, increasing the supply of diesel-generated electricity, increasing the supply of electricity from renewable resources, looking for opportunities to lower bulk fuel costs by improving operations, reducing transportation costs, partnering with other buyers, building local capacity by pursuing administrative training opportunities for local leaders and utility and bulk fuel managers, and building local capacity by pursuing training opportunities in operations for local utility and/or bulk fuel operators.

King Cove Community Results

King Cove – Ranking of Community Projects

King Cove - Community Project Ranking	Maintain the existing hydro-diesel power system and determine cause of high line losses	Complete the Waterfall Creek hydro project and secure a power sale agreement with Peter Pan	Assess sites in the Ram Creek Valley to identify a potentially less turbulent wind farm site	Improve energy efficiency of residential and community buildings
Rank (1 Most Important)	3	4	2	1
4 Least Important)	2	1	3	4
	3	2	1	4

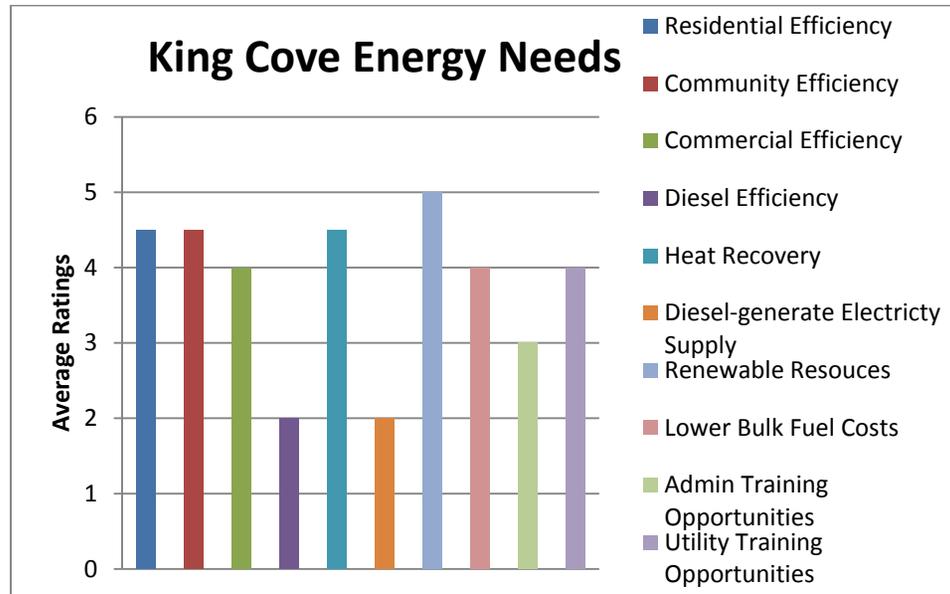
The survey responders identified three top community projects for King Cove. Completing the Waterfall Creek hydro project and secure a power sale agreement with Peter Pan, assessing sites in the Ram Creek Valley to identify a potentially less turbulent wind farm site, and improving energy efficiency of residential and community buildings

King Cove – Community Priorities

King Cove- Community Priorities	What is the highest priority energy project for your community or region?	Are there other high-priority energy projects that should be pursued in your community or region? If so, what are they:	Are there any infrastructure projects that are a high priority for your community that would lower the cost of fuel or transportation?	What are the biggest barriers, other than financing, to advancing energy projects in your community?
Priorities Listed by Respondents	No answers	No others	No	No significant barriers

King Cove - Energy Needs

King Cove Ranking Energy Needs										
Energy Need	Improving residential energy efficiency	Improving energy efficiency in community buildings	Improving energy efficiency among commercial and industrial users	Improving diesel efficiency by upgrading/replacing power plant infrastructure	Expanding heat recovery (use of waste heat) to heat community buildings	Increasing the supply of diesel-generated electricity	Increasing the supply of electricity from renewable resources	Looking for opportunities to lower bulk fuel costs	Pursuing administrative training opportunities for local leaders and utility and bulk fuel managers	Pursuing training opportunities in operations for local utility and/or bulk fuel operators
Ranking										
5- Extremely Important	5	5	5	1	5	1	5	5	3	5
4										
3										
2	4	4	3	3	4	3	5	3	3	3
1- Not Important										



The survey responses show that increasing the supply of electricity from renewable resources is one of the most important energy needs in the community. This is followed by improving residential energy efficiency, improving energy efficiency in community buildings, improving energy efficiency among commercial and industrial users and expanding heat recovery to heat community buildings.

Nelson Lagoon Community Results

Nelson Lagoon – Ranking of Community Projects

Nelson Lagoon - Community Project Ranking	Repair and maintain the diesel power system to improve efficiency and reliability	Assess the feasibility of heating the community storage building with waste heat from the power plant	Improve energy efficiency of residential and community buildings	Complete unfinished wind feasibility work and pursue development if proven viable.	Monitor emerging opportunities for tidal energy development?
Rank (1 Most Important 5 Least Important)	5	1	4	3	2

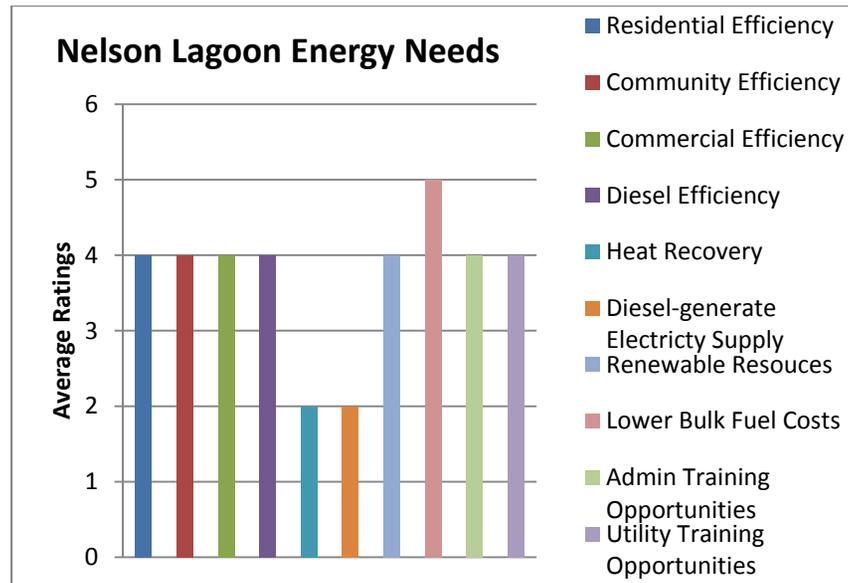
The survey responses in Nelson Lagoon identified assessing the feasibility of heating the community storage building with waste heat from the power plant as the top energy project in the community. This is followed by monitoring emerging opportunities for tidal energy development.

Nelson Lagoon – Community Priorities

Nelson Lagoon- Community Priorities	What is the highest priority energy project for your community or region?	Are there other high-priority energy projects that should be pursued in your community or region? If so, what are they:	Are there any infrastructure projects that are a high priority for your community that would lower the cost of fuel or transportation?	What are the biggest barriers, other than financing, to advancing energy projects in your community?
Priorities Listed by Respondents	No answers	improving energy efficiency residential and commercial bldg	a sea wall. will not save money but will save the community.	Population base shrinking do to school closing young people leaving to educate their children and work.

Nelson Lagoon Ranking Energy Needs										
Energy Need	Improving residential energy efficiency	Improving energy efficiency in community buildings	Improving energy efficiency among commercial and industrial users	Improving diesel efficiency by upgrading/replacing power plant infrastructure	Expanding heat recovery (use of waste heat) to heat community buildings	Increasing the supply of diesel-generated electricity	Increasing the supply of electricity from renewable resources	Looking for opportunities to lower bulk fuel costs	Pursuing administrative training opportunities for local leaders and utility and bulk fuel managers	Pursuing training opportunities in operations for local utility and/or bulk fuel operators
Ranking										
5- Extremely Important										
4	4	4	4	4	2	2	4	5	4	4
3										
2										
1- Not Important										

Nelson Lagoon- Energy Needs



The survey responses show looking for opportunities to lower bulk fuel costs by improving operations, reducing transportation costs, and partnering with other buyers is a top need for Nelson Lagoon. This is followed by the importance of improving energy efficiency on all levels, increasing the supply of electricity from renewable resources, and building local capacity through administrative training and opportunities and local utility and/ or bulk fuel operator

Regional/Other Community Results

Regional/Other – Community Priorities

Regional/Other-Community Priorities	What is the highest priority energy project for your community or region?	Are there other high-priority energy projects that should be pursued in your community or region? If so, what are they:	Are there any infrastructure projects that are a high priority for your community that would lower the cost of fuel or transportation?	What are the biggest barriers, other than financing, to advancing energy projects in your community?
Priorities Listed by Respondents	<p>- While heating and transportation have the biggest impact on the residential pocket book, there are also very large commercial electricity loads from processing plants that are unique to the region. These commercial operational loads and associated costs also have a trickle-down effect on the residents and the ability to attract economic development opportunities. Efficiency, heating and electricity solutions are all top priorities. Tidal and wind resources are being analyzed in False Pass, wind is being developed in St. George.</p> <p>- Our focus/ priority is on weatherization & construction of the most energy efficient affordable housing in the state. -we would like to see the wind turbo going if it saves the residents electric bill - Expanded hydro-electric plant in King Cove</p> <p>- Not focused on specific projects, rather in finding regionally applicable solutions</p> <p>- TDX to be connected to Sand Point Clinic, so we can benefit from their waste heat.</p>	<p>- Community/Local Energy Planning should be pursued</p> <p>- Tidal</p> <p>- See above. We (AHA) will support but not take the lead on other major projects although we are experimenting with small scale wind power generation.</p> <p>- yes the cost of fuel that heats the homes</p> <p>- Other AEB projects include ongoing wind energy projects in Cold Bay, False Pass, Nelson Lagoon; geothermal in Akutan; hydro-kinetic in False Pass.</p> <p>- There should be a way to lower the cost of fuel in Cold Bay; Support continued planning for geothermal project in Akutan.</p>	<p>- Harbor project in St. George</p> <p>- to have a boat that runs from Dutch Harbor to Nikolski @ least once a month round trip so people can go get stuff they need for the winter</p> <p>- A completely new transmission and distribution system in Adak</p> <p>- If there was a road between King Cove and Cold Bay, then price of fuel in Cold Bay would probably be lowered to match King Cove.</p>	<p>- The technological barriers of island micro-grid design and making sure that renewable integration is effective and efficient.</p> <p>- Good research to develop the most cost effective, well balanced solutions.</p> <p>- poor management no leadership one family running the whole village no training to fix any thing</p> <p>- Financing is by far the biggest barrier, regional priorities are another.</p> <p>- Politics</p>

Sand Point Community Results

Sand Point – Ranking of Community Projects

Sand Point - Community Project Ranking	Upgrade the existing diesel power system to improve efficiency and reliability	Improve energy efficiency of residential and commercial buildings	Assess the feasibility of a district heating loop to heat community buildings with waste heat from the power plant	Install an electric boiler in the school to harness excess wind energy for heating and improve wind-diesel system performance
	4	1	3	2
	1	4	2	3
Rank (1 Most Important 4 Least Important)	3	2	1	4
	4	3	2	1
	3	1	2	4

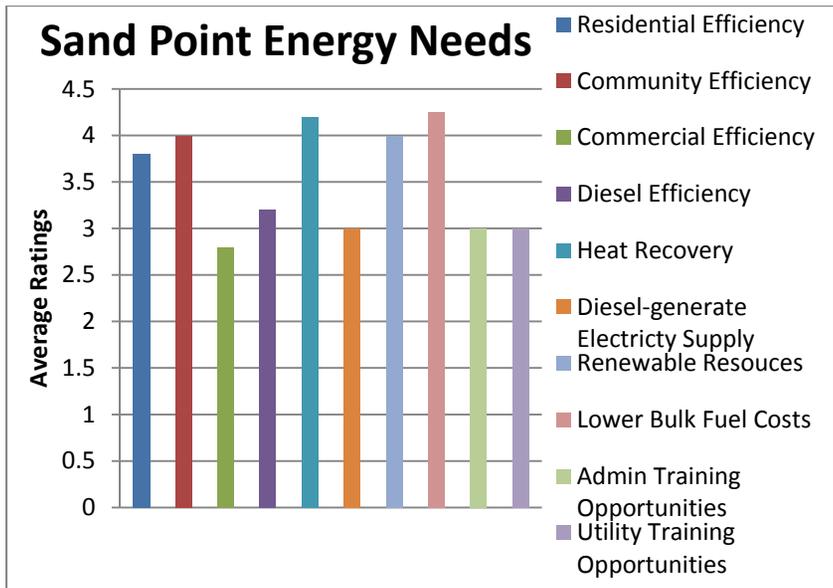
The Sand Point respondents identified two community projects of high importance. Assessing the feasibility of a district heating loop to heat community buildings with waste heat from the power plant, and improving the energy efficiency of residential and commercial buildings on average were both labels as having a high rank of importance. These were followed by the installation of an electric boiler in the school to harness excess wind energy for heating and improving wind-diesel system performance, and upgrading the existing diesel power system to improve efficiency and reliability.

Sand Point – Community Priorities

Sand Point- Community Priorities	What is the highest priority energy project for your community or region?	Are there other high-priority energy projects that should be pursued in your community or region? If so, what are they:	Are there any infrastructure projects that are a high priority for your community that would lower the cost of fuel or transportation?	What are the biggest barriers, other than financing, to advancing energy projects in your community?
Priorities Listed by Respondents	No answers	<ul style="list-style-type: none"> - More bulk fuel storage capabilities - Tidal energy - No 	<ul style="list-style-type: none"> - fuel storage, dock improvements - have the wind mills benefit the community.... - roads 	<ul style="list-style-type: none"> - Public vs. private utility structure. City does not control its own destiny in terms of building an energy future. - Location in relation to materials - get folks onboard - who does the work - Knowledge of how to implement some of the technology. The tribe and its experience with their wind turbine is the perfect example. We also have the Aleutian Housing Authority coming in with an experimental design to improve energy efficiency. If it proves fruitful, how would other residence go about utilizing the technology in already existing homes?

Sand Point- Energy Needs

Sand Point Ranking Energy Needs										
Energy Need	Improving residential energy efficiency	Improving energy efficiency in community buildings	Improving energy efficiency among commercial and industrial users	Improving diesel efficiency by upgrading/replacing power plant infrastructure	Expanding heat recovery (use of waste heat) to heat community buildings	Increasing the supply of diesel-generated electricity	Increasing the supply of electricity from renewable resources	Looking for opportunities to lower bulk fuel costs	Pursuing administrative training opportunities for local leaders and utility and bulk fuel managers	Pursuing training opportunities in operations for local utility and/or bulk fuel operators
Ranking 5- Extremely Important	5	5	4	3	4	2	5	5	4	4
4	3	3	3	4	5	4	4	5	2	2
3	5	5	4	5	5	3	5	5	5	5
2	5	5	1	1	5	1	5	N/A	1	1
1- Not Important	1	2	2	3	2	5	1	2	3	3



On average, the respondents indicated that expanding heat recovery to heat community buildings and looking for opportunities to lower bulk fuel costs by improving operations, reducing transportation costs, and partnering with other buyers were the biggest energy needs in the community. This is followed by improving energy efficiency in community buildings, increasing the supply of electricity from renewable resources, and improving residential energy efficiency.

St. George Community Results

St. George – Ranking of Community Projects

St. George - Community Project Ranking	Complete the existing AEA Rural Power System Upgrade, including heat recovery	Improve energy efficiency of residential and community buildings	Complete installation of the 95 kW wind turbine and integration into existing diesel power system
Rank (1 Most Important 3 Least Important)	1	2	3

Survey respondents in St. George identified the top community project is completing the existing AEA Rural Power System Upgrade, including heat recovery. This is followed by improving the energy efficiency of residential and community buildings.

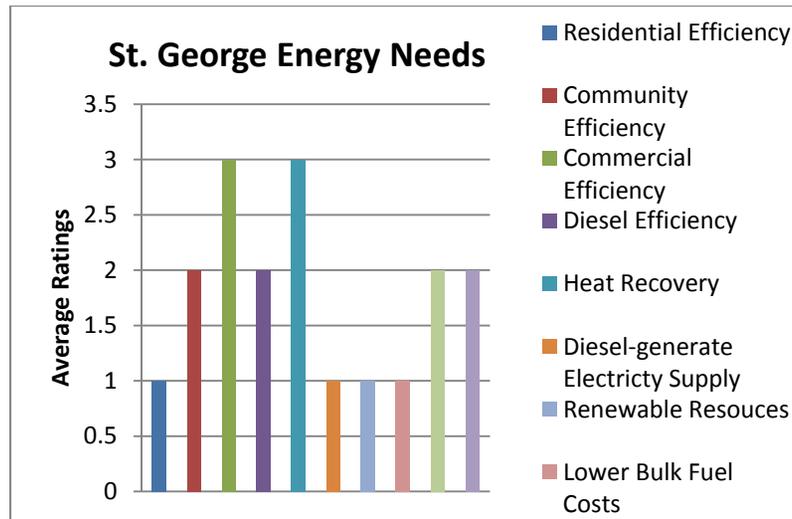
St. George – Community Priorities

St. George- Community Priorities	What is the highest priority energy project for your community or region?	Are there other high-priority energy projects that should be pursued in your community or region? If so, what are they:	Are there any infrastructure projects that are a high priority for your community that would lower the cost of fuel or transportation?	What are the biggest barriers, other than financing, to advancing energy projects in your community?
Priorities Listed by Respondents	No answers	Install electric heating systems in all homes.	Harbor reconstruction and dredging	Lack of weatherization and insulation in older non-AHA homes.

St. George- Energy Needs

Not all respondents ranked projects.

St. George Ranking Energy Needs										
Energy Need	Improving residential energy efficiency	Improving energy efficiency in community buildings	Improving energy efficiency among commercial and industrial users	Improving diesel efficiency by upgrading/replacing power plant infrastructure	Expanding heat recovery (use of waste heat) to heat community buildings	Increasing the supply of diesel-generated electricity	Increasing the supply of electricity from renewable resources	Looking for opportunities to lower bulk fuel costs	Pursuing administrative training opportunities for local leaders and utility and bulk fuel managers	Pursuing training opportunities in operations for local utility and/or bulk fuel operators
Ranking										
5- Extremely Important										
4	1	2	3	2	3	1	1	1	2	2
3										
2										
1- Not Important										



Assuming the respondent reversed the energy needs rankings—meaning 1 is extremely important and 5 is not important—the survey respondent noted three needs as extremely important in St. George. Improving residential energy efficiency, increasing the supply of diesel-generated electricity, increasing the supply of electricity from renewable resources, and looking for opportunities to lower bulk fuel costs by improving operations, reducing transportation costs, and partnering with other buyers, all ranked as extremely important.

St. Paul Community Results

St. Paul – Ranking of Community Projects

St. Paul - Community Project Ranking	Upgrade the existing diesel power system for efficiency and determine cause of line losses	Complete work under existing grant to integrate one of TDX’s wind turbines with St. Paul’s power system and determine feasibility of integrating additional turbines	Identify community buildings that can be heated with excess wind power and install electric boilers where appropriate	Improve energy efficiency of residential and commercial buildings
Rank (1 Most Important)	1	3	4	2
Rank (4 Least Important)	2	1	4	3
	4	1	2	3

Completing work under existing grant to integrate one of TDX’s wind turbines with St. Paul’s power system and determine feasibility of integrating additional turbines was ranked as the most important community project in St. Paul. This was followed by upgrading the existing diesel power system for efficiency and determining the cause of line losses in the community.

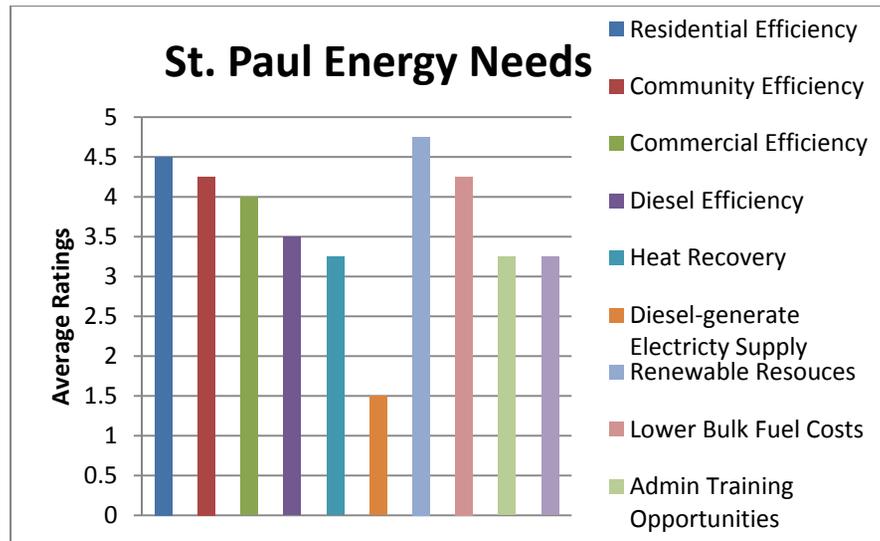
St. Paul – Community Priorities

St. Paul-Community Priorities	What is the highest priority energy project for your community or region?	Are there other high-priority energy projects that should be pursued in your community or region? If so, what are they:	Are there any infrastructure projects that are a high priority for your community that would lower the cost of fuel or transportation?	What are the biggest barriers, other than financing, to advancing energy projects in your community?
Priorities Listed by Respondents	No answers	<ul style="list-style-type: none"> - Wind Energy on St. George; Emergency heat and power generation for homes and essential services. - Energy networking for emergency power generation. Develop storage capacity for users to store excess heat energy from peak production periods for use at non-peak times. - Power plant upgrades and wind intertie are already underway with 2 turbines operational. Thermal heating of community buildings is ok but why not include residential ? People who live in homes vote! Community buildings don't vote. If you want the State of Alaska to support renewables make renewables benefit voters not just offset PCE rates. Contact me at 907-360-2939 (Kord Christianson) - Using wind energy to provide heating / Hot water heat to homes. Converting win energy into liquid, or gas energy to replace reliance on oil 	<ul style="list-style-type: none"> - Fuel Storage on St. George; Inter island ferry between St. Paul and St. George. - Develop storage tanks for aviation fuel at or near the airport in order to raise the regional role of the Saint Paul Airport. - Financing or grants for large scale wind integrated into a high wind penetration wind - diesel system. - Finish the deep water port and size of harbor to full design specs; New state of the art GPS landing systems at the airport, Alaska Air Fog buster 	<ul style="list-style-type: none"> - remote locations for both St. George and St. Paul; Qualified staff to assist with the project. - Suspicion among entities about who should be the primary provider of electric energy and possible subterfuge by some entities wishing to challenge the role of the city as the primary provider of electric power. - The RCA's regulation on thermal heat, wheeling excess renewable energy over existing utility power lines, and implementation of suitable controls. - RCA monopoly regulation's granting only one power company; City using power plant as a cash cow to balance budget; Power cost Equalization, PCE subsidy encouraging inefficient power plant operations, by paying for excess diesel fuel costs but penalizing those for replacing diesel with cheaper clearer fuel such as Wind power

St. Paul Ranking Energy Needs

Energy Need	Improving residential energy efficiency	Improving energy efficiency in community buildings	Improving energy efficiency among commercial and industrial users	Improving diesel efficiency by upgrading/replacing power plant infrastructure	Expanding heat recovery (use of waste heat) to heat community buildings	Increasing the supply of diesel-generated electricity	Increasing the supply of electricity from renewable resources	Looking for opportunities to lower bulk fuel costs	Pursuing administrative training opportunities for local leaders and utility and bulk fuel managers	Pursuing training opportunities in operations for local utility and/or bulk fuel operators
Ranking 5- Extremely Important	5	4	4	5	4	2	5	5	4	4
4	5	5	4	3	3	2	4	5	5	5
3	5	5	5	3	3	1	5	4	2	2
2	3	3	3	3	3	1	5	3	2	2
1- Not Important										

St. Paul- Energy Needs



St. Paul respondents provided three extremely important energy needs. Increasing the supply of electricity from renewable resources, improving residential efficiency, and looking for opportunities to lower bulk fuel costs by improving operations, reducing transportation costs, and partnering with other buyers were averaged and ranked among the highest energy needs. These were followed by improving energy efficiency in community buildings and improving energy efficiency among commercial and industrial users.

Unalaska Community Results

Unalaska – Ranking of Community Projects

Unalaska - Community Project Ranking	Maintain the existing diesel system to ensure high efficiency and reliability	Improve energy efficiency of residential and commercial buildings	Update assessments of Pyramid and Shaishnikof Creeks for hydro development	Identify non-turbulent sites for wind turbines using met towers	Study costs and benefits of importing LNG	Update cost estimates and develop plan for proceeding with Makushin geothermal development with stakeholder collaboration
	1	2	6	4	3	5
	6	4	1	3	5	2
Rank (1 Most Important 4 Least Important)	3	2	5	6	1	4
	3	1	2	4	5	6
	5	1	3	4	2	6

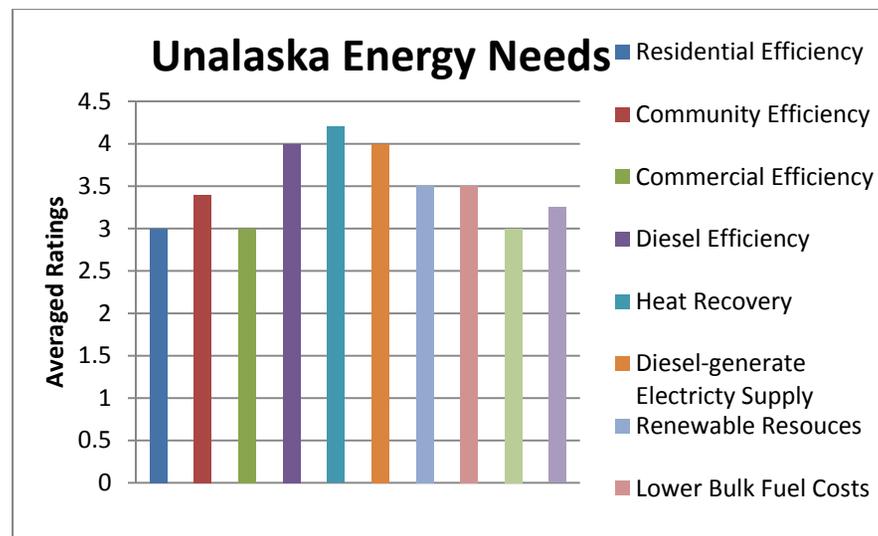
Survey respondents in Unalaska provided a clear top community project. Improving the energy efficiency of residential and commercial buildings had the lowest average. This is followed by studying the costs and benefits of importing LNG.

Unalaska – Community Priorities

Unalaska- Community Priorities	What is the highest priority energy project for your community or region?	Are there other high-priority energy projects that should be pursued in your community or region? If so, what are they:	Are there any infrastructure projects that are a high priority for your community that would lower the cost of fuel or transportation?	What are the biggest barriers, other than financing, to advancing energy projects in your community?
Priorities Listed by Respondents	No answers	<p>- Wind is not feasible in Unalaska. I have explained that several times. Pyramid Creek is not an option and have explained this as well. Makushin is estimated north of \$300 million. Our base load is \$10 megawatts. It does not pencil out. And now the Aleut Corp wants to do the project. The current powerhouse cannot go away, same costs for employees etc.</p> <p>- Kacie Lake Hydro could be a more stable and less risky project than the Makushin geothermal especially in light of the fact that a long transmission line will be needed in either case.</p> <p>- Waste heat recovery, integration of private powerhouses into the city grid.</p>	<p>- UMC dock project. \$40 million. New Waste Water Plant \$30 Million. New water plant \$20 million. Landfill cells \$4 million, Various paving projects.</p> <p>- The LNG idea might be a very good gap filler for not only Unalaska but for the entire region. IF lower cost LNG could be hubbed in Unalaska and shipped to other communities in the West this could be a real game changer.</p> <p>- Lengthen and widen the runway!</p> <p>- LNG pipeline, storage & distribution system.</p>	<p>- Cost of construction</p> <p>- Unfortunately cost is the biggest barrier. Also of concern is the far flung nature of our communities in SW Alaska and the economy of scale that is just not there.</p> <p>- Geothermal does not appear to be cost effective unless a site closer to town can be identified. LNG does not look to be cost effective. There is not enough water to make hydro electric a big contributor to the load. Wind is abundant but inconsistent.</p>

Unalaska- Energy Needs

Unalaska Ranking Energy Needs										
Energy Need	Improving residential energy efficiency	Improving energy efficiency in community buildings	Improving energy efficiency among commercial and industrial users	Improving diesel efficiency by upgrading/replacing power plant infrastructure	Expanding heat recovery (use of waste heat) to heat community buildings	Increasing the supply of diesel-generated electricity	Increasing the supply of electricity from renewable resources	Looking for opportunities to lower bulk fuel costs	Pursuing administrative training opportunities for local leaders and utility and bulk fuel managers	Pursuing training opportunities in operations for local utility and/or bulk fuel operators
Ranking 5- Extremely Important	1	2	3	4	5	N/A	N/A	N/A	N/A	N/A
4	3	4	2	5	5	5	3	5	3	4
3	4	4	4	4	4	3	4	4	4	4
2	5	5	5	3	4	3	5	2	1	1
1- Not Important	2	2	1	4	3	5	2	3	4	4



Survey results from Unalaska show that the two top energy needs in Unalaska are improving diesel efficiency by upgrading/ replacing power plant infrastructure and expanding heat recovery to heat community buildings. This is followed by increasing the supply of diesel-generated electricity and improving the energy efficiency in community buildings.

Appendix 3.

	Adak	Akutan	Atka
Are there other high-priority energy projects that should be pursued in your community or region? If so, what are they?	Tidal appears to be something Adak may have going for research. Until better demand figures can be produced long-term projects will be harder to ascertain for proper sizing. Wind/Hydro pump storage solution identified in City/EDA commissioned study should be explored further.	*long-term assessment of renewable energy potential for the new airport and surrounding development areas *Ocean and wave power	*Tidal
Are there any infrastructure projects that are a high priority for your community that would lower the cost of fuel or transportation? Examples might be a high-priority dock/harbor, airport runway, road or bridge project. If so, what are they?	*Complete reworking of the electrical distribution system *Increased general commerce and volume transactions. Until new distribution grid/efficient diesel can be installed the other side of the economic development coin will never be recognized.	*Continuing the dock and harbor project are a high priority for Akutan as they will both help lower fuel and transportation costs for those living and working in the region. *Harbor access road between the village and the new harbor. *City dock/small boat harbor; airport runway and harbor road	*City fuel farm *Protected Marine Infrastructure
What are the biggest barriers, other than financing, to advancing energy projects in your community?	Getting by-in from others about the true nature of the disaster of energy on the island. The local community is actively ready to commit, state and federal sources seem to be lacking in general support. The standard models do not work on Adak, something State and Federal agencies fail to recognize until they come to the island and see for themselves.	*Finding and training qualified local employees is a barrier to advancing energy projects in Akutan; Having a short window of time for construction is a barrier, as is the cooperation with other government entities. *High cost of construction in remote sights *Geographical location in terms of mobilization of good and materials and local manpower pool.	*Politics *Quality of power generated from green energy projects

	Cold Bay	False Pass	King Cove	Nelson Lagoon
Are there other high-priority energy projects that should be pursued in your community or region? If so, what are they:				improving energy efficiency residential and commercial bldg
Are there any infrastructure projects that are a high priority for your community that would lower the cost of fuel or transportation? Examples might be a high-priority dock/harbor, airport runway, road or bridge project. If so, what are they?				a sea wall. will not save money but will save the community.
What are the biggest barriers, other than financing, to advancing energy projects in your community?				Population base shrinking do to school closing young people leaving to educate their children and work.

	Sand Point	St. George
Are there other high-priority energy projects that should be pursued in your community or region? If so, what are they:	<ul style="list-style-type: none"> * More bulk fuel storage capabilities *Tidal energy 	*Install electrical heating systems in all homes
Are there any infrastructure projects that are a high priority for your community that would lower the cost of fuel or transportation? Examples might be a high-priority dock/harbor, airport runway, road or bridge project. If so, what are they?	<ul style="list-style-type: none"> *fuel storage, dock improvements *have the wind mills benefit the community.... *Roads 	*Harbor reconstruction and dredging
What are the biggest barriers, other than financing, to advancing energy projects in your community?	Public vs. private utility structure. City does not control its own destiny in terms of building an energy future. Location in relation to materials *get folks onboard *who does the work *Knowledge of how to implement some of the technology. The tribe and its experience with their wind turbine is the perfect example. We also have the Aleutian Housing Authority coming in with an experimental design to improve energy efficiency. If it proves fruitful, how would other residence go about utilizing the technology in already existing homes?	*lack of weatherization and insulation in older AHA homes

	St. Paul
<p>Are there other high-priority energy projects that should be pursued in your community or region? If so, what are they:</p>	<p>*Wind Energy on St. George; Emergency heat and power generation for homes and essential services.</p> <p>*Energy networking for emergency power generation. Develop storage capacity for users to store excess heat energy from peak production periods for use at non-peak times.</p> <p>*Power plant upgrades and wind intertie are already underway with 2 turbines operational. Thermal heating of community buildings is ok but why not include residential ? People who live in homes vote! Community buildings don't vote. If you want the State of Alaska to support renewables make renewables benefit voters not just offset PCE rates. Contact me at 907-360-2939 (Kord Christianson)</p> <p>*Using wind energy to provide heating / Hot water heat to homes</p> <p>*Converting win energy into liquid, or gas energy to replace reliance on oil</p>
<p>Are there any infrastructure projects that are a high priority for your community that would lower the cost of fuel or transportation? Examples might be a high-priority dock/harbor, airport runway, road or bridge project. If so, what are they?</p>	<p>*Fuel Storage on St. George; Inter island ferry between St. Paul and St. George. *Develop storage tanks for aviation fuel at or near the airport in order to raise the regional role of the Saint Paul Airport.</p> <p>*Financing or grants for large scale wind integrated into a high wind penetration wind -diesel system.</p> <p>*Finish the deep water port and size of harbor to full design specs; New state of the art GPS landing systems at the airport, Alaska Air Fog buster</p>
<p>What are the biggest barriers, other than financing, to advancing energy projects in your community?</p>	<p>*remote locations for both St. George and St. Paul; Qualified staff to assist with the project.</p> <p>*Suspicion among entities about who should be the primary provider of electric energy and possible subterfuge by some entities wishing to challenge the role of the city as the primary provider of electric power.</p> <p>*The RCA's regulation on thermal heat, wheeling excess renewable energy over existing utility power lines, and implementation of suitable controls. *RCA monopoly regulation's granting only one power company; City using power plant as a cash cow to balance budget; Power cost Equalization, PCE subsidy encouraging inefficient power plant operations, by paying for excess diesel fuel costs but penalizing those for replacing diesel with cheaper clearer fuel such as Wind power</p>

	Unalaska	Regional
Are there other high-priority energy projects that should be pursued in your community or region? If so, what are they:	<p>Wind is not feasible in Unalaska. I have explained that several times. Pyramid Creek is not an option and have explained this as well. Makushin is estimated north of \$300 million. Our base load is \$10 megawatts. It does not pencil out. And now the Aleut Corp wants to do the project. The current powerhouse cannot go away, same costs for</p>	<p>While heating and transportation have the biggest impact on the residential pocket book, there are also very large commercial electricity loads from processing plants that are unique to the region. These commercial operational loads and associated costs also have a trickledown effect on the residents and the ability to attract economic development opportunities. Efficiency, heating and electricity solutions are all top priorities. Tidal and wind resources are being analyzed in False Pass, wind is being developed in St. George.</p> <p>*Our focus/ priority is on weatherization & construction of the most energy efficient affordable housing in the state.</p> <p>*Expanded hydro-electric plant in King Cove</p> <p>*Not focused on specific projects, rather in finding regionally applicable solutions</p> <p>*TDX to be connected to Sand Point Clinic, so we can benefit from their waste heat.</p>
Are there any infrastructure projects that are a high priority for your community that would lower the cost of fuel or transportation? Examples might be a high-priority dock/harbor, airport runway, road or bridge project. If so, what are they?	<p>*UMC dock project. \$40 million. New Waste Water Plant \$30 Million. New water plant \$20 million. Landfill cells \$4 million, Various paving projects.</p> <p>*The LNG idea might be a very good gap filler for not only Unalaska but for the entire region. IF lower cost LNG could be hobbled in Unalaska and shipped to other communities in the West this could be a real</p>	<p>*Community/Local Energy Planning should be pursued</p> <p>*Tidal See above.</p> <p>*We (AHA) will support but not take the lead on other major projects although we are experimenting with small scale wind power generation.</p> <p>*yes the cost of fuel that heats the homes</p> <p>*Other AEB projects include ongoing wind energy projects in Cold Bay, False Pass, Nelson Lagoon; geothermal in Akutan; hydro-kinetic in False Pass.</p> <p>*There should be a way to lower the cost of fuel in Cold Bay; Support continued planning for geothermal project in Akutan.</p>

	<p>*we would like to see the wind turbo going if it saves the residents electric bill</p>	
<p>What are the biggest barriers, other than financing, to advancing energy projects in your community?</p>	<p>*Cost of construction</p> <p>*Unfortunately cost is the biggest barrier. Also of concern is the far flung nature of our communities in SW Alaska and the economy of scale that is just not there.</p> <p>*Geothermal does not appear to be cost effective unless a site closer to town can be identified. LNG does not look to be cost effective. There is not enough water to make</p>	<p>*The technological barriers of island micro-grid design and making sure that renewable integration is effective and efficient.</p> <p>*Good research to develop the most cost effective, well balanced solutions.</p> <p>*poor management no leadership one family running the whole village no training to fix any thing</p> <p>*Financing is by far the biggest barrier, regional priorities are another.</p> <p>*Politics</p>

Appendix 4. Short & Long Term Energy Priorities for Region & Community

Short-term energy priority for region or community	Long-term energy priority for region or community
Affordable energy	Develop alternative energy sources – hydro, wind, geothermal, heat pumps, tidal
Complete and maintain current energy projects	Reliable, local, sustainable energy
Energy Efficiency & Conservation	Conservation & Efficiency
Lower Fuel Costs & Electricity Costs	Upgrade distribution system
Look at LNG	
Weatherization	
Diesel Generator Efficiency	

Appendix 5. Priorities and Expenses

Total Responses on Household Expenses & Priorities -- Aleutian & Pribilof Islands Energy Plan Surveys

What is biggest burden on your family's finances?	
Heating	18
Electricity	9
Transportation	3

In which area, would it be beneficial to reduce costs?	
Heating	9
Electricity	6
Travel to/from community	6
All three	4
Heating & Electricity	3
Heating & Travel to/from your community	2

Appendix 6. Bulk Fuel

Community	Is there enough fuel storage in community?	Part of Bulk Fuel Group	Who do you buy with?	Interest in joining bulk fuel purchasing group?
Adak	Yes	No/ Don't Know		Yes
Akutan	Yes	Mixed (2- No, 1- Yes)	Crowley	No/Don't Know
Atka	N/A	N/A	N/A	N/A
Cold Bay	Yes	No/Don't Know		Mixed
False Pass	Other/Don't Know	No/Don't Know		No/Don't Know
King Cove	Yes	No/Don't Know		No/Don't Know
Nelson Lagoon	Yes	No/Don't Know		Yes
Other/Regional				
Sand Point	Mixed (1-Yes, 2- No, 2- Don't Know)	No/Don't Know		Mixed (1-Yes, 4- No/Don't Know)
St. George	Yes	Yes	Delta Fuels	
St. Paul	Mixed (1-Yes, 3-No)	No/Don't Know		No/Don't Know
Unalaska	Yes	Mixed (2- Yes, 3-No)	Delta Western. North Pacific Fuel. Aleutian Propane. Radiant Heating.	No/Don't Know

Appendix 7. Home Energy Rebate (HER) Program and Weatherization

Community	Participated in HER Program	Made Improvements	Savings on Monthly energy costs	Reasons Improvements not made	Barriers to participation in HER Program	LEDs in outdoor lights
Adak	0				Awareness; lack of local contractors, access to funds	Yes
Akutan	1	1	Over 30%		N/A	Yes
Atka	N/A				N/A	N/A
Cold Bay	0				Paper work	No
False Pass	0				N/A	Don't Know
King Cove	0				Not enough info	Yes
Nelson Lagoon	0				Income requirements	No
Other/Regional	5	5	2- over 30%, 1- 11-20%, 1- Don't Know; 1- \$0		lack of up front funds; lack of raters to start the process; lack of understanding of the program; lack of information	Mixed
Sand Point	2	1	11-20%	N/A	lack of knowledge of the program; timeframe for assessments; upfront cost requirements	Mixed (3- yes, 1- no, 1- don't know)
St. George	0				Lack of funding	Yes
St. Paul	2	2	11-20% & 21-30%		Criteria for selection; costs; availability of assessors; ignorance; only relevant to homeowner	Yes
Unalaska	0				Lack of auditors; cash outlay upfront; lack of initiative; lack of contractors to make improvements	Yes
Total	10	9				

Appendix 8. Energy Champions & Planning Groups

Community	Energy Champion	Who is the best group?
Adak	Layton Lockett, Tom Spitler	New group
Akutan	Joe Bereskin	2- New group, 1- A Team
Atka	N/A	N/A
Cold Bay	None provided	1 -New group, 1 - A Team
False Pass	Don't Know	N/A
King Cove	None provided	A Team
Nelson Lagoon	Butch Gundersen	A Team
Other/Regional	Bruce Wright, Layton Lockett	5- A Team 2- New group
Sand Point	Karis Porcincula, Karmen Newman	3- New group 2- A Team
St. George	Pat Pletnikoff	New group
St. Paul	Ron Philemonoff	2- New group 1- A Team
Unalaska	Chris Hladick, Dan Winters	4- New group 1- A Team

Appendix 9. Stakeholder Engagement

Below is a link to the excel sheet “Stakeholder Engagement.”

www.alutiansenergy.org/wp-content/plugins/download-monitor/download.php?id=19

Appendix 10: Comments on Missing/Inaccurate Information with Corrections

Adak- Comments on Missing/Inaccurate Info – Page numbers refer to Aleutian Resource Assessment

General (Page 4):

- No credit to the City? Also Unalaska Mayor Marquardt (name misspelled). Also any reference to the 'A-Team' should not include Adak representation as they do not and have not consulted the City or the community in anything they do.
 - *Mayor Marquardt's name changed to correct spelling.*

Page 10

- There was a population change which there is census data for, not provided in report
 - *The population of Adak is reported correctly.*

Page 14

- Missing Adak heating fuel information
 - *Adak was not included in the heating fuel price survey conducted by the state Division of Community and Regional Affairs.*

Page 34

- In 2013 tax structure was: 2% fish tax, 4% sales tax and 5% bed tax.
 - *Correction reflected in report.*

Page 37

- Multiple fuel sources are available from Adak Petroleum.
 - *Comment added to report.*

Page 37

- In talking about reported diesel fuel costs 'this is somewhat surprising' is not an appropriate ending. The reader of the report should be educated as to why this would be surprising and the reasoning, i.e. fuel is only slightly above regional average, due to the volume of fuel distributed. Absent volume, the cost would be higher...
 - *Informal language removed from report and cost explanation added.*

Page 38

- The RCA did not suspend or otherwise take away the certificate of convenience. They did suspend the process of revoking the certificate, which allowed the City to ascertain options, including but not limited to selling the utility, which the City ultimately did. The following table should notate the deficiencies of data since there are accuracy deficiencies, also notated by AEA and the RCA.
 - *Explanation about the certificate of convenience cleaned up to reflect this comment. Data deficiencies comment added to report.*

Page 38/39

- It should be notated that 'generator 2 and 4' were not operational and therefore could not be relied upon to provide power.
 - *Comment added to report.*

Page 40

- Commercial price doesn't include the demand charge or an adequate notation or range to show scale. Ranges can be significant adding between .15-2.00 to the commercial kWh price. The notation to 'separate commercial price' was .135 + fuel surcharge...there should be clarification.
 - *Comment added to report.*

Page 43

- Figure 26, the report states Unalaska...should be Adak? There should be notation that most commercial customers self-generate their power.
 - *The report was correct to state Unalaska in Fig. 26. It provides an explanation that the high commercial electricity consumption in Unalaska distorts the chart, making Adak's consumption seem very low when in reality it is average. Second comment was added to the report.*

Page 45

- The City and the Adak Community Development Corporation do have a hand in economic development but have not been given any credit or consideration. Given the report date of 'November' it is clear that some assumptions are inaccurate, leading the report to be partially discredited before mass distribution. Notation should also be made to reflect dampened demand due to high cost. There will be increased consumption, especially from commercial and government sectors, notwithstanding residential, when the price is economically affordable. Uncaptured demand from these entities can and will hamper any future planning without further consideration.
 - *Comments have been added to the report.*

Page 52

- It is not fair to blame the community for not taking advantage of the AHFC residential program when Adak, as well as other communities, have few residents that can afford to advance the '\$10,000' for energy efficiency improvements. Without some type of outside financing this project will not be successful in Adak. The same goes for the 'commercial sector', especially when an efficiency in one area can lead to a consumption in another area (i.e., saving on lights may allow for a water heater to be turned on).
 - *Comments added to report to reflect affordability issue.*

Page 54

- The insinuation that the commercial customers left on the grid can 'lower their costs through efficiency' is not 100% true. Demand charges, especially when billed off the transformer; make most efficiency actions outside the user's control. More in depth discussion should be included in this section instead of boiler plate information which is the same for every community in this report.
 - *Comments added to report.*

Akutan - Comments on Missing/Inaccurate Info – Page numbers refer to Aleutian Resource Assessment

Page 59

- Your interpretation of full time residents vs. seasonal workers is inaccurate. Of the 1,106 people counted in the census, a majority of those people are full time residents AND seasonal workers OR year round workers at the processing plant or elsewhere. You also use temporary and seasonal interchangeably, which in this instance shouldn't be the case. Please revise your language accordingly.
 - *Language revised in report to reflect these comments.*

Page 60

- The city raised its raw fish tax to 1.5%.
 - *Correction reflected in report.*
- There are currently about 15 kids at the school. If you would like to use a percentage, you must use the total population as there are children of full time Trident employees in the school.
 - *Percentage corrected and reflected in report.*

Page 62

- Under Existing Fuel Facilities: the City's storage capacity is 80,000 and Trident's capacity is 5,000,000.
 - *Corrections reflected in report.*

Page 63

- New power plant is now on line with 450 kW capacity, up from 407
 - *Correction reflected in report.*

Page 65

- Generator status: City of Akutan recently installed three brand new John Deere diesel generators in a powerhouse module that holds the generator equipment and controls center. There are now two 150kWe gensets and one 100kWe generator that are supplying primary power to the city. The City's fuel farm is directly linked to the new generators. Please revise your information to reflect these changes.
 - *Akutan generator status information updated to reflect comment.*

Page 66

- Hydro system has been operating more routinely since 2013
 - *Comment added to report.*

Page 70

- Metering issues have been resolved since 2013
 - *Mention of metering issues no longer included in report.*

Page 74

- Information on Akutan renewable energy projects needs to be updated.

Page 75

- Hydroelectric plant: The City applied for and received two renewable energy grants from AEA to repair and further upgrade the system. Construction during the summer and fall of 2011 provided improvement to the system impoundments and a small dam, improved existing access road, and repaired system components to the powerhouse. The System was restarted in November 2011 and immediately began supplying power to the village. Although power generation fluctuates, based on seasonal water flow, the system is capable of supplying up to 60%-70% of the village power requirements. The City completed the hydro controls upgrade in late 2013 and will continue the integration phase of the hydro system and the diesel power plant in Spring 2014. The hydro communication system was installed in February and provides complete system monitoring and control from workstations located within the powerhouse and locations outside of Akutan. The entire project is expected to be completed in May 2014.
 - *This updated information has been added to the report.*
- Geothermal: I believe Ray Mann has sent in his comments regarding our geothermal project, but to summarize, the City has spent well over \$3M on the geothermal project and have proved it to be a resource, contrary to what your report states. We are currently in the process of finding where to tap into it.
 - *Comments reflected in report.*
- Geothermal resource has been identified since 2012 and targets selected.
 - *Comment integrated with the above comment and added to report.*

Page 77

- The City provides additional subsidies for power and heat, some through community shares from APICDA, APIA
 - *Comment added to report.*

Atka- Comments on Missing/ Inaccurate Info – Page numbers refer to Aleutian Resource Assessment

Page 84

- Population is at 68 people
 - *Correction reflected in report.*
- Median household income is not correct. There is no household that makes \$96,071. The 2010 census data is not that high.
 - *Median household income for Atka was looked up and updated to \$30,938.*
- Chuniisax Hydro power plant operates at 283-kW
 - *Correction reflected in report.*

Page 87

- Correction “Atka uses #2 diesel to produce power, and #1 diesel for heat”
 - *Correction reflected in report.*
- Storage capacity of #1 Diesel is 30,000 at the Alaska Native Store, storage capacity of #2 Diesel is at 60,000 at Atka Pride
 - *Correction reflected in report.*
- The 2013 Price of #2 Diesel was \$5.49
 - *Correction reflected in report.*

Page 88

- Note: there is now 1 year of hydro data available if needed.

Page 89

- The hydro electric plant consists of a 283kW, cross-flow turbine
 - *Correction reflected in report.*
- Generator Status: the Atka diesel generation system is not automatic or synchronized, it is presently manual.
 - *Correction reflected in report.*
- All generators were repaired in 12/13 and are in good shape
 - *Correction reflected in report.*

Page 91

- The 2013 non-PCE residential price was 73 cents/ kWh
 - *Correction reflected in report.*
- The rate for non-PCE has been implemented and is at \$0.2688 for non-PCE and anything over 500kW residential is 0.2688
 - *Correction reflected in report.*

Page 93

- “Residential rate has been non-responsive to total generating costs”: **Correction**, rates for anything over 500kW decreased from \$0.76kWh down to \$0.2688 kWh
 - *Correction reflected in report.*

Page 94

- Figure 56 Total Electricity Consumption FY10-13: the differences from month to month are due to the number of days in the reporting period.
 - *Comment added to report.*

Page 96

- Projected Power Loads: expansion of Atka Pride Seafoods will increase the energy demands and population.
 - *Correction reflected in report.*

Page 97

- Community Heating Fuel Price: Price changes are only once a year generally and are based on landed cost of fuel order.
 - *Comment added to report.*

Page 98

- Community Heating Fuel Usage: Atka uses #1 diesel for heat and #2 for power generation.
 - *Correction reflected in report.*
- There is propane in #100 cylinder used for gas stoves in some houses.
 - *Comment added to report.*
- Waste heat recovery: location of power plant and hydro plant operation at 90% of the year makes traditional heat recovery systems not viable.
 - *Comment added to report.*
- Ownership of Atka Pride Seafoods is divided between the local fishermen and APICDA.
 - *Comment added to report.*

Page 99

- The addition of Atka Pride Seafood to the City grid will necessitate further power.
 - *Correction reflected in report.*

Page 104

- Clarification on who else will be involved in the power sales agreement with Atka Pride Seafoods
- Change Sand Point to Atka at bottom of the page.
 - *Correction reflected in report.*

False Pass - Comments on Missing/Inaccurate Info – Page numbers refer to Aleutian Resource Assessment

Page 148

- It sounds like you have reached the conclusion that Tidal Power isn't effectively produced, yet it is.
 - *Comment reflected in report.*

- The ocean power research in False Pass is presently in a feasibility level stage. While the technology is still in relative infancy compared to some other renewables, there is a grid tied commercial application in Maine. The author seemed to prematurely conclude that ocean power was not feasible for development in remote Alaska. These statements could limit the ability to secure future funding to conduct the level of analyses needed to answer important technological and environmental questions.
 - *The paragraph in the report has been altered to address these concerns and to highlight the possibility of ocean power in the future after additional research and technological development.*

King Cove - Comments on Missing/Inaccurate Info – Page numbers refer to Aleutian Resource Assessment

Page 158

- Most all information for Peter Pan Seafoods was incorrect i.e. fuel storage, fuel pricing.
 - *Updated information not found.*

St. Paul - Comments on Missing/Inaccurate Info – Page numbers refer to Aleutian Resource Assessment

Page 259

- How about an energy vision for the future? 80% renewable by 2020 for electric and thermal heating? What will it take to achieve this? This is very possible for St Paul and Sand Point or any other SWAMC community with a reasonable wind, hydro, or geothermal resource.
 - *St Paul has no hydro or geothermal resources available, as determined by the report. Three wind turbines operate in rotation and produce power as part of a standalone, 525 kW capacity combined heat and power installation. Sand Point does not have any geothermal or hydro resources available. The two wind turbines in Sand Point produced approximately 580,000 kWh in 2012 and continue to be operated though they have been de-rated to 300 kW each in light of insufficient dump loads. These are the current energy circumstances of St Paul and Sand Point, and this report is an attempt to shed light on the feasibility of additional renewable energy projects in the future.*

Sand Point - Comments on Missing/Inaccurate Info – Page numbers refer to Aleutian Resource Assessment

Page 274

- SPG, the City of Sand Point, and the Aleutians East Borough School District have tried negotiating agreements to utilize excess wind energy. I don't know the status of the agreement with the City, but an agreement was not executed with the school district to my knowledge.
 - *Comment added to report.*

Page 285

- In Sand Point we did have a tribe attempt to utilize wind power through the installation of a wind turbine, however it has never produced any substantial amount of energy, and is currently not functional.
 - *Comment added to report.*

Unalaska - Comments on Missing/Inaccurate Info - Page numbers refer to Aleutian Resource Assessment

Page 293

- The Energy Snapshot, Opportunities, First Bullet is incorrect. Unalaska has no viable alternate energy sources at this time.
 - *Hydro, wind, and geothermal are all viable alternate energy sources in Unalaska, however, not all have been developed.*

Page 295

- Existing Fuel Facilities should read: Like most rural Alaskan communities, Unalaska uses #2 Low Sulfur diesel to produce both power and heat for the buildings in their community.
 - *Correction reflected in report.*
- Fuel Price Table should be replaced with the following Table:

2014 Unalaska Fuel Prices

Fuel	2014 Price	Uses
#2 Low Sulfur Diesel	\$3.50/gal	Power Generation
#2 Low Sulfur Diesel	\$4.90/gal	Residential heating, fishing boats, etc.

- *Table changed in report to reflect this comment.*

Page 296

- Unalaska Electricity FY13 Production Table should read: Unalaska Electricity FY14 Production. The Table should read as follows:
 - Average Load: 5,200 kW
 - Peak Load: 9,400 kW
 - Diesel electric production: 43,000,000 kWh/year
 - Diesel used for generation per year: 2,445,886 gal/year
 - Diesel efficiency: 16 kWh/gal
 - *Numbers in table changed to reflect comment.*
- Other: The Unalaska Powerhouse was built in 2010 and in very good shape. The distribution system was described as being in good condition. The system load balance is within national standards. ADEC and health and safety inspections showed that the system was code compliant.
 - *Comments added to report.*

Page 306

- In 1998 a group from Washington State filed a FERC Permit # P-11620-00 for a large hydro electric project in Makushin Bay on Unalaska Island. I do not have much info on this project but believe it could be more economical than the highly risky Makushin Geothermal project. Perhaps your staff could look into this. The project was called Kacie Lake Hydro.

Other/Regional - Comments on Missing/Inaccurate Info

- It's biased against rural communities and renewable energy, there are many incomplete and inaccurate statements and it could have used an editorial review for English.
 - *Entire document has been reviewed and edited for spelling and grammatical errors.*
- Fairly comprehensive document