

## **Public Comment on Draft Alaska Statewide Energy Master Plan by the Alaska Energy Security Task Force**

24 October 2023

**To:** Alaska Energy Security Task Force

**From:** The Study of Environmental Arctic Change (SEARCH)

The Study of Environmental Arctic Change (SEARCH) is a collaboration of Indigenous Knowledge holders, scientists, and public and private decision makers with the goal to provide a deeper understanding and inform decisions related to the drivers and consequences of environmental Arctic change. These consequences include the impacts of environmental changes on human-well-being, as well as on international collaboration and economic decision making. This collaboration is funded by the U.S. National Science Foundation and more information can be found at [www.searcharcticsscience.org](http://www.searcharcticsscience.org).

Increasing energy security, affordability, and reliability for every Alaskan is a critical priority for the entire state, but those goals remain particularly difficult to achieve for any rural, remote or coastal community not connected to the Railbelt Grid or near locally sourced hydroelectric power. These communities continue to primarily rely on economically and environmentally costly diesel generation. This dependency severely limits these communities' ability to have secure and affordable heat and power, and exposes the individual community, and the state more broadly, to a multitude of compounding and cascading environmental hazards.

Our co-produced comments integrate perspectives and examples from Indigenous Knowledge holders, scientists, and public and private decision makers. We focus on the sections of this draft Energy Master Plan that relate to rural communities now relying on Power Cost Equalization (PCE) to help make residential electricity rates affordable, but many of our comments apply more broadly to energy systems throughout the state.

### **Comment 1: Definitions need to be revised.**

The Draft Plan broadly groups the state's energy Priorities, Strategies, and Actions by Railbelt, Coastal, and Rural areas. However, many of the state's most challenged communities are both rural and coastal. Rural coastal communities in many parts of the state experience double jeopardy: they face the same energy affordability challenges that most off-grid communities face, but their energy infrastructure is also experiencing severe environmental damage due to permafrost thaw, coastal erosion, and increased exposure to wave and sea spray.

The term Rural is defined differently at federal, state, and local levels, and within specific programs, and it is important that the Plan provide a broad definition of the term, particularly given that it recommends policy changes at all levels of government.

**Recommendation:** Given these different conditions, we encourage the Task Force to recognize the three different types of energy conditions in Alaska as Railbelt, and two rural situations as Coastal non-PCE, and PCE communities. It is important to make clear that the current “coastal” definition is only for developed coastal communities with existing access to resilient energy infrastructure and renewable generation sources (e.g., hydropower).

**Comment 2: Electricity generated by renewable sources (wind, solar) is less costly, more reliable, and more secure than diesel-powered electricity.**

The stated aim of this Energy Master Plan is to ensure that energy for all Alaskans, including those in PCE communities, is affordable, secure, and reliable. While the Railbelt section, and to a lesser extent the Coastal section, emphasize the need to diversify power generation sources and to provide economic incentives for reducing both residential and business energy costs, no such considerations are provided for existing PCE communities. The Plan needs to consider a non-diesel energy future for PCE communities so they too can have affordable, secure, and reliable energy.

There are clear advantages for renewables over diesel power for each of the Plan’s three goals (please also see the diagram at the end of this letter).

**Security.** Diesel fuel is subject to both the variability of commodity pricing and the vulnerability of Alaska’s complex supply-chain. Locally-sited renewables and power storage (e.g., batteries) are inherently more secure. Fuel storage, generation and transmission infrastructure is increasingly vulnerable to climate related environmental risks such as wildfire, flooding, erosion, permafrost thaw, wind storms, ocean spray, fallen lines from heavy or freezing rain in winter, and permafrost thaw. Transmission lines that span long distances are costly to install and maintain, and may expose communities to increased energy insecurity due to changing environmental conditions.

Savoonga provides a case study. Fuel is primarily provided to Savoonga via barge. Barge service, however, is limited by weather and ocean conditions, including when shorefast ice is present in winter during which time barges cannot be used at all. Fuel is airlifted into Savoonga when barge service is not possible. This method, though, is similarly limited by weather as, among other concerns, Savoonga (like many other remote Alaskan villages) does not have multi-directional runways. Naturally, airlifted fuel is more expensive than fuel transported by barge. Just this autumn 2023, there was a plan to airlift several thousand gallons of fuel to keep Savoonga’s airport garage operable. Despite the need, however, the \$19-per-gallon price of airlifted fuel led to the plan not receiving approval. Similarly, when Savoonga’s local store ran out of gas, fuel was airlifted in, nearly tripling the price.

Loss of power on all scales is a security risk for rural Alaskan communities. For example, many communities (such as Chevak) are required to travel dozens of miles for wood to fuel wood stoves. These necessary labors, which often only yield minimal amounts of firewood, further increase communities’ reliance on diesel energy, thereby exacerbating insecurity.

**Reliability.** Most rural communities in Alaska lack redundancy in their power generation infrastructure. If diesel fuel becomes unavailable due to supply-chain issues, or power generators fail, rural communities lack the redundancy and diversity that most urban communities have. Locally sourced renewables like wind and solar can provide power independently, and rapid advances in storage technology will help increase redundancy and reliability by diversifying energy sources. Rapid advances in electricity storage technologies are reducing the need for backup power generation, but diesel generation capacity is still necessary in many parts of the state to backup renewables.

*See also:* <https://alaskapublic.org/2020/03/19/village-of-savoonga-contends-with-power-outage-as-region-is-hit-with-heavy-storms/>

**Affordability.** The high cost of diesel in rural Alaska results mainly from long transport distances (i.e., no local sources), and although the market for diesel is competitive the requisite barge service to rural communities is not. This problem is compounded by unpredictable and volatile markets, which is an energy security problem. Locally-sourced renewables help alleviate these problems and provide lower-cost energy once established. Because of the way electricity prices are regulated by the RCA, the regulated price of electricity generated by renewables may be higher for an initial startup period (1-3 years), although the long-term cost is lower.

Current state policy associated with PCE, given the way that utilities are regulated by the Regulatory Commission of Alaska (RCA), prevents utilities that invest in renewable power from receiving PCE subsidies for any return on their initial equity investment. Because renewable sources typically have much higher initial capital costs, but much lower operating costs that are eligible for PCE assistance, this amounts to a crippling disincentive for moving to renewable power. The argument that the short-term cost of renewables is higher than diesel is like saying buying a house is more costly than renting, even when your monthly mortgage payment would be lower than the rent. However, this current policy can be changed, without compromising the objectives of the PCE program.

In some communities, existing renewables do not adequately serve as backup energy sources. In Savoonga, a majority of the power generated by their two wind turbines is being used to offset the costs of the community's power generators.

Additionally, businesses and service providers in PCE communities do not have access to PCE payments and consequently continue to suffer increasingly unaffordable energy until there is an investment made in truly affordable power generation.

**Recommendation:** Transition to renewable energy sources is the most robust energy strategy, especially for PCE communities, and needs to be prioritized. To help support this transition, PCE statutes should be revisited to allow for a fair rate of return on capital investments targeted at bringing renewable power generation infrastructure online, reducing the reliance on diesel fuels, and lowering the necessity for equalization subsidies in the longer term.

**Comment 3: Risks to community energy infrastructure are increasing, and will continue to increase without diversified alternative energy sources that provide redundancy, storage, and reliable backups.**

Diminishing sea ice is increasing coastal erosion and the changing climate is raising precipitation levels - both snow and rain - in other areas of the state. Flooding, snowfall and freezing rain can directly impact transmission lines and cause power outages. Recently, for example, areas of the Fairbanks North Star Borough suffered extended power outages due to downed transmission lines.

The isolation of many northern Alaskan communities further increases their vulnerability to weather-related energy disruptions. Many of these communities do not have the resources (especially linemen) in-village to repair energy infrastructure following outages. Often, outages are caused by storms which then delays linemen and resources being flown in, thereby prolonging outages. Linemen for rural Alaskan communities do not live in the communities in which they work, instead traveling to dozens of villages when their services are needed. This prolongs outages and delays repairs. For example, earlier this year, a storm affected 20 homes, the preschool, and tribal offices in Savoonga. While Savoonga does have certified electricians, there are no linemen in the community. In this case, it took two days for the lineman to come in and for power to be restored.

In Savoonga, the last few years have seen high winds affecting the power plant with the community experiencing unscheduled power outages from strong winds and precipitation during the winter. Similarly, permafrost thaw in Savoonga causes energy setbacks by shifting transmission poles. Maintenance resources, however, are limited, meaning that once workers fix poles in one community, the poles have moved again before they are able to return.

***Recommendation:*** The Draft Plan should explicitly consider the increased vulnerabilities Alaska's energy infrastructure will be facing due to weather-related hazards, especially for communities in northern areas. This will require a focus on diversifying energy sources within local systems and grids, to include incorporating battery backup and storage, and other emerging technologies. Such an approach will not only make energy more reliable and secure, but also more affordable than being dependent on the supply of diesel via barge and storage in fuel tank farms vulnerable to coastal erosion and permafrost thaw.

**Comment 4: This plan does not adequately consider the needs of non-residential energy users in PCE communities.**

A stated goal of the Plan is to make energy more affordable to drive economic growth, yet current regulations for PCE inhibit that in a variety of ways. The regulations stifle business and commercial enterprise, and they restrict many aspects of overall development that contribute to and support human wellbeing and economic prosperity. For example, diesel power is very expensive for transportation services such as airport and freight operations, and for municipal infrastructure such as water, sewer, and broadband internet. The high cost of diesel energy also makes the operation of medical and educational facilities more difficult.

**Recommendation:** PCE as currently operated reduces the energy cost for residential users; it does not do the same for businesses and commercial facilities. Reduced cost for reliable energy in these communities, however, is needed to support economic growth. While we understand the safeguards against misuse by power companies from this policy, we recommend that PCE statutes be revisited to support community assets including small businesses and commercial enterprises.

**Comment 5: The current process that created this Draft Statewide Energy Master Plan has not adequately considered the energy security, affordability, and reliability of PCE communities.**

As noted, and as evident from the brevity and content of the Rural Section of the Plan, this process has not adequately considered the current conditions, limitations, and options for PCE communities, nor has it adequately consulted with PCE community members. As such, many of the proposed strategies fail to address their energy security, affordability, and reliability realities and future needs. These realities all need active strategies to transition to renewable energy sources, to allow PCE to support capital investments for renewable and weather-resilient energy infrastructure, and to receive direct input from PCE communities from the beginning stages of these planning efforts.

**Recommendation:** We recommend substantial in-person consultation with PCE communities prior to finalization and implementation of the plan. Without such input the Plan as drafted cannot achieve energy affordability, reliability, security, and equity for rural Alaskans living in PCE communities.

We appreciate the opportunity to comment on this Draft Plan and look forward to seeing how these comments will be reflected in the final draft version. We are certain of our agreement with your Task Force that creating a new Statewide Energy Master Plan is a tremendous opportunity to transition the State to a more robust, reliable, affordable, and environmentally-responsible energy infrastructure. As has been shown in many other regions and states, these goals are best met by transitioning to renewable energy sources and supporting its transmission, storage, and use. This will directly benefit Alaskans while simultaneously establishing Alaska as a leader in our urgent national and global need to reduce, prevent, and mitigate the increasing environmental hazards many of our residents are experiencing, especially as they relate to affordable power.

Respectfully,

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