

CASES INTERVIEW SUMMARY - GALENA, ALASKA

By: Ryan Bickford, Diane Hirshberg, Kate Robb

INTRODUCTION

There are a plethora of unique northern communities around the world that experience a diverse range of environmental threats including harsh winters, climate change, unstable fuel costs, lack of transportation, and many other factors. Many of these communities have been reliant on fossil fuels for their energy needs; unsustainable energy sources often with unreliable costs. Significant diesel price fluctuations can cause the cost of electricity in these communities to skyrocket, and in Alaska, it makes them even more reliant on the Power Cost Equalization Program, which subsidizes the high cost of power in rural Alaskan communities. The need for energy security isn't just about comfort, it's essential for creating a sustainable rural community.

The [Community Appropriate Sustainable Energy Security \(CASES\)](#) Partnership is an international research initiative involving northern and Indigenous communities as well as public and private sectors with project partners in Canada, Sweden, Norway, and the United States (Alaska). The goal of the CASES Partnership is to reimagine energy security in northern and Indigenous communities by co-creating and brokering knowledge, understanding, and capacity to design, implement and manage renewable energy systems. This partnership will create a platform for the sharing of knowledge so that not all communities have to experience the same challenges or recreate solutions.

The community in the spotlight for this project is Galena. Galena is located on the Yukon River, just 80 miles south of the Arctic Circle in Alaska. The goal of this project is to create a community energy profile for Galena.

Phase 1 of the CASES Partnership project involves assessing existing community energy systems as a baseline and creating a community energy profile as a planning resource. A community energy profile identifies pre existing community efforts as well as areas for improvement. It includes current energy systems, energy costs, and potential renewable resources and technologies. It also highlights how residents in the community want to move

forward with regard to their energy systems. It allows communities to plan their energy future while reducing their vulnerability to energy insecurity.

INTERVIEW SUMMARY

In summer 2021, members of the CASES team visited Galena to interview those in the community regarding their perceptions of the current energy system, and hopes for the future. The interviews were conducted with individuals who represent Galena's leadership in local and tribal government as well as community roles. These positions included the current and a former Mayor of Galena, Louden Tribal Council Chief and a Council Member, Galena City School District Superintendent, Galena City Manager, and various other community members who are regional and community leaders. The interviews took place in many locations, such as a back porch, construction site, truck cab, and everywhere in between. In total, there were 10 interviews in 9 different locations.

The results from the interviews revealed some priorities and concerns held by the community. With the high electricity cost and harsh winters, many families have created their own solutions with home efficiency, insulation, and less expensive heating methods. Despite these improvements, there are still obstacles to reducing vulnerability to energy insecurity. One of the biggest obstacles being reliance on imported diesel fuel.

When asked how their homes are heated, most interviewees reported that their home heating came from a combination of sources. Many had both primary and secondary sources that often ran simultaneously during the winter. It was noted that electric heaters or wood stoves alone couldn't provide enough heat during the coldest months, so both were required despite most homes being well insulated. In addition to the extra insulation, LED lights, solar panels, and other home efficiency methods have been added, but affording electricity can still be an issue for some.

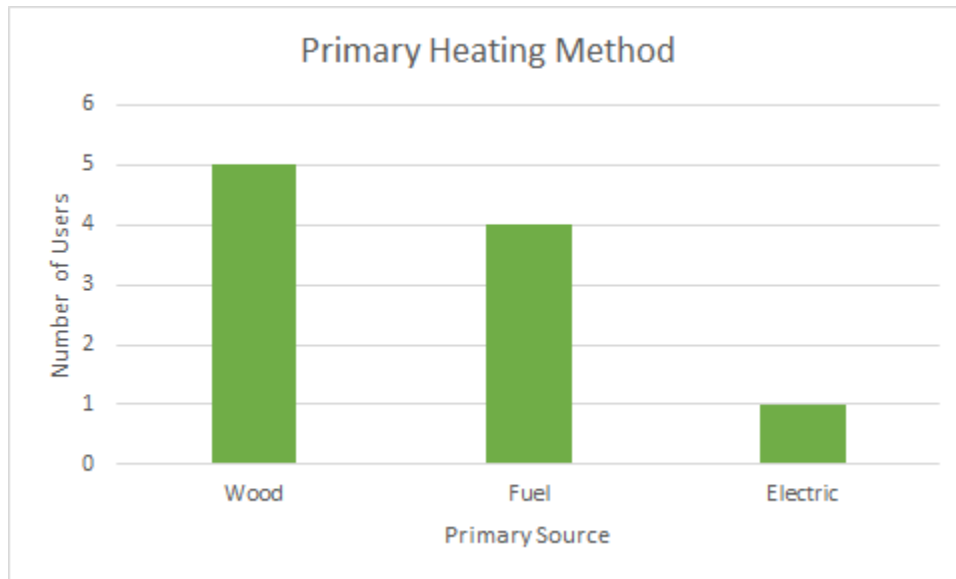


Figure 1

Wood stoves were the most common primary heating source, followed by heating fuels and electricity. Many households use both wood stoves and electric heaters in combination to provide enough heat. Although infrequent, power outages can be a concern without having a secondary source of heat. Many interview participants stated that power outages only lasted a few hours, and occurred several times per year. Galena is currently undergoing power plant upgrades so there have been scheduled outages, but during the summer, a few hours without electricity hasn't been a concern for heating.

When discussing the energy priorities for the community, several responses were given. The most common responses were to reduce the cost of electricity and to install more solar energy systems. Several respondents suggested that energy savings would provide funding for new economic and educational opportunities. Many acknowledged the importance of the existing Solar Committee that is evaluating the potential implementation of a 1 Mega Watt (MW) solar array, although some said that this should only be the beginning. Another common priority for the community is to increase the efficiency of homes, community facilities, and community utilities.

Community concerns relating to energy were also discussed. One concern is the potential of disrupting their diesel fuel supply by introducing alternate energy sources. It should be noted that Galena is located at the end of a long supply chain, with many moving parts and thus there

are concerns with potential delays upstream. The graph below shows a trend of unstable electricity costs, largely due to the fluctuating price of diesel.

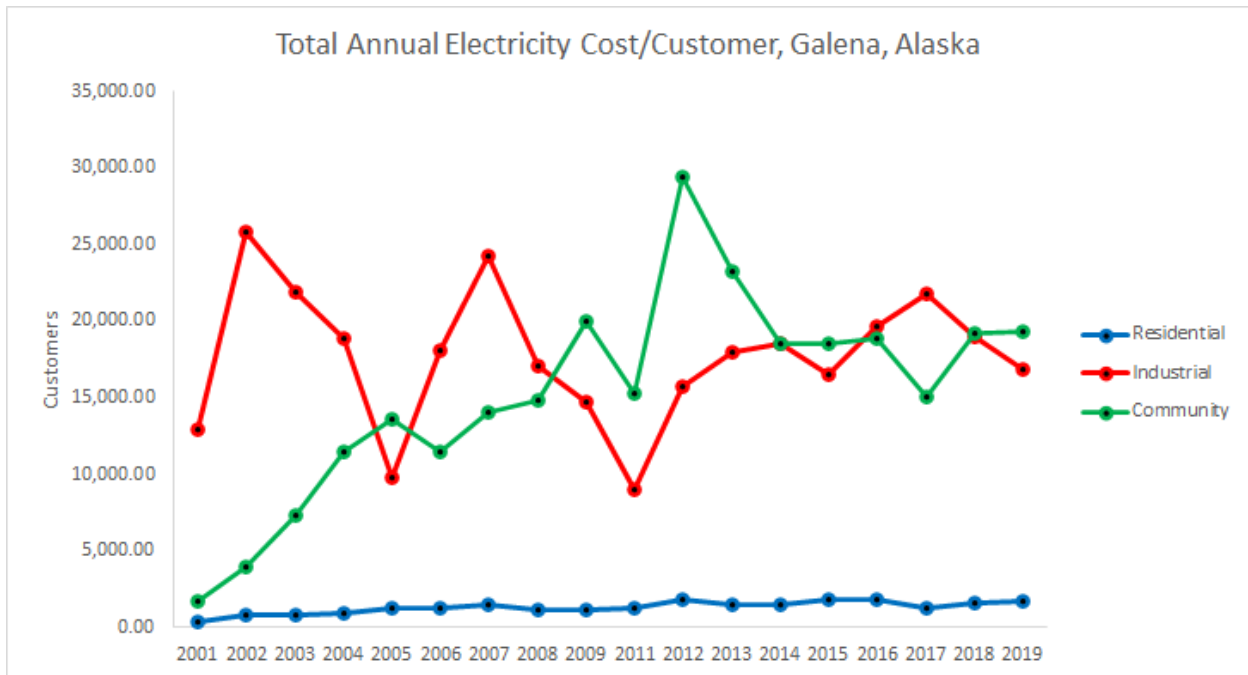


Figure 2

The water supply within the community is also a major concern. Water is expensive, and unsafe for drinking. The plant utilizes a single filter system but has plans to install a triple filter system soon. Once this is installed, the focus should be on reducing costs.

An additional concern relates to how excess heat from the power plant is currently used to heat the community swimming pool. The concern is that by increasing the efficiency of the power plant, a new solution to heat the pool will need to be implemented.

KEY THEMES

Five key themes emerged from the interviews: affordability, concerns, aspirations, policy perceptions, and community at the center. This section includes quotes from interviewees reflecting each theme.

Affordability

In terms of affordability in Galena's energy system, interview participants explained that it is not affordable for everyone in the community. Quotes from interviewees expressing this challenge include:

"You better have a good job, it's pretty high cost compared even to Fairbanks. Fairbanks is probably a third of the cost for fuel."

"I am fortunate to live in a household that has two working incomes so for our house it's affordable, but I know I've been in a position before where it was just one working household and it was expensive and hard trying to buy fuel at a hundred gallons, so you're looking at almost 600 bucks for a hundred gallons at the time."

"If we could get affordable energy our people would benefit the most."

"There have been a few times where some community comments were mentioned where if prices do go up for electricity and utilities, that they would have to move because of the price, and so looking at it community wide I guess people do struggle with it."

Concerns

Concerns surrounding Galena's energy system identified through the community interviews include those related to reliability and the need for backup equipment, as well as access to external support and funding.

"I view our house as a metaphor for a spaceship, when you live here in the winter you have to be prepared for anything to break down, go wrong, so I try to have spares, backups, alternatives for almost everything."

"I suspect there's huge grants in the federal government for training workers on new stuff like in rural areas, but nobodys tapping into those in Alaska because they don't really know that system because the whole grant system is such a morass ... and like the tribal energy grant is so freaking complicated you gotta hire a grant writer so it's gonna cost

you 10 or 20 thousand dollars just to apply for the grant, that is a massive barrier to entry and it freaks the tribes out, rightfully, and even the city.”

Aspirations

Those interviewed expressed many aspirations at both individual and community levels for the future of energy in Galena. Key quotes below identify some of these aspirations:

“We need to learn how to perfect the diesel microgrid model for wind and solar in the interior and get that to where it's supported, it can be maintained by the local people, and it can be functional.”

“I aspire to a zero energy house, basically off-grid. It's much easier and less expensive here to use grid tie panels so that's where we're gonna start but I think it's doable.”

“My dream for energy consumption in Galena is net zero. When we were working on the biomass project one of the concepts that was developed and some of it came from me was that wood heat is a gap filling effort that the next step is to improve our buildings to the point where they heat themselves.”

“I'd like to see the wood harvest change into something that is more like value-added products instead of just burning it for heat.”

Policy Perceptions

A key point regarding policy perceptions that arose during the interviews in Galena concerns the Power Equalization (PCE) program. A concern with the PCE program as noted by interview participants is that it may disincentivize the adoption of renewable energy sources, as doing so would result in reductions to the subsidy received through the PCE program.

One interviewee explained:

“The PCE program is pretty jacked up in a lot of ways because it disincentivizes communities from being efficient or using anything but oil. It basically rewards continuing

doing what every little village has always done, which is burn 100 percent diesel in old school generators to make their power very inefficiently and very dirty.” “You have these communities that have put in these alternative systems that are basically punished economically a little bit, there’s a penalty, for doing those things because they don’t get compensated the same way because their PCE is reduced, so that is a really screwball way to do business for the state, but nobody wants to try to amend the legislation that created PCE because they’re afraid if you open it up it’ll go away, and it might go away anyway. I really think it has to change for the state to get the villages at least to become more sustainable and more energy independent”

Community at the Center

Several interviewees shared stories and perspectives that reinforced the importance of community being at the center of any research or future energy projects. Quotes below are examples of how this sentiment was expressed:

”I’m not a real risk taker, it takes me a while to be convinced that this is gonna save us money, because we’re working on behalf of the community, they’re gonna be paying for this and that why I really gotta be sure this is gonna work you know ... my kids live here, and my grandkids are gonna live here, so I gotta make sure things are gonna work, we’re never gonna leave, I mean this is our home ... once you do something you just have to get the input from the community.”

“I look at sustainability on a community-wide level, like it’s gotta be a partnership and for the community to remain at its size and with everything going on that it has going on, the school need to remain sustainable, and the highest costs for the school besides it personnel are its energy costs, its heating and its electricity.”

CONCLUSIONS

While a detailed and realistic community energy plan remains a priority for Galena, interviews with community representatives revealed current priorities, concerns, and efforts currently underway. There is a priority for cheaper electricity which could provide an array of new economic and educational opportunities. A decrease in electricity cost could also make water,

food, and heat more affordable. Concerns regarding the future of Galena are very important when building an energy plan. The concern that Galena is not currently prepared for an interruption in the diesel fuel supply is an issue for future study and analysis. Achieving energy security is no easy task, but finding ways to address these concerns can be the first step. Many residents of Galena believe that constructing more solar energy systems could be a key solution to producing sustainable local electricity, but the question of how to do this affordably still remains. The results of this project will contribute to the development of Galena's energy future. Looking forward, planning is underway for members of the CASES team to return to Galena for a detailed presentation of these results with a focus on feedback from the community, as well as to do a focus group and plan for the next steps of the project.

We would like to express our gratitude to all of those who participated in interviews for this project. We appreciate your time and thoughtfulness in speaking with us, and we look forward to continuing to build relationships as we continue with this project.