

Alaska Energy Security Task Force Meeting

October 3, 2023

Draft Sections of Statewide Energy Master Plan related to Priorities, Strategies and Actions

Handout Includes:

Section 4 - Energy Priorities

- Priority A – Railbelt Transmission, Generation, and Storage
- Priority B – Coastal Generation, Distribution, and Storage
- Priority C – Rural Generation, Distribution, and Storage
- Priority D – State Energy Data
- Priority E – Incentives and Subsidies
- Priority F – Statutes and Regulations

Appendix II – Action Tracking Sheet

Appendix III – Additional Action Detail Summary

Note: This is a draft, deliberative document for discussion purposes only. The preliminary action recommendations contained in this document have not been officially endorsed by the Alaska Energy Security Task Force at this time.

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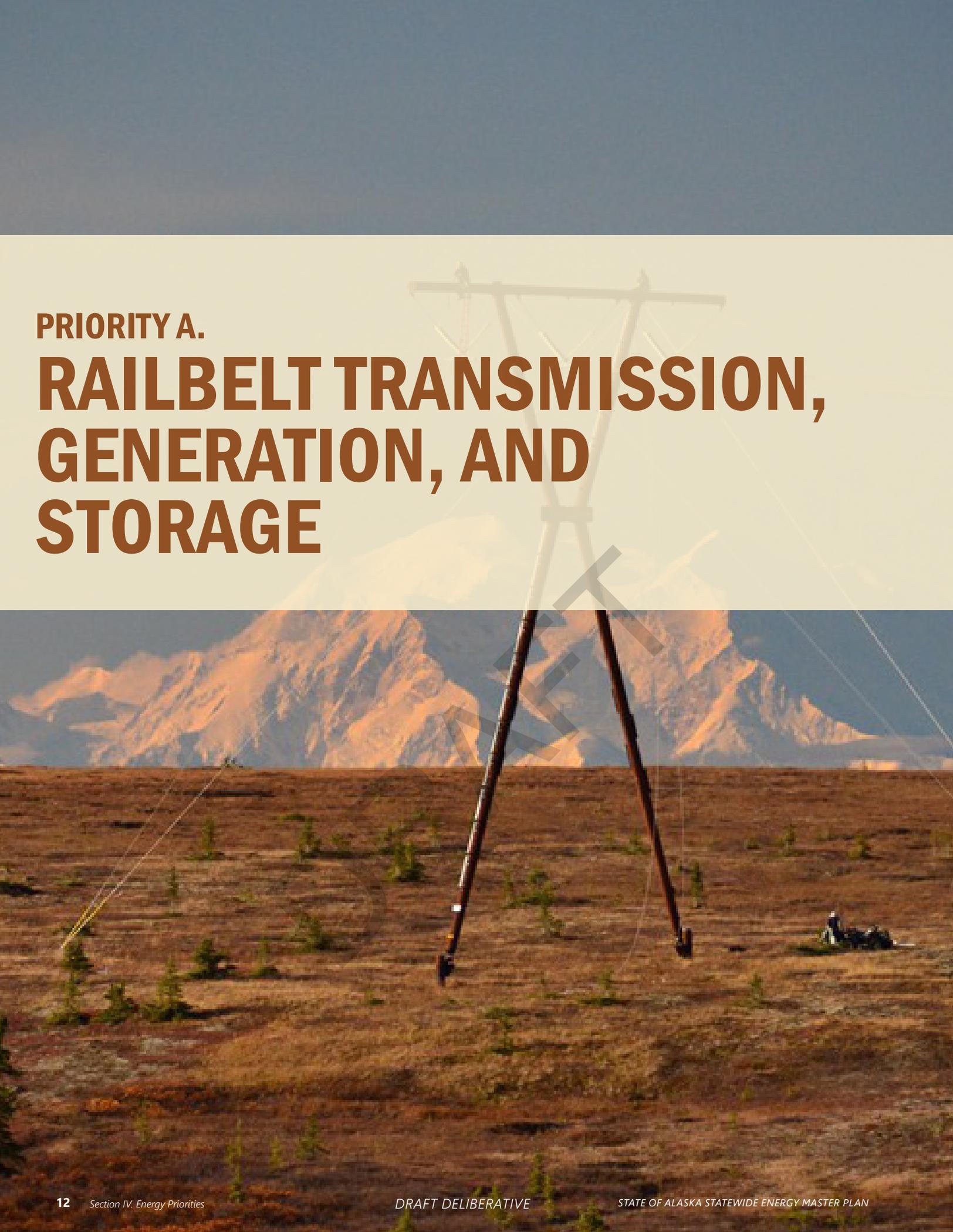
ENERGY PRIORITIES





This section is divided into the following Energy Priorities:

- Priority A. Railbelt Transmission, Generation, and Storage**
- Priority B. Coastal Generation, Distribution, and Storage**
- Priority C. Rural Generation, Distribution, and Storage**
- Priority D. State Energy Data**
- Priority E. Incentives and Subsidies**
- Priority F. Statutes and Regulations**

A large, dark metal transmission tower stands in a vast, open landscape. The ground is a mix of brown and green, with scattered small trees. In the background, a range of mountains is visible, some with snow or light-colored rock. The sky is a clear, pale blue. The overall scene is a wide, open natural area with industrial infrastructure.

PRIORITY A.

RAILBELT TRANSMISSION, GENERATION, AND STORAGE



INTRODUCTION

The Railbelt Generation, Transmission, and Storage (RGTS) Priority of the Alaska Energy Security Task Force was created to develop an energy plan that will move the Railbelt towards energy independence while lowering the cost to its residents over the long-term. In order to complete this plan, it was important to understand the current state of our energy portfolio. Since Statehood, the Railbelt utilities and their customers have benefited from the significant natural gas finds in the Cook Inlet. Over time, this basin has supported approximately 80% of the power generation, and a majority of the population hubs' space and water heating needs.

In order to develop our recommended plan, the RGTS determined the most efficient approach would be to establish long-term, mid-term, and short-term goals that reflect our desired outcomes here along the Railbelt. Here are the recommended goals:

- Short-term: Minimize regret cost while providing reliable service.
- Mid-term: Invest in infrastructure improvements to advance our long-term goal of energy diversification.
- Long-term: Significantly diversify power generation with an emphasis on local, reliable, and affordable clean energy.

The RGTS was motivated to seek transformational approaches to reach these goals that might provide electrical energy to residents at a target price of \$0.10/kwh in the future. The RGTS reviewed numerous generation and transmission configurations and strategies from publicly available data but did not complete independent or internal cost estimates in developing action items and our strategy. The following Railbelt strategies and recommended action items are meant to support these high level goals.

PLANNING PROCESS HIGHLIGHTS

**PLACEHOLDER FOR INFOGRAPHICS
THAT DESCRIBE PUBLIC MEETINGS AND
PARTICIPATION THAT HELPED IDENTIFY
ACTIONS AND STRATEGIES PRESENTED IN
THIS SECTION**

STRATEGIES:

- B-1 Unify Transmission
- B-2 Diversify Generation
- B-3 Increase Demand



STRATEGY A-1: Unify Transmission

ACTIONS

- A-1.1** Unify and convey all existing transmission assets along the Railbelt and Bradley Lake to AEA or a new non-for-profit regulated utility for the net book value.



Purpose:

Accelerate upgrades to existing transmission from Bradley Lake to Fairbanks via Anchorage, and construct a second transmission line from Soldotna to Healy via Beluga enabling the long-term goals of improved resilience, reliability, and transfer capability between regions. This action would include unified ownership of the Railbelt transmission system and would minimize constraints on the system. Proceeds from the utility sales would help reduce debt owned by the utilities, eliminate wheeling charges, and create a postage stamp rate from Bradley to Fairbanks, thereby eliminating multiple tariffs in favor of one simplified tariff. Unified operation will lower system operating costs (rates), enable quicker interconnection of new generation sources, and reduce time to plan and construct new system components.

Background:

The "Railbelt" refers to the interconnected electric grid that stretches approximately 700 miles from Fairbanks through Anchorage to the Kenai Peninsula. About 70 percent of Alaska's population is served by the Railbelt electric system.

The Alaska Energy Authority (AEA) owns the Bradley Lake Hydroelectric Project, the largest hydroelectric plant in Alaska. Energized in 1991, Bradley Lake generates the lowest-cost electricity on the Railbelt and provides clean power to more than 550,000 Alaska residents. There is now a unique opportunity to leverage past investments in Bradley Lake. Through further federal, state, utility



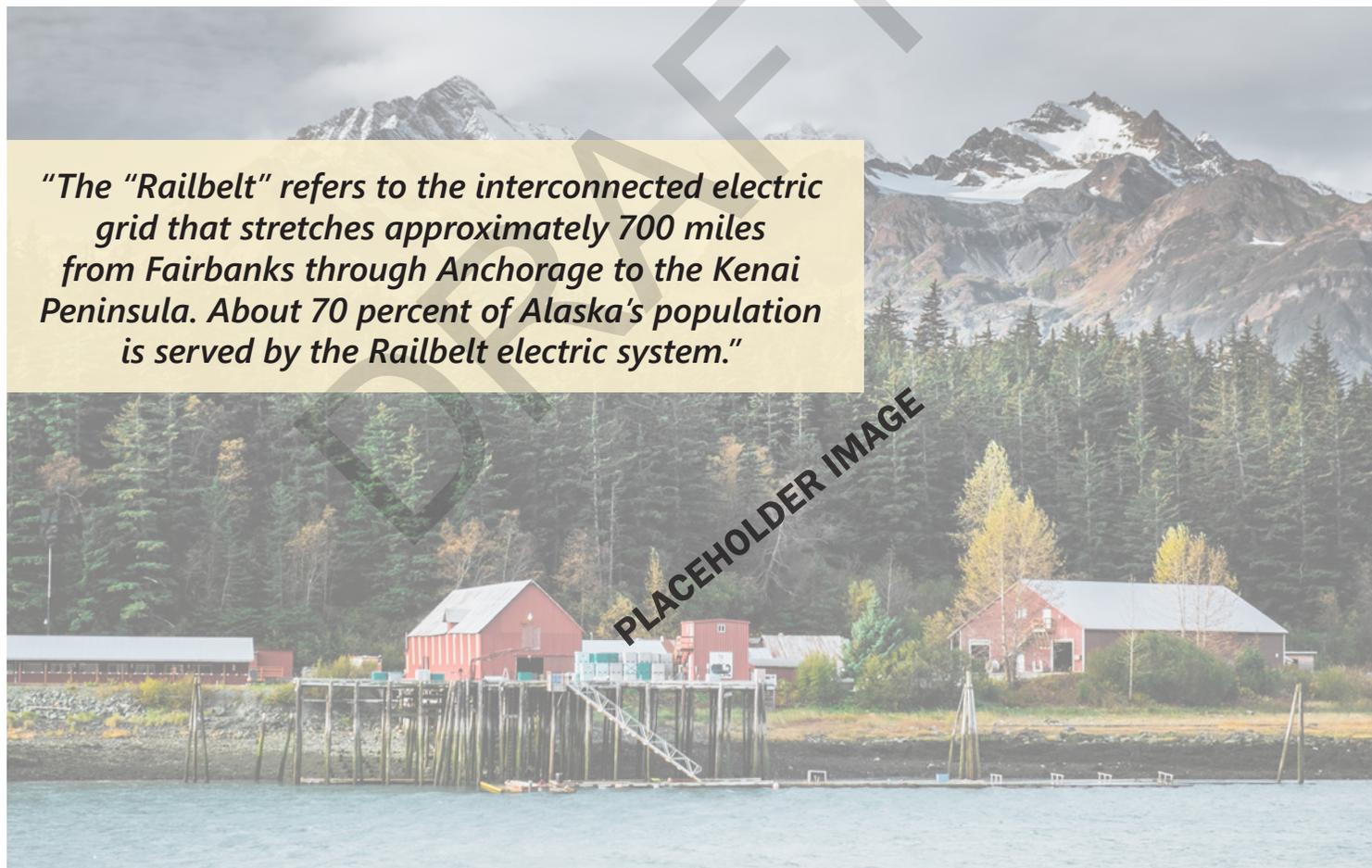
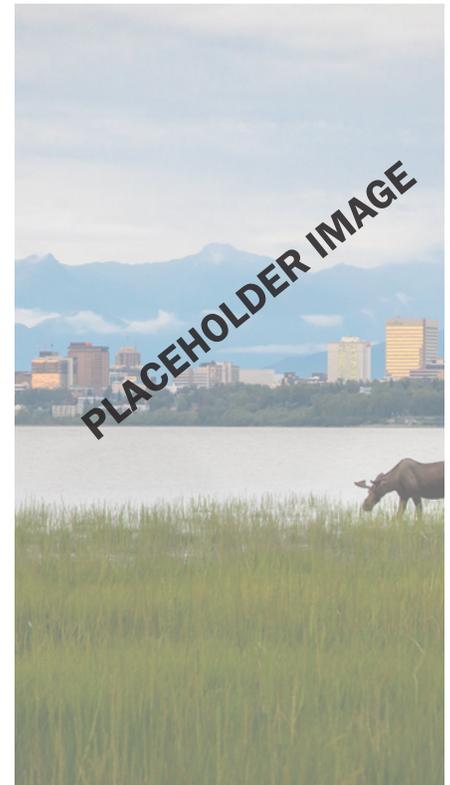
and private sector investment in specific shovel-ready capital projects, Alaska can optimize Bradley Lake’s value without incurring significant additional costs to Alaskans. The Alaska Energy Authority (AEA), in partnership with the five Railbelt utilities, has identified several opportunities for transmission line upgrades and battery energy storage systems that will reduce existing constraints on the Railbelt grid by increasing the Kenai Peninsula’s transmission capacity to export power from Bradley Lake hydropower, while also allowing for the integration of additional renewable energy generation. The current system is in need of upgrades to facilitate a diverse fuel supply portfolio.

Benefits:

- Reduces transmission constraints on Railbelt grid, while also allowing for the quicker integration of additional renewable energy generation.
- Provides system redundancy, resilience, and increases reliability.
- Benefits utilities and ratepayers by sharing power throughout the region.
- Reduces costs for consumers and promotes job creation.
- Coordinates planning, financing, and construction of new infrastructure.
- Augments and diversifies Environment, Social, and Governance investment portfolio holdings.

Expected Results:

This strategy will result in a more resilient and reliable transmission and electric grid system that will lower rates, help bring online clean energy, reduce costs for consumers, and promote job creation.



“The “Railbelt” refers to the interconnected electric grid that stretches approximately 700 miles from Fairbanks through Anchorage to the Kenai Peninsula. About 70 percent of Alaska’s population is served by the Railbelt electric system.”



STRATEGY A-2: Diversify Generation

ACTIONS

- A-2.1** Adopt a Clean Energy Standard with incentives to facilitate reaching diversification goals.
- A-2.2** Modify existing statute(s) requiring the commission to consider long term diversification goals when approving additional/new Railbelt power generation.
- A-2.3** Progress Known Energy Generation Diversification Projects to Go/No-Go Decision
- Dixon Diversion
 - Susitna-Watana
 - AKLNG



Location

Purpose:

Encourage and coordinate the diversification of Railbelt generation assets through projects and policy that provide opportunities to maximize energy cost savings.

Background:

Today, 80-90% of the Railbelt's energy (heat and power) is generated using Cook Inlet (CI) natural gas, a supply source which is forecasted to fall short of demand as soon as 2027. Alaska utilities may likely need to import Liquefied Natural Gas (LNG) to meet short term supply needs and this is anticipated to increase the cost of energy and introduces potential energy security concerns. In order to ensure a secure, local supply of energy that is affordable and reliable, the Alaska Energy Security Task Force, (AESTF) Railbelt Subcommittee set a long term goal of significantly diversifying the Railbelt's energy generation.

Today, many proven and cost competitive electricity generation technologies exist and are ready for at-scale deployment across the Railbelt, and the state as a whole. Alternative technologies for central heat generation are not as ready to deploy and distributed heat generation solutions such as heat pumps point to electricity generation as their source. Based on this, the Railbelt Subcommittee recommends a near term focus on diversifying electricity generation. This will conserve natural gas for heat while increasing energy security with local and diverse electricity generation projects.



To enable this strategy the Railbelt Subcommittee supports the state adopting a Clean Energy Standard which would set electricity diversification goals. These goals should be supported with incentives rather than penalties to ensure affordable, reliable power is delivered to rate-payers. The Railbelt Subcommittee also recommends modifying state statutes to provide the Regulatory Commission of Alaska (RCA) the ability to value generation diversification (in addition to price) when reviewing and approving contracts.

The Railbelt Subcommittee did not complete comprehensive analysis or cost estimates for potential generation projects and ultimately all technologies should compete to bring the most affordable, diverse, reliable energy to the Railbelt. That said, there are projects which have previously been proposed or are currently being worked and the Subcommittee supports taking these projects through feasibility such that a “go/no-go” decision can be made. Alaska has several projects in various stages of development and permitting that could provide diversified renewable and clean power generation for Railbelt utilities including the Dixon Diversion project at Bradley Lake, and the potential mega-project at Susitna-Watana. Additionally, the Alaska LNG (AKLNG) project has the potential to open vast quantities of trapped North Slope natural gas for uses across the interior and south-central Alaska. The AKLNG is strategic in that it provides a local gas supply for heat and electricity base load for generations to come.

Benefits:

How can Alaskans encourage and promote diversification of power generation in the Railbelt and across Alaska to foster transition to renewable and clean energy generation sources to provide reliable, low cost energy for Alaskans.

Expected Results:

Greater diversification of power generation to provide reliable, lower cost electricity, heat, and transportation for Railbelt rate payers.



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PLACEHOLDER CALL
OUT BOX



STRATEGY A-3: Increase Demand

ACTIONS

- A-3.1** Issuing an RFP to industry for a large load that would be provided at a guaranteed low energy price (the energy price could be tiered based on amount of load growth).



Purpose:

Significantly increase load to drive down energy rates.

Background:

All other things being equal, if the fixed infrastructure costs of a power grid are spread over more customers and greater energy loads, customers will end up paying less on a per-kWh basis. This strategy has been used in Iceland, for example, where a high volume of production and sales have created efficiencies and economies of scale. According to analysis provided by Holdmann and Gudleifsson (in preparation), Iceland's total electric production and Alaska's tracked very closely until the mid-1990s, as did the delivered cost for electric power. After that point in time, the trajectories diverged significantly both in terms of annual production and sales as Iceland actively courted and attracted large industry (aluminum smelting) to its electric grid. This new industry increased Iceland's energy demand by four-fold. Iceland's cost of power delivered to the customer's meter is now \$0.7-\$0.13 per kWh, as compared with \$0.19-\$0.26 for power from Alaska's Railbelt grid.

A similar approach could be undertaken on Alaska's Railbelt to drive the cost of power down for all customers and spur continued economic growth. Examples of new, large customers on the Railbelt could include ore processing of locally-resourced materials as well as new fuel generation production facilities for the transportation industry (air carriers, shipping, etc.), among others. A key insight is that Iceland simultaneously sought out new industry and committed to lower than current energy costs to incentivize industry to select Iceland as the preferred location.

Benefits:

Incentivizing and attracting large industry customers to Alaska's Railbelt to increase electricity production demand, following a similar model to Iceland, could help lower the cost per- kWh for all Railbelt customers.

Expected Results:

The Railbelt will significantly increase its load to drive down prices for all consumers and spur economic development overall.

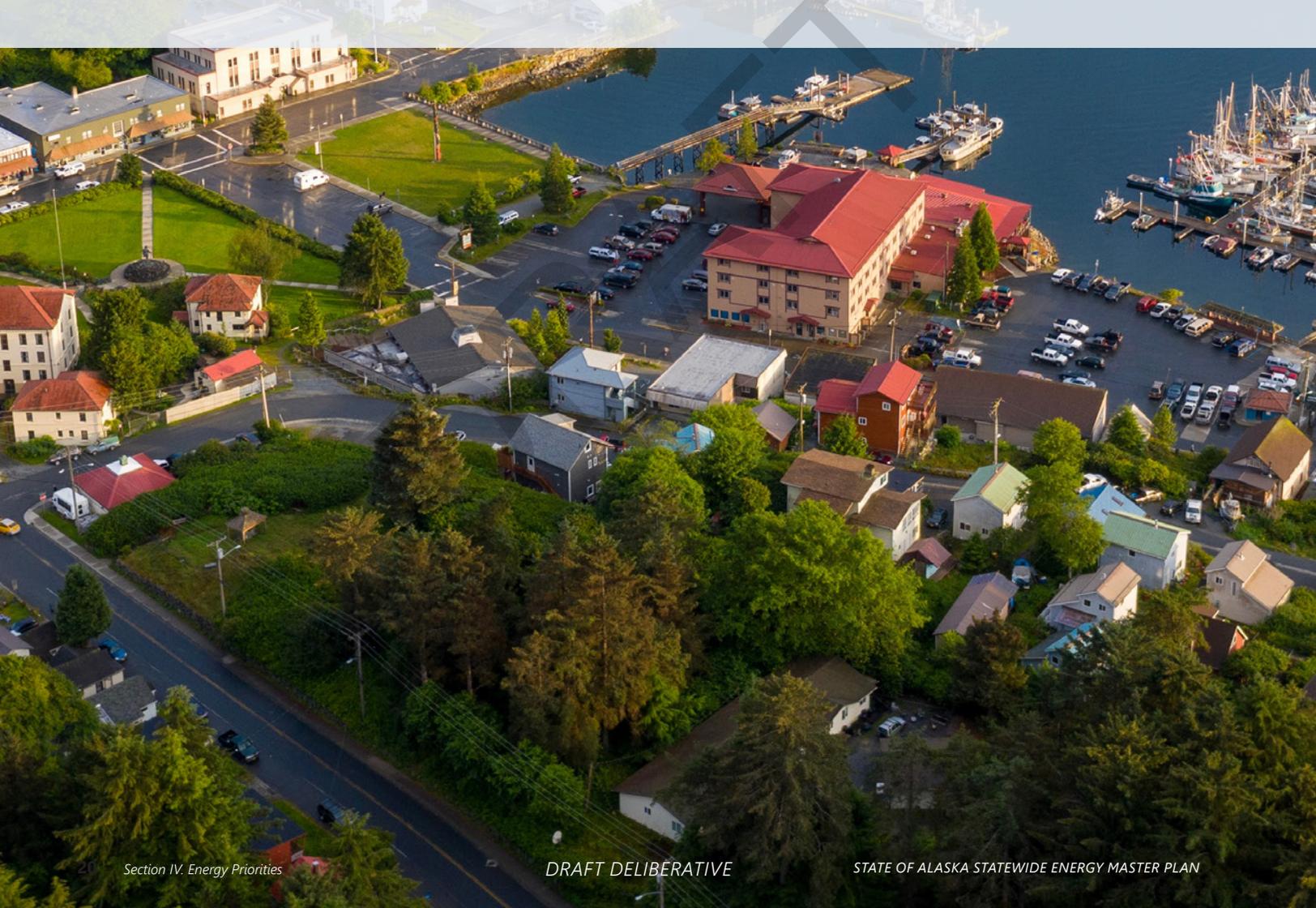


PLACEHOLDER IMAGE



PRIORITY B.

COASTAL GENERATION, DISTRIBUTION, AND STORAGE





INTRODUCTION

The Coastal Generation, Distribution, and Storage Priority includes strategies and actions that support the overall Alaska Energy Security Task Force goal of identifying opportunities to lower the cost of energy in Alaska for Alaskans. The Coastal Subcommittee settled on four high-level strategies supported by twelve specific action recommendations focused on lowering energy costs for Alaskans living in coastal areas of the state. Strategies recommend Alaska and Federal policy updates to allow streamlined project identification, planning, funding/financing and permitting. The Market Initiatives strategy seeks to maximize use of existing energy generation and transmission assets and promote new renewable energy assets to lower energy costs for Alaskans and their industries. Finally, as hydro-power is one of the primary sources of energy generation for many coastal Alaskan communities, the Alaska Hydropower strategy recommends enhancing Alaska's policies to fast-track hydropower for affordable, secure energy Alaskans expect by optimizing Alaska public policies and investments to promote and advance execution-ready hydropower projects to lower the cost of energy and to bolster community and regional energy security.

PLANNING PROCESS HIGHLIGHTS

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THIS SECTION**

STRATEGIES:

- B-1 Alaska Policy Recommendations
- B-2 State of Alaska Coordination with Federal Agencies and Federally Recognized Tribes Recommendations
- B-3 Alaska Hydropower Generation Recommendations
- B-4 Alaska Market Initiatives



STRATEGY B-1: Alaska Policy Recommendations

ACTIONS

- B-1.1** Establish, require, assist, and implement community Integrated Resource Plans (light) to forecast energy demand and generation for community and regional future energy needs and to lower energy costs.
- B-1.2** Strengthen Alaska's Net Metering energy framework, tariffs, and regulations for Alaska's diverse stakeholders to promote net metering renewable energy investments.
- B-1.3** Strengthen and Streamline the State of Alaska's internal state regulatory and land use administrative processes to accelerate approval to advance strategic energy projects and transmission for regional energy security and lower energy costs.



Purpose:

Enhance Alaska's departmental and regulatory policies to spur and sustain renewable energy and transmission development to cut energy costs and advance economic prosperity for Alaska.

Background:

Alaska policies, while unintended, can prevent, stall, or, in some cases, prohibit the permitting and necessary governmental authorizations to timely and optimally develop and advance renewable energy and transmission assets required to move Alaska forward from a developing state status to a first-world energy state that Alaskans deserve. While there is not one solution, the Administration can take many internal steps and actions to create a unity of effort among State agencies with disparate missions and objectives. An overarching Energy Plan that directionally provides State agencies the authority and motivation to help the Governor successfully implement that State Energy Plan and achieve recommended action is doable with a coordinated effort.



Alaska can transcend policies that have been focused on the past or regulatory mission and should directionally (as opposed to aspirational) incorporate the Governor’s directives to implement the State Energy Plan in concert with regulatory balance, protecting our environment while streamlining processes, procedures and producing results to lower the cost of energy for Alaskans. Regardless of whether the policy directive is called a “unity of purpose and effort” or an all-hands-on-deck policy, Alaskans are better served through introspection of how we can and should do better, with concentrated and collective efforts to do better in serving Alaskans achieve lower cost energy now and for future generations.

Benefits:

The proposed Alaska Policy Recommendations create multiple economic and societal benefits while providing Alaskans with administrative purpose and collective effort to find and exploit synergies to lower the energy cost for Alaskans in concert with Departmental missions and goals.

Expected results:

Strategically planned and matured by the Administration and AEA of the Task Force Alaska Policy Recommendations combined with efficient and well thought out implementation focused on light Integrated Resource Planning, reducing State of Alaska barriers and bottlenecks, optimizing federal funding for the strategic achievement of goals, tactical and practical implementation of can do, how we get to “yes” policies will reduce the cost of power for Alaskans today and leave an energy legacy for generations of Alaskans to follow.



ACTIONS (CONT.)

- B-1.4** Strategize and Prioritize State of Alaska funding to match federal funding and federal financing to build and expand Transmission and Distribution lines in Alaska to bring Alaska on par with the US transmission systems for Alaskan energy security and lower energy costs.
- B-1.5** Establish and provide valuable energy planning and modeling metrics from State data sources, where available and requested (such as DMV electric vehicle registrations and Air Source Heat Pump (ASHP) installation) by individual communities.
- B-1.6** Recruit, Train, and Enhance Alaska workforce with technical skills and training for advancing beneficial electrification to lower Alaska energy costs and to sustain Alaska’s growing energy infrastructure.



STRATEGY B-2:

State of Alaska Coordination with Federal Agencies and Federally Recognized Tribes Recommendations

ACTIONS

B-2.1 Establish an Alaska/ federal Renewable Energy Policy Force to develop, collaborate, and prioritize State energy, plan, goals, and rights to optimally advance renewable energy and transmission on federal lands.

B-2.2 State of Alaska partners and collaborates with Federally recognized Alaska tribes and federal agencies to develop mutually beneficial Energy Development and Transmission/ Distribution to advance the State Energy Plan to lower the cost of energy.



Purpose:

Refine federal policy to bolster Alaska’s renewable energy and support tribes in securing affordable energy. Directionally (as opposed to aspirationally) advance Alaska’s Energy Plan priorities to promote and develop renewable energy generation and transmission assets through negotiating and influencing federal agencies for proactive federal energy development policy modifications and revisions and to collaborate and assist Alaska’s federally recognized tribes in obtaining lower cost energy in Alaska.

Background:

The State of Alaska has the highest disparity of power costs from one community or region to another. Some of America’s highest-cost energy communities amplify that these communities are in the Tongass and Chugach Forests lands controlled by the US Department of Agriculture (USDA) US Forest Service (USFS). Currently, there is limited or no State input or consultive rights provided by the State of Alaska to affect the federal policies of the federal government in a collaborative and constructive dialogue that lowers the cost of energy for Alaskans and reduces emissions and other national goals of energy security and lessening dependence on fossil fuels.

RS 2477 (Revised Statute 2477) refers to a provision in the Mining Act of 1866, which allowed for the construction of highways across public lands not reserved for public uses. In simple terms, RS 2477 granted a “right-of-way” to build roadways and transmission lines over public land that provide access to renewable energy project areas.

Section 4407 of Public Law 109-59 (Section 4407) of a 2005 federal transportation funding bill refers to a Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). SAFETEA-LU was a



bill sponsored by the late Congressman Don Young and was signed into law by President George W. Bush in August 2005. Section 4407 provides as follows: Notwithstanding any other provision of law, the reciprocal rights-of-way and easements identified on the map numbered 92337 and dated June 15, 2005, were enacted into law. Section 4407 Rights of Way provides roadways and transmission line corridors over the Tongass National Forest, instrumental for the State of Alaska’s interests in providing access to renewable energy project areas and transmission lines. However, Tongass Forest Land Management Plans, Land Use Designations (LUD), and other federal regulations are at odds with the State exercising its rights.

Coastal Alaska communities also want to lower energy, heating, and transportation costs. Federally Recognized Tribes actively explore energy solutions and are supported in tribal energy endeavors by federal resources mutually beneficial to the State of Alaska’s interests. Tribal goals align with the broader Alaska state mission of making energy more affordable for all residents. Additionally, many federally recognized tribes have designated staff working specifically on energy projects, often in collaboration with federal entities. By coordinating and collaborating, the State of Alaska, Federally Recognized Tribes, and our shared Alaskan communities can assist the wider Alaskan population by cooperatively developing and sharing efficient energy solutions. This joint party effort can enhance the creation, sharing, and use of energy across the State.

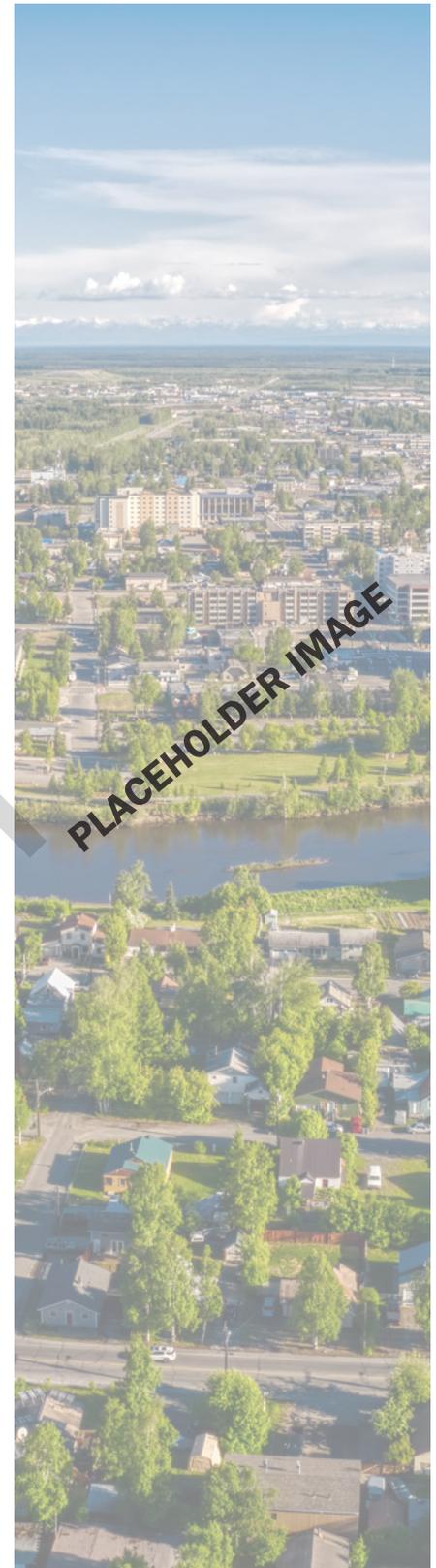
Benefits:

The development of state policies and goals to negotiate and carry out with federal agencies for developing cost-effective renewable energy and transmission lines on federal lands lowers energy costs for Alaskans while assisting federal agencies in meeting national clean energy goals through mutual State-Federal cooperation, respect, and understanding the proposed Alaska Policy Recommendations create multiple economic and societal benefits while providing Alaskans lower cost energy.

The State of Alaska and federally recognized tribes have mutually shared goals to provide low-cost heating, electricity, and transportation to Alaskans in our Alaskan communities. By identifying and sharing information, plans, and initiatives and establishing a framework to advance energy generation, transmission, distribution, storage, and heating solutions, the State of Alaska and Tribes can optimize resources and benefits to lower the cost of energy and increase energy security for Alaskans.

Expected Results:

The State of Alaska, with careful and planned implementation of these recommendations, can gain common ground with federal agencies and tribes and advance and promote Alaska’s renewable energy development with cooperation and support from the federal government and Alaska’s 229 federally recognized tribes to achieve national purposes while reducing the energy cost of Alaskans. The expected results and outcomes from this cross-agency, inclusive tribal interest effort will lower Alaska’s energy costs and reduce the dependency on imported fuels, using local Alaska land and energy resources for the benefit of Alaska.





STRATEGY B-3:

Alaska Hydropower Generation Recommendations

ACTIONS

B-3.1 Foster, Support, and Assist Hydropower development and their transmission in Alaska to lower energy costs, provide energy security, and spur economic growth, job creation, and prosperity for Alaska.



Purpose:

Enhance Alaska’s policies to fast-track hydropower for affordable, secure energy Alaskans expect by optimizing Alaska public policies and investments to promote and advance execution-ready hydropower projects to lower the cost of energy and to bolster community and regional energy security that Alaskans deserve and expect.

Background:

The foundation of Alaska’s most cost-effective and affordable energy lies in its legacy hydropower infrastructure, some of which dates back decades or even a century. There is no cheaper energy form in Alaska than old hydropower, and Alaska cannot achieve old hydropower without proactively supporting and investing in new hydropower. Hydropower is a tried and proven Alaska energy resource, and with proper maintenance, these hydropower systems have a life expectancy of over 100 years. Once financing debt is paid, the hydropower project yields consistent, sustainable, renewable, and lowest-cost power, benefiting multiple generations of Alaskans and economic prosperity well into the future.



Historically, Alaska’s economic vitality is due directly to its hydropower assets. Whether the small local hydropower systems that powered early mining and fishing sectors or the subsidized projects like Bradley Lake and Snettisham Hydro and the hydropower investments from the era of the Four Dam Pool, these assets have consistently provided low-cost energy, driving Alaska’s prosperity.

In Alaska and across the US, the National Hydropower industry is expanding to include river hydrokinetics, tidal, and marine power projects as US hydropower projects. As these technologies evolve, Alaska’s extensive coastline and lengthy rivers — greater than all other states combined —leverage Alaska to capitalize on these innovations and benefit from these advancements to provide energy security and lower the energy cost for Alaska.

Today, hydropower accounts for 29% of Alaska’s electricity. This reliable power source underpins vital sectors of the Alaskan economy: mining, fisheries, military, and tourism, ensuring energy security and economic stability for the state.

Benefits:

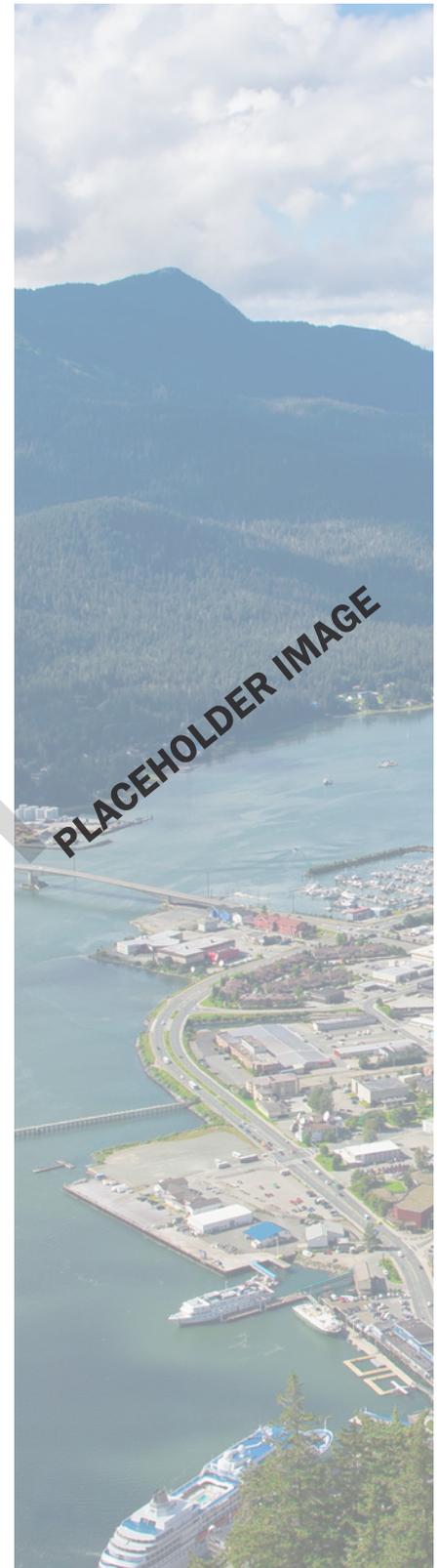
Hydropower in Alaska is not just an energy source; it is Alaska’s energy DNA. Historically, hydropower has consistently delivered the state’s most affordable power. By investing in hydroelectric infrastructure and related transmission, Alaska is not just tapping into a proven energy solution but securing Alaska’s energy future. This investment strategy, rooted in a track record over a century, offers unmatched cost-effectiveness in the long run and past most investment cycles. While the initial outlay is significant, the long lifecycle of hydropower — exceeding 100 years — ensures that Alaska is planting seeds for today’s needs and reaping energy dividends for future generations with sustainable, clean energy. Investing in hydropower assets is our Alaska commitment to Alaska’s proven energy model for a brighter, more affordable, energy-secure future for Alaska.

Implementation Timeline:

The Alaska Generation Strategy for fostering hydropower has a blend of Immediate for execution-ready hydropower and short-term, mid-term, and long-term tasks for hydropower in earlier analysis and development stages.

Expected Results:

The State of Alaska can take an active, willful, and calculated role in lowering the energy cost for Alaskans, energy security, and economic prosperity by effectively guiding hydropower development policy and investments in hydropower assets and related transmission infrastructure safeguarding Alaska’s energy future with an Alaskan tried and proven energy model.





STRATEGY B-4: Alaska Market Initiatives

ACTIONS

B-4.1 Integrate and Promote Heat Pump technology and systems (ASHP, SWHP, GSHP) as an Alternative Energy Resource in Coastal Alaska.

B-4.2 Plan, finance, and support the execution of Shore power at Public and Private Cruise Docks to Sell Excess Energy to Cruise Ships.

B-4.3 Beneficially electrify the Alaska Ferry Fleet to lower the cost of transportation, emissions, and assist in reducing the cost of power in coastal communities.

B-4.4 Identify and support the colocation of industrial load (e.g. data servers) with Alaska hydropower facilities for synergies to lower energy costs.



Purpose:

Maximize utilization of existing energy generation and transmission and promote new renewable energy assets to lower energy costs for Alaskans and their industries through market initiatives and expansion.

Background:

Energy generation and transmission assets, like power plants and electricity distribution grids, have significant upfront costs. For these assets to be cost-effective and viable, they need to be built at a particular scale, benefiting from what is known as “economies of scale,” the more significant the operation, the more cost-effective it becomes per unit of energy produced or transmitted. Market initiative and expansion of electricity is known as beneficial electrification. “Beneficial Electrification” refers to replacing direct fossil fuel use for heating and transportation with electricity to reduce overall emissions and energy costs while simultaneously delivering broader environmental and societal benefits. The primary aim is to shift end-use energy sources to cleaner, renewable electricity sources.

Energy Generation and Transmission assets require minimally sufficient economies of scale to enable minimum viable generation projects and transmission to be built or expanded. Expanding energy markets through market initiatives that serve multiple goals... creates sufficient economies of scale to lower energy costs through demand creation for critical energy



generation and transmission assets, thereby increasing affordability, reliability, energy security, and grid resilience that reduce the cost of energy through displacement of higher cost fuel sources and by creating new energy demand. These market initiatives also create family-wage-sustaining jobs in Alaska.

Benefits:

The proposed market initiatives create multiple economic and societal benefits while providing Alaskans lower cost energy.

Implementation Timeline:

The Alaska Market Initiative Action Items have a range of planning, development, financing, implementation, and operation implementation timelines extending from the immediate to the long-term horizon for Alaska’s Energy Plan.

Expected Results:

Strategically planned market initiative actions with tactical implementation focused on fully utilizing generation and transmission current and future assets will optimize State Alaska’s Energy plan to lower Alaskans’ energy costs (electric, heating, transportation).

ACTIONS (CONT.)

B-4.5 Identify, assist, and fund Battery Energy Storage Systems (BESS) and other Energy Storage Systems (ESS) for successful integration into Coastal communities to increase energy security, grid resilience and to lower energy costs.



PRIORITY C.
**RURAL GENERATION,
DISTRIBUTION,
AND STORAGE**





INTRODUCTION

The vast majority of Alaska’s rural communities have significantly higher cost of energy than more urbanized areas. This is primarily due to remote village locations having to rely on diesel powered generators supplying power for individual villages. The cost to purchase, transport and store diesel fuel drives these higher energy generation costs. The Rural Subcommittee identified five strategies target opportunities to help lower the cost of energy generation in rural Alaska. Increased access to capital and infrastructure investments by the state and federal government are two of these strategies. Lowering operational costs of existing energy generation also provide actions to pursue. The previous three strategies can be supported by increasing economies of scale, either by connecting communities or attracting industrial partners to increase demand, and better decision making concerning energy generation, storage, distribution based on access to better data is the final rural subcommittee strategy. Alaska’s rural residents deserve access to clean, affordable, lower cost energy; these strategies are aimed to move the state in this direction.

PLANNING PROCESS HIGHLIGHTS

**PLACEHOLDER FOR INFOGRAPHICS
THAT DESCRIBE PUBLIC MEETINGS AND
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THIS SECTION**

STRATEGIES:

- C-1 Increase Capital Availability
- C-2 Infrastructure Investment
- C-3 Lower Operational Costs
- C-4 Improve Economies of Scale
- C-5 Improve Data-Driven Decision Making



STRATEGY C-1: Increase Capital Availability

ACTIONS

- C-1.1** Identify a Funding or Financing Mechanism for Rural Communities including a “Local Match” for Federal Grants.
- C-1.2** Identify opportunities for Public Private Partnerships to finance/fund energy infrastructure projects in rural Alaska.
- C-1.3** State of Alaska commit to sufficient capital budget funding for energy projects in rural Alaska.



Purpose:

Increase access to capital to provide additional funding/finance for project and infrastructure construction.

Background:

Small communities and developing regions to not have the economy required to generate the capital needed to build energy projects – e.g. hydro, SMR, transmission infrastructure

Benefits:

Alaskans need to reduce the cost and increase access to reliable energy in rural Alaska.

Expected Results:

Sufficient investment in energy projects/infrastructure to reduce the cost of energy in rural Alaska.



STRATEGY C-2: Infrastructure Investment



Purpose:

Support existing infrastructure and add new infrastructure to provide Alaskans with reliable energy at reduced cost.

Background:

Replace aging and inefficient infrastructure to improve reliability and affordability. Invest in new infrastructure related to the production and transmittal of power to rural Alaska in conjunction with transportation and broadband infrastructure.

Benefits:

Make regionally connected infrastructure investments that improve reliability and affordability in rural Alaska.

Expected Results:

Investment in connected regional infrastructure for the community needs that lead to the most affordable and reliable energy which would in turn improve public health, welfare, and socio-economic conditions in rural Alaska.

ACTIONS

- C-2.1** Promote a regional planning approach to connected energy, transportation, and broadband infrastructure.
- C-2.2** Identify gaps by leveraging studies done by regional ANC corporations, Economic Development Districts, Denali Commission, and other organizations as well as state and federal agencies.
- C-2.3** Replace or appropriately displace community-focused aging infrastructure in rural communities of Alaska.
- C-2.4** Invest in pilot projects using appropriate technologies that demonstrate a regional approach to supplying affordable and reliable power to multiple communities.



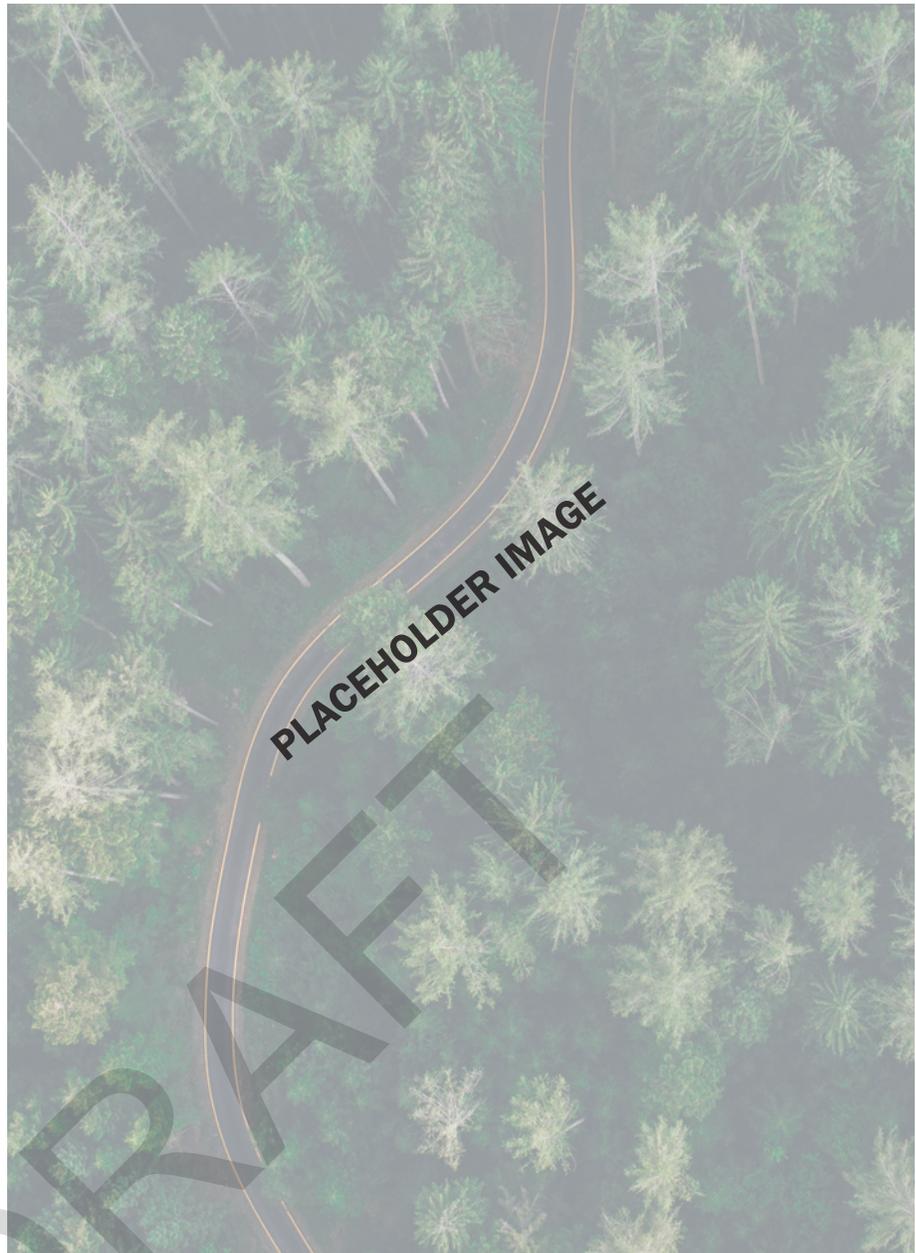
ACTIONS (CONT.)

C-2.5 Fund and Construct Opportunities to Connect Rural Communities through Transmission Lines and Other Shared Energy Projects.

C-2.6 Invest in critical repairs and resilient infrastructure that may be at high risk to current and future natural hazards (wildfire, extreme cold, storms, etc.), to avoid energy disruptions and preserve continuity of operations.

C-2.7 Invest in expanding the grid in rural areas.

C-2.8 Evaluate micronuclear and other emerging/ underutilized technologies throughout the State of Alaska.





**STRATEGY C-3:
Lower Operational Costs**



Purpose:

Lower operational costs of power/electricity in rural Alaskan villages.

Background:

There is a need to lower operational costs to produce energy in rural Alaska. This can be done by increasing technical assistance in rural communities; lower maintenance costs; improve work force development opportunities for rural community residents; improve or develop transportation infrastructure beyond upgrading rural airports. Connecting rural communities to existing transmission/electric grids may be another option to lower operational costs.

Benefits:

Reduce the cost and increase access to reliable energy in rural Alaska.

Expected Results:

ACTIONS

- C-3.1** Expand and Inventory technical assistance, training and workforce development to identify gaps, increase capability & capacity building activities for Training a Rural Energy Workforce. i.e. apprenticeship programs for energy production
- C-3.2** Identify Innovation in Logistics Transportation to Improve Supply Chain Reliability.
- C-3.3** Create and implement a community outreach and education program to combat NIMBYism in energy projects in rural areas.
- C-3.4** Grid modernization and automation



STRATEGY C-4: Improve Economies of Scale

ACTIONS

- C-4.1** Identify Economies of Scope/Scale to Provide Multi-Benefit Utility Projects.
- C-4.2** Identify Energy Anchor Tenants to Provide Economy of Scale for Rural Communities.
- C-4.3** Identify a Funding or Financing Mechanism for Rural Communities including a "Local Match" for Federal Grants.
- C-4.4** Identify and complete a regional pilot project to demonstrate economies of scale.
- C-4.5** Invest in rural beneficial electrification.



Purpose:

Reduce the cost of power and Improve reliability

Background:

By increasing the sale of power against fixed cost we can reduce the price per KWH.

Benefits:

Adequate access to reliable energy at lower cost to improve public health and welfare. Grow rural economies.

Expected Results:

Connect communities to each other and anchor tenants to improve the reliability and reduce the cost of energy which would in turn support public health and welfare and grow rural economies.



STRATEGY C-5: Improve Data-Driven Decision Making



Purpose:

Improve access to relevant data necessary to make informed value decisions related to energy generation, distribution, transmission and storage in rural Alaskan villages.

Background:

Legacy data collection processes have resulted in limited or incomplete data concerning Alaska’s energy system, especially in rural Alaska. Current data analytic processes, provide an opportunity to improve baseline data access, processing, and archiving. There is no overarching data custodian within that state that collects, manages, and archives data necessary to plan, design and construct energy infrastructure in rural Alaska. This includes critical local knowledge provided by village residents.

Benefits:

Provide better economic outcomes, longterm cost/benefit analysis for rural Alaskan communities related to energy infrastructure.

Expected Results:

ACTIONS

- C-5.1** Locate and catalog existing energy studies, and update and collect data necessary to make informed value decisions related to energy generation, distribution, transmission, and storage in rural Alaskan villages.

- C-5.2** Leverage critical local knowledge provided by residents in coordination with and complement ongoing and planned projects

- C-5.3** Explore and leverage existing and new data capture tools including artificial Intelligence tools to quickly analyze existing and new data collected in rural Alaska to provide potential energy solutions.



PRIORITY D. STATE ENERGY DATA



INTRODUCTION

There are literally terabytes of energy data available in the State of Alaska. Currently this data is not centrally located or managed. The Data Subcommittee created a Technical Advisory committee to help them identify and clarify four strategies intended to help the state better collect, manage, and analyze energy data. Four strategies came from this effort. The first recommended Establishing a Data Department within the Alaska Energy Authority to oversee management of Alaska's energy data. Second, Establish an energy data governance committee that is responsible for establishing minimum protocols for data collection, quality, storage, use, and access identifies the need for establishment of industry standard data governance protocols by an established data governance committee. The third strategy points to needed funding with the establishment of the above organizations, and the final strategy, Improve existing statewide energy data and collect new, needed data with respect to electricity, heat, and transportation, focuses on validating and improving existing energy data, and collecting additional needed data to aid in future energy decision making.

PLANNING PROCESS HIGHLIGHTS

**PLACEHOLDER FOR INFOGRAPHICS
THAT DESCRIBE PUBLIC MEETINGS AND
PARTICIPATION THAT HELPED IDENTIFY
ACTIONS AND STRATEGIES PRESENTED IN
THIS SECTION**

STRATEGIES:

- D-1 Establish a Data Department within the Alaska Energy Authority (AEA), using statute as necessary
- D-2 Establish an energy data governance committee that is responsible for setting minimum protocols for data collection, quality, storage, use, and access
- D-3 Fund data capacity
- D-4 Improve existing statewide energy data and collect new, needed data with respect to electricity, heat, and transportation



STRATEGY D-1:

Establish a Data Department within the Alaska Energy Authority (AEA), using statute as necessary

ACTIONS

- D-1.1** Institute or update statutory requirements for AEA Data Department.
- D-1.2** Fund, develop, and implement a technical and needs assessment.
- D-1.3** Fund, develop, and implement a capital asset plan.
- D-1.4** Develop and fund an operating and maintenance budget, to include the identification of potential funding sources and mechanisms.
- D-1.5** Appropriately staff the department based on the technical and needs assessment



Purpose:

To staff and properly equip a team dedicated to energy data management within the Alaska Energy Authority.

Background:

While a substantial amount of valuable energy data exists in aggregate, they are often inconsistent, inaccessible, and provided in formats which do not meet end-user needs. Existing data needs are thus being met by implementing unsustainable, short-term solutions such as adding additional responsibilities to existing staff, which often results in delays or needs going unmet.

The Alaska Energy Authority is the state's energy office and lead agency for statewide energy policy and program development.

Benefits:

This recommendation prioritizes, centralizes, and focuses the importance of energy data management in order to ensure the consistency and accessibility of energy data so it can better inform decision-making efforts on energy projects, program, and policy development. Housing a Data Department in AEA will ensure consistency and sustainability of state energy data management.

Expected Results:

The provision of consistent and accessible data further enabling data-informed decision-making on energy projects and policy across the state. Increased consistency of state data assets.



STRATEGY D-2:

Establish an energy data governance committee that is responsible for setting minimum protocols for data collection, quality, storage, use, and access



ACTIONS

- D-2.1** Form a technical advisory committee to draft recommendations on where the data governance committee should be established, supported, staffed, membership composition, scope of duties responsibilities, and other issues that may need to be addressed.
- D-2.2** Fund a long-term data governance strategy based on recommendations made by the Technical Advisory Committee.

Purpose:

Ensure that collection, quality, storage, use of, and access to electric, heat, and transportation energy data in Alaska meets industry standards, current protocols, and best practices.

Background:

Existing data can be inconsistent, inaccessible, and provided in formats which do not meet end-user needs. Security of, and ability to access, energy data are major concerns for public and private data users alike. The willingness to share, and the extent to which that data is shared, is significantly limited by concerns from such data providers regarding security, access, and usage.

Benefits:

Data-informed decision making is only as valid as the data on which the decision is based. The collection, quality, storage, use of, and access to energy data in Alaska should align with those industry best practices, standards, and current protocols so that all decisions are based on accurate and secure data.

Expected Results:

Energy data in Alaska meets and conforms with industry standards, protocols, and best practices. Increased participation of energy data stakeholders and end-users.



STRATEGY D-3: Fund data capacity

ACTIONS

- D-3.1** Establish dedicated data collection and analysis positions in state agencies that are responsible for collecting, analyzing, hosting, distributing data in formats that are accessible, and liaising with the AEA Data Department.
- D-3.2** Provide professional development and/or skills training opportunities for staff and other agency partners as it relates to data collection and analysis.



Purpose:

Establish dedicated data collection and analysis positions in state agencies that are responsible for collecting, analyzing, hosting, distributing data in formats that are accessible, and liaising with the AEA Data Department

Background:

Many of the ongoing data-related efforts across State agencies are borne by individuals whose duties and responsibilities are not primarily data-focused.

Benefits:

Establishing positions within State agencies whose primary duties and responsibilities are focused on data-related activities/initiatives, using statutes as necessary.

Expected Results:

Increased collaboration, reduced duplication of efforts, ease of data access, and better-informed decision making.



STRATEGY D-4:

Improve existing statewide energy data and collect new, needed data with respect to electricity, heat, and transportation



Purpose:

Fund a gap analysis of energy data, including existing data, accessibility, quality, age, and what form and character of data is and would be needed for data-informed decision making.

Background:

Existing data can be inconsistent, inaccessible, and provided in formats which do not meet end-user needs. Thermal and transportation datasets are found to be lacking. The term “Energy Data” has historically been limited to electricity data, meaning there are significant gaps in thermal and transportation energy data.

Benefits:

Expand the definition of “Energy Data” and those existing, to-be-compiled, and to-be-created underlying datasets to include thermal and transportation data to better capture the dynamic and interrelated nature of energy use in Alaska.

Expected Results:

More all-encompassing and informed decision-making for energy projects and policies in Alaska, across electric, heat, and transportation sectors.

ACTIONS

- D-4.1** Fund a gap analysis of energy data, including existing data, accessibility, quality, age, and what is and would be needed for data-informed decision making.
- D-4.2** Revitalize, fund, and maintain energy data platforms and services so as to ensure the long-term availability and accessibility of data.
- D-4.3** Conduct a data audit of the Regulatory Commission of Alaska (RCA) to include recommendations.
- D-4.4** Expand the Power Cost Equalization (PCE) report and the extent of such data reported.



ACTIONS (CONT.)

- D-4.5** Expand the definition of “energy data” by adopting the TAC definition, ensuring the definition is inclusive of heat/thermal and transportation fuel data.

- D-4.6** Understand how heating and transportation fuel is delivered and used.

- D-4.7** Re-establish annual updates to the Alaska Energy Statistics report.

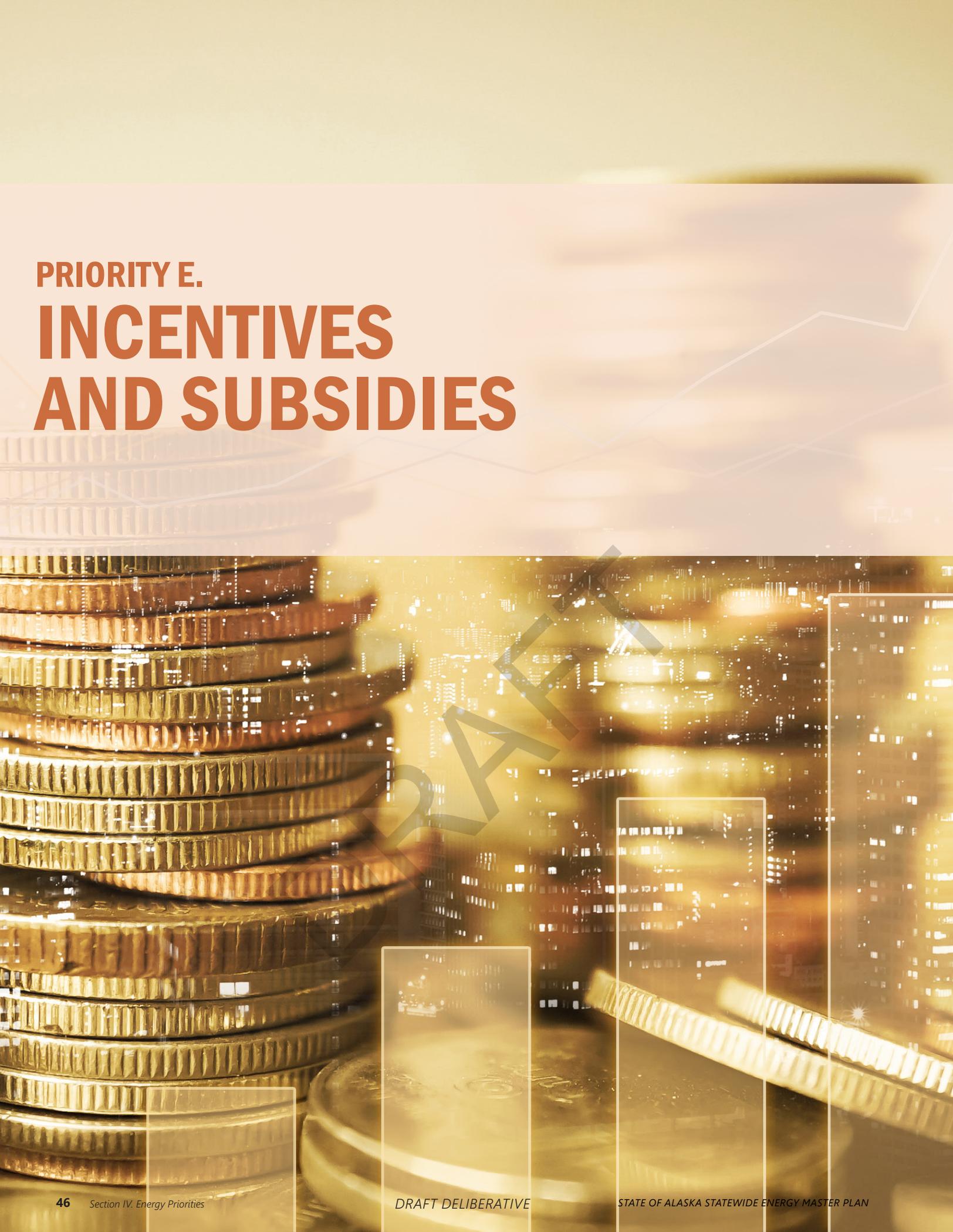


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PRIORITY E. INCENTIVES AND SUBSIDIES



INTRODUCTION

The Incentives and Subsidies subcommittee settled on three themes and created seven strategies to support securing affordable energy in Alaska. The first theme relates to strategies and actions that incentivize private sector investment. These strategies include Decrease Barriers to Private Sector Investment, Improve Economies of Project Development, and Respond to and implement evolving Energy Business Models. The second theme is oriented to state and federal policy and law that could be modified to support and accelerate investment in energy generation, transmission, and storage in Alaska. These strategies include Strengthen State-Federal Coordination and Investment, Evaluate and implement State policy, tax, and other incentives, and Increase State programmatic investments. Finally, the Incentives subcommittee acknowledges the need to continue existing subsidies offered by the state while some of the previous strategies are implemented. The final theme and strategy includes, Maintaining Residential subsidy focused on equity, while reducing the need across communities.

PLANNING PROCESS HIGHLIGHTS

**PLACEHOLDER FOR INFOGRAPHICS
THAT DESCRIBE PUBLIC MEETINGS AND
PARTICIPATION THAT HELPED IDENTIFY
ACTIONS AND STRATEGIES PRESENTED IN
THIS SECTION**

STRATEGIES:

- E-1 Strengthen state-federal coordination and investment
- E-2 Decrease barriers to private sector investments
- E-3 Maintain residential subsidy focused on equity, while reducing need across communities
- E-4 Improve the economics of project development
- E-5 Evaluate and implement State policy, tax, and other incentives
- E-6 Increase State programmatic investments
- E-7 Respond to and implement evolving energy business models



STRATEGY E-1:

Strengthen state-federal coordination and investment

ACTIONS

- E-1.1** Develop a funding and implementation toolkit for state/federal energy projects.
- E-1.2** Establish a clean energy and transmission line land use designation on state and federal lands.
- E-1.3** Establish a state and/or federal Alaska Clean Energy and Transmission Line Fund or an Alaska Energy Transition Fund.
- E-1.4** Ensure that criteria for state and federal project investments are weighted toward affordability goals, among other priorities.
- E-1.5** Implement a state/federal private sector investment energy coordinator (POC).
- E-1.6** Utilize DOE LPO Title 17 Clean Energy Financing Program and/or Tribal Energy Loan Guarantee Program.



Purpose:

The AESTF recommends the establishment of a state/federal working group that identifies and works toward improved access on federal lands, funding in place to accelerate an affordable energy transition, and the ability to leverage investment opportunities between state and federal programs.

Background:

The State of Alaska has the highest disparity of power costs from one community or region to another. Some of America’s highest-cost energy communities have significant barriers in the form of federal lands, which comprise more than 60% of the state. Federal land use policy comes with significant hurdles and a limited ability to effect widespread access or change. A coordinated and targeted effort by state and federal agencies that focuses on improving access and removing barriers is critical to lowering the cost of energy in Alaska, even as it increases the potential to meet federal clean energy goals.

Benefits:

The increased capacity of the state to negotiate and execute priorities with willing federal agencies for developing cost-effective clean energy, transmission lines on federal lands, with dedicated funding in place to bring Alaska parity with the rest of the nation, will lower energy costs for Alaskans while assisting federal agencies in meeting national clean energy goals. This process will increase knowledge of available funding and implementation support for energy projects in Alaska. This action aligns with and should leverage current federal investment through IJJA and IRA.

Expected Results:

This process will increase knowledge of available funding and implementation support for energy projects in Alaska. This action aligns with and should leverage current federal investment through IJJA and IRA.



STRATEGY E-2:

Decrease barriers to private sector investments



Purpose:

The AESTF recommends a strategic approach to policy and program development that stimulates and incentivizes private sector activity, including to make investments alongside private sector partners that result in coordinated and more efficient project delivery.

Background:

Federal and state investment is insufficient to address the scale necessary to effect widespread and meaningful transition toward lower-cost and –carbon energy. At the same time, removing barriers or reducing the burdens associated with private sector investments has the potential to increase Alaska’s ability to establish partnerships, and leverage private capital in the public interest.

Benefits:

Initiating a series of statutory changes and encouraging quicker adoption by communities and use by utilities and others will unlock private sector investment. Offsetting upfront costs and increasing the utilization of low-interest public capital will strengthen project economics while including strong public benefit criteria. Finally, this process envisions increasing the overall economy of scale, which will contribute to reducing barriers.

Expected Results:

ACTIONS

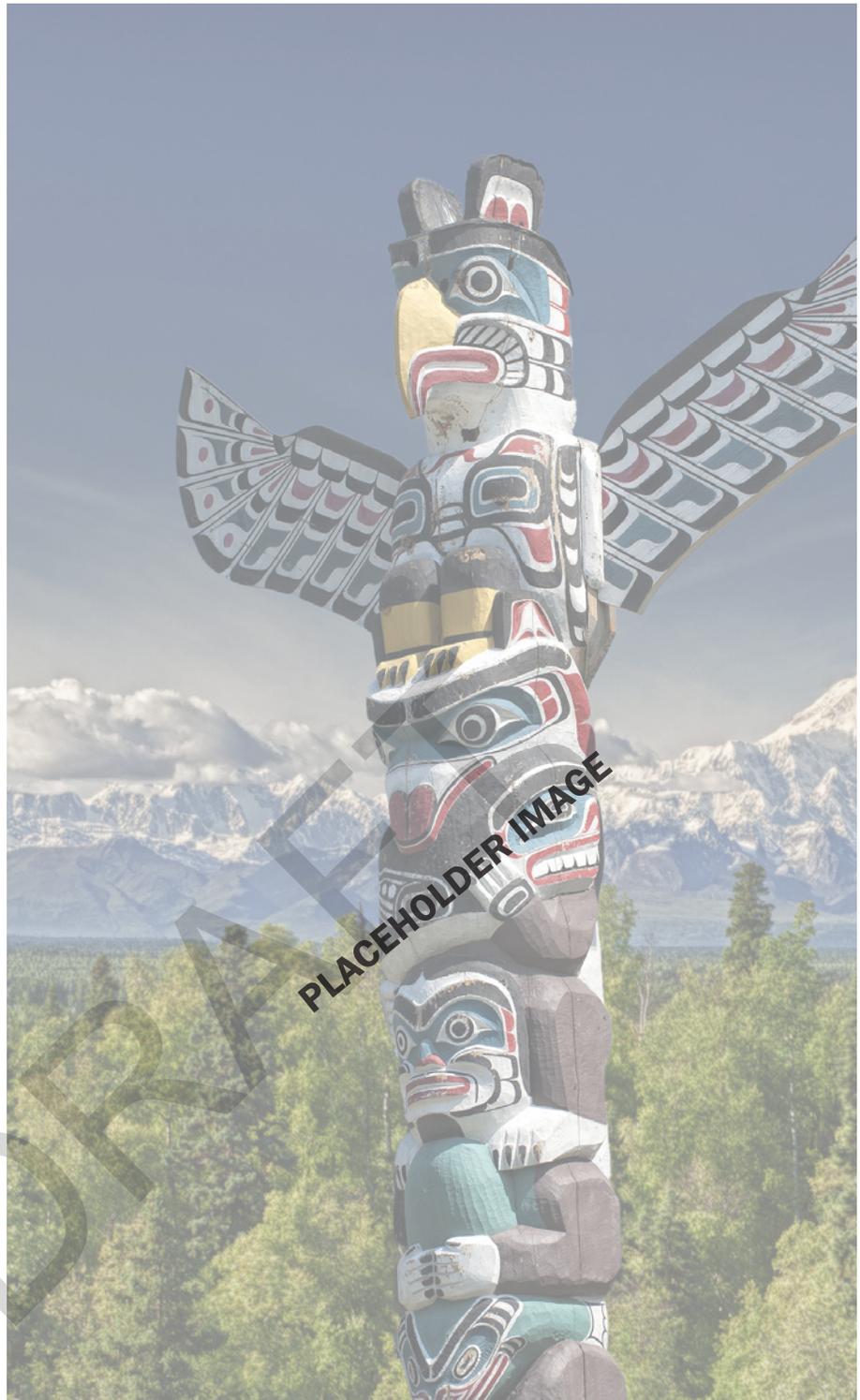
- E-2.1** Improve and further implement Commercial Property Assessed Clean Energy and Resilience (C-PACER) programs and evaluate the future adoption of an R-PACER program.
- E-2.2** Establish a standard integration tariff and reduction of interconnection and/or wheeling tariffs.
- E-2.3** Adopt a Renewable Portfolio Standard (RPS) followed by a Renewable Energy Credit (REC).
- E-2.4** Implement low-interest loan program (concessionary capital, like Power Project Loan Fund) that facilitates affordable energy development and infrastructure improvements.



ACTIONS (CONT.)

E-2.1 Conduct pre-development permitting, surveying, engineering, and/or environmental within principal energy zones.

E-2.6 Anticipate and plan for strategic demand increases, or pooled asset investments, including through project bundling and beneficial electrification.





STRATEGY E-3:

Maintain residential subsidy focused on equity, while reducing need across communities



Purpose:

The AESTF recommends the continued commitment by the State to ensuring residents have access to subsidy where and for as long as lower costs are not achieved, even as the State actively works to 1) consider alternative mechanisms for a fairer subsidy, 2) strategically deploys PCE funds to advance low-cost energy solution, and 3) expands the ability of PCE to lower costs across sectors within communities.

Background:

The value of PCE cannot be overstated – it has proven to be a lifeline to Alaskans who bear the brunt of high costs. This equitable distribution of State funding, relative to and based on project investment in some parts of the state, has lowered costs in communities where otherwise more residents may have chosen outmigration. However, PCE has not equalized costs in any way, and it remains true that this high-cost burden falls on some Alaskans and not others. At the same time, the overall goals of the state can encompass reducing the need for this subsidy by actually lowering costs in communities.

Benefits:

Working toward a flatter rate across Alaska improves the mobility of residents, increased economic opportunity, and overall improved quality of life for Alaskans.

Expected Results:

ACTIONS

- E-3.1** Ensure that PCE funds are available at the right scale over the correct time period.
- E-3.2** Implement a strategic approach to lowering costs according to highest use communities.
- E-3.3** Consider the development of a postage stamp rate alternative, where all Alaskans pay the same rate.
- E-3.4** Increase the use of community facilities allocation to lower State, Tribal, and local governments costs.
- E-3.5** Identify ways in which PCE can lower the cost of doing business, by evaluating residential costs beyond energy as part of the overall household burden.



ACTIONS (CONT.)

- E-3.6** Ensure ability to offset debt that results in lower cost energy project development.

- E-3.7** Implement community-based IPPs that sell power to utility for PCE reimbursement.





STRATEGY E-4:

Improve the economics of project development



Purpose:

The AESTF recommends a multi-pronged approach to reducing risk to utilities and project proponents, increasing the availability of financing mechanisms, and encouraging ancillary investments that will benefit the industry and economies of communities.

Background:

Alaska will always be a high-cost state, defined by the tyranny of geography, time, and distance. Access to markets, and at the tail-end of a global supply chain, there are clear competitive disadvantages within which utilities and project developers operate, even as ratepayers (or the State) bear the cost. There are ways, however, to lower the costs of project development, and state action can facilitate this.

Benefits:

Affordability rests on capex and opex, and both have avoidable and unavoidable layered costs. A strategic state approach can begin peeling away or mitigating avoidable costs to improve the economics of project development, and ultimately save ratepayers money.

Expected Results:

ACTIONS

E-4.1 Establish a liability Trust for utilities, capitalized by the State with pooled contributions to protect against risk of wildfires or other impacts.

E-4.2 Utilize FERC-defined open access on all State-owned/subsidized and RCA regulated utility transmission lines.

E-4.3 Establish a green bank for financing of community scale energy efficiency projects.

E-4.4 Ensure adequate workforce training and skills development alongside job creation goals of State.

Ensuring efficiency of sunk costs and investments, while
E-4.5 implementing financial tools (arbitrage, bonds, etc.) that facilitate decommissioning high-cost utilities and aging plant securitization



ACTIONS (CONT.)

E-4.6 Implement pooling of RECs for system optimization and improving economy of scale.

E-4.7 Reevaluate the role of anchor institutions and develop new models for economies of scale, such as through beneficial electrification.



**STRATEGY E-5:****Evaluate and implement State policy, tax, and other incentives****Purpose:**

The AESTF recommends an audit of all State energy-related expenditures to assess impact, identify gaps, and maximize the benefits of future effort, even as it further identifies available and necessary funding to address other actions of the AESTF.

Background:

Ultimately, what the State has most control of is its own policy, regulatory, and tax systems. The State's capacity to contribute to lowering the cost of energy for Alaskans is immense, and intensity of effort is required to fully assess current activity and the potential need for new laws and practices that will incentivize change.

Benefits:

The majority of actions identified by the AESTF rest on the State's ability to adopt statutory or regulatory changes or make necessary investments.

Expected Results:**ACTIONS**

- E-5.1** Conduct an energy incentives program study to determine capacity of State to make investments.
- E-5.2** Finalize and implement a statewide energy plan and policy, consistent with Task Force goals.
- E-5.3** Evaluate, track, and benchmark all State energy-related expenses for maximizing impact.
- E-5.4** Ensure availability of resources for investment, or the ability to forego revenue as part of incentive program.
- E-5.5** Implement State income tax exemption or credit on revenue produced from private investment in new generation and transmission.



ACTIONS (CONT.)

E-5.6 Reevaluate current mandatory municipal exemptions to encourage increased adoption of local exemptions that align with updated goals to attract private investment.





STRATEGY E-6:

Increase State programmatic investments



Purpose:

The AESTF recommends the evaluation of and changes to current programmatic investments such that 1) these programs have sufficient capacity and competency to act effectively in support of lowering energy costs in Alaska, and 2) that the braiding of programmatic intent results in streamlining action and reducing capex and opex costs.

Background:

Government programs may be developed to provide technical assistance or to serve as a resource to consumers, project proponents, and others. Program staff provide support and guidance as to how to utilize these tools. Programs may also try to provide direct services, such as improving energy efficiency, weatherization, community planning, or rate review and setting. Some programs are simply there to ensure compliance. Governments may spend significant resources on these programs. It is not clear that programs reduce the cost of energy, though they may have other benefits.

Benefits:

The ability of the state to achieve a moonshot goal requires a coordinated effort across agencies and through all programs that intersect with the goal. The state can consider every program through the lens of lowering energy costs for Alaskans, and refine its approaches to achieve that end.

Expected Results:

ACTIONS

- E-6.1** Increase the capacity for and streamlining of regulatory and permitting action within state agencies and at the federal level.
- E-6.2** Strengthen the ability of the State and utilities to address the maintenance and operation needs of Alaska power systems.
- E-6.3** Increase availability of resources for weatherization, energy efficiency, and building retrofits
- E-6.4** Ensure adequacy of staff resources at local and state level, including to provide technical assistance.
- E-6.5** Evaluate State and local procurement policies that align with affordable and clean energy adoption.



STRATEGY E-7:

Respond to and implement evolving energy business models

ACTIONS

- E-7.1** Increase the use of energy technology demonstration and deployment programs.
- E-7.2** Implement emerging tools like on-bill financing, net metering, etc.
- E-7.3** Mirror FERC safe harbor rule allowing for backfeeding of up to 15% of circuit capacity.
- E-7.4** Identify baseline and establish target for T&D capacity utilization of 90%.
- E-7.5** Explore locational marginal pricing (LMP).
- E-7.6** Implement utility rate incentives for time-of-use rates during periods of lower cost power.
- E-7.7** Consider Alaska version of FERC Order 2222 to open wholesale markets to broader participation by aggregators of customer resources.



Purpose:

The AESTF recommends the cost-benefit analysis of multiple tools that should lead to greater private sector investment and lower costs for ratepayers, and the development of an implementation strategy.

Background:

The pace and scale of change occurring globally and nationally has the potential to lower costs in Alaska, to the extent the state can incorporate new models of doing business. While not all tools may be as applicable here as elsewhere, it is worth investing time in increasing the suite of options that the state has at its disposal. In particular, these business models affect utility, ratepayer, and independent power producer relationships, even as they have the potential to lower costs for Alaskans.

Benefits:

Conventional tools have been used during a period of Alaska’s energy system development that was responsive to certain conditions and available resources that are now evolving, even as high costs have plagued the majority of Alaska communities. As part of a strategic pathway toward lower cost energy, the state’s investment in new business models and innovative tools that complement and build on current systems will be critical to Alaska’s future.

Expected Results:



PLACEHOLDER IMAGE

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PRIORITY F.
**STATUTES AND
REGULATIONS**





INTRODUCTION

The Statutes and Regulations Subcommittee understands nearly all of the recommended actions from the other five subcommittees will require some form of statutory or regulatory modification or update. We are taking the approach of reviewing these recommended actions and consolidating those that are comparable or alike. We will then craft prioritized actions for the administration to progress forward in the coming legislative session as either new legislation or updates to existing draft legislation or recommended regulatory changes to the Alaska Administrative Code.

PLANNING PROCESS HIGHLIGHTS

**PLACEHOLDER FOR INFOGRAPHICS
THAT DESCRIBE PUBLIC MEETINGS AND
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THIS SECTION**

STRATEGIES:

- F-1 **PLACEHOLDER STRATEGIES TO BE
DETERMINED AFTER REVIEWING OTHER
COMMITTEE STRATEGIES**
- F-2
- F-3



STRATEGY F-1: Placeholder Strategy To Be Determined

ACTIONS

- F-1.1** Restructure the RCA with 3 commissioners and administrative law judges to streamline/handle rate cases. Example states include: Iowa, Virginia, etc.
- F-1.2** Streamline permitting for energy projects
- F-1.3** Establish state funding to help with local match for federal grant cost share
- F-1.4** Continue to allow transmission and distribution lines to share DOT right-of-way.
- F-1.5** Evaluate similar states (such as Wyoming, North Dakota, etc.) for case studies and best practices regarding energy distribution, transmissions, and connectivity.
- F-1.6** Provide budgetary support for the Regulatory Commission of Alaska (RCA).



Purpose:

Background:

Benefits:

Expected Results:



Policies Currently Under Consideration

APA Policy Position (For Consideration):

- Clarify statute on wildfire liability
- Prioritize state investment in electric infrastructure and leverage federal funding opportunities
- Support reasonable and economic carbon reduction strategies that consider costs to consumers
- Preserve Power Cost Equalization Endowment, using the Endowment only for its statutory purposes, ensuring all eligible communities can maximize the PCE program, and full funding the PCE program in FY 2023
- Alternative Uses for Coal Regulations

CEDS Action (For Consideration)

- Carbon and Sequestration Regulations
- Hydrogen Roadmap and Regulations
- Establish Alaska Hydrogen Hub

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Crosswalk Table of Actions from other committees that have a relationship with multiple subcommittees, including Statutes and Regulations, that need further review

| Priority | Strategy | Action # | Action |
|--|--------------|--------------|---|
| Priority A. Railbelt Transmission, Generation, and Storage | Strategy A-2 | Action A-2.2 | Modify existing statute(s) requiring the commission to consider long term diversification goals when approving additional/new Railbelt power generation. |
| Priority A. Railbelt Transmission, Generation, and Storage | Strategy A-2 | Action A-2.3 | Progress Known Energy Generation Diversification Projects to Go/No-Go Decision <ul style="list-style-type: none"> • Dixon Diversion • Susitna-Watana • AKLNG |
| Priority A. Railbelt Transmission, Generation, and Storage | Strategy A-2 | Action A-2.1 | Adopt a Clean Energy Standard with incentives to facilitate reaching di-versification goals. |
| Priority B. Coastal Generation, Distribution, and Storage | Strategy B-1 | Action B-1.1 | Establish, require, assist, and Implement community Integrated Re-source Plans (light) to forecast energy demand and generation for community and regional future energy needs and to lower energy costs. |
| Priority B. Coastal Generation, Distribution, and Storage | Strategy B-1 | Action B-1.2 | Strengthen Alaska’s Net Metering energy framework, tariffs, and regu-lations for Alaska’s diverse stakeholders to promote net metering re-newable energy investments. |
| Priority B. Coastal Generation, Distribution, and Storage | Strategy B-1 | Action B-1.3 | Strengthen and Streamline the State of Alaska’s internal state regulato-ry and land use administrative processes to accelerate approval to ad-vance strategic energy projects and transmission for regional energy security and lower energy costs. |
| Priority B. Coastal Generation, Distribution, and Storage | Strategy B-1 | Action B-1.4 | Strategize and Prioritize State of Alaska funding to match federal fund-ing and federal financing to build and expand Transmission and Distribu-tion lines in Alaska to bring Alaska on par with the US transmission sys-tems for Alaskan energy security and lower energy costs. |
| Priority B. Coastal Generation, Distribution, and Storage | Strategy B-1 | Action C-1.6 | Recruit, Train, and Enhance Alaska workforce with technical skills and training for advancing beneficial electrification to lower Alaska energy costs and to sustain Alaska’s growing energy infrastructure. |
| Priority B. Coastal Generation, Distribution, and Storage | Strategy B-2 | Action B-2.1 | Establish an Alaska/ federal Renewable Energy Policy Force to develop, collaborate, and prioritize State energy, plan, goals, and rights to opti-mally advance renewable energy and transmission on federal lands. |



| Priority A. Railbelt Transmission, Generation, and Storage | Priority B. Coastal Generation, Distribution, and Storage | Priority C. Rural Generation, Distribution, and Storage | Priority D. State Energy Data | Priority E. Incentives and Subsidies | Priority F. Statutes and Regulations |
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Crosswalk Table of Actions from other committees that have a relationship with multiple subcommittees, including Statutes and Regulations, that need further review

| Priority | Strategy | Action # | Action |
|---|--------------|--------------|--|
| Priority B. Coastal Generation, Distribution, and Storage | Strategy B-2 | Action B-2.2 | State of Alaska partners and collaborates with Federally recognized Alaska tribes and federal agencies to develop mutually beneficial Energy Development and Transmission/Distribution to advance the State Energy Plan to lower the cost of energy. |
| Priority B. Coastal Generation, Distribution, and Storage | Strategy B-3 | Action B-3.1 | Foster, Support, and Assist Hydropower development and their trans-mission in Alaska to lower energy costs, provide energy security, and spur economic growth, job creation, and prosperity for Alaska. |
| Priority B. Coastal Generation, Distribution, and Storage | Strategy B-4 | Action B-4.2 | Plan, finance, and support the execution of Shore power at Public and Private Cruise Docks to Sell Excess Energy to Cruise Ships. |
| Priority C. Rural Generation, Distribution, and Storage | Strategy C-1 | Action C-1.1 | Identify a Funding or Financing Mechanism for Rural Communities in-cluding a "Local Match" for Federal Grants. |
| Priority E. Incentives and Subsidies | Strategy C-3 | Action C-3.1 | Expand and Inventory technical assistance, training and workforce development to identify gaps, increase capability & capacity building activi-ties for Training a Rural Energy Workforce. i.e. apprenticeship programs for energy production. |
| Priority E. Incentives and Subsidies | Strategy E-1 | Action E-1.2 | Establish a clean energy and transmission line land use designation on state and federal lands. |
| Priority E. Incentives and Subsidies | Strategy E-1 | Action E-1.3 | Establish a state and/or federal Alaska Clean Energy and Transmission Line Fund or an Alaska Energy Transition Fund. |
| Priority E. Incentives and Subsidies | Strategy E-4 | Action E-4.4 | Ensure adequate workforce training and skills development alongside job creation goals of State. |



| Priority A. Railbelt Transmission, Generation, and Storage | Priority B. Coastal Generation, Distribution, and Storage | Priority C. Rural Generation, Distribution, and Storage | Priority D. State Energy Data | Priority E. Incentives and Subsidies | Priority F. Statutes and Regulations |
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APPENDIX II. ACTION TRACKING SHEET

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Priority A. Railbelt Transmission, Generation, and Storage - Action Tracking Sheet

Appendix II, State of Alaska Statewide Energy Master Plan

(Draft as of 10/2/2023)

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|---------------------------------------|--------------|--|---|---|--|--|---|
| Strategy A-1: Unify Transmission | Action A-1.1 | Unify and convey all existing transmission assets along the Railbelt and Bradley Lake to AEA for new non-for-profit regulated utility for the net book value. | | Short (2 - 5 years) | AEA | Legislature; Dept of Revenue; Dept of Law; Railbelt Utilities | New |
| Strategy A-2: Diversify Generation | Action A-2.1 | Adopt a Clean Energy Standard with incentives to facilitate reaching diversification goals | To ensure strong commitment and action to electricity generation diversification the Railbelt Subcommittee recommends the State adopt a Clean Energy Standard with incentives for new generation projects and for utilities when diversification goals are reached. The Railbelt Subcommittee recommends providing incentives for generation diversification rather than penalties to drive the right behaviors, action and outcomes for our State. 1. Direct Payment to Utilities for Achieving Diversification Targets 2. Augmentation of the Renewable Energy Fund (REF): 3. Augmentation of the Power Project Fund (PPF) | | | | |
| Strategy A-2: Diversify Generation | Action A-2.2 | Modify existing statute(s) requiring the commission to consider long term diversification goals when approving additional/new Railbelt power generation. | | | | | |
| Strategy A-2: Diversify Generation | Action A-2.3 | Progress Known Energy Generation Diversification Projects to Go/No-Go Decision • Dixon Diversion • Susitna-Watana • AKLNG | | | | | |
| Strategy A-3: Increase Demand | Action A-3.1 | Issuing an RFP to industry for a large load that would be provided at a guaranteed low energy price (the energy price could be tiered based on amount of load growth). | | | | | |



Priority B. Coastal Generation, Distribution, and Storage - Action Tracking Sheet

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|--|--------------|--|---|--|---|---|--|
| Strategy B-1: Alaska Policy Recommendations | Action B-1.1 | Establish, require, assist, and Implement community Integrated Resource Plans (light)to forecast energy demand and generation for community and regional future energy needs and to lower energy costs. | Identify future generation and demand for resource planning purposes to lower the energy cost for the communities and region. Establish Standardized Metrics Related to Power Generation Compared to Future Demand. | Immediate (0 - 2 years) | AEA | RCA; Utilities; DCCED; communities; tribal entities; | New |
| Strategy B-1: Alaska Policy Recommendations | Action B-1.2 | Strengthen Alaska's Net Metering energy framework, tariffs, and regulations for Alaska's diverse stakeholders to promote net metering renewable energy investments. | | Short (2 - 5 years) | | Tribes and native corporations; schools; Utilities; DCCED; AEA; RCA; Legislature | New |
| Strategy B-1: Alaska Policy Recommendations | Action B-1.3 | Strengthen and Streamline the State of Alaska's internal state regulatory and land use administrative processes to accelerate approval to advance strategic energy projects and transmission for regional energy security and lower energy costs. | Identify burdensome regulatory requirements at State Departments, with focus on hydro-electric power and other renewable energy development. Collaborate with appropriate state and regulatory agencies to promote solutions to streamline approvals, decrease costs, and expedite schedules. | Immediate and short term | Office of Governor, AEA | Office of Project Management and Permitting (OPMP), DNR; DOT&PF; DEC; DFG; Dept of Law, | New |
| Strategy B-1: Alaska Policy Recommendations | Action B-1.4 | Strategize and Prioritize State of Alaska funding to match federal funding and federal financing to build and expand Transmission and Distribution lines in Alaska to bring Alaska on par with the US transmission systems for Alaskan energy security and lower energy costs. | Identify funding/financing sources a the federal, state and local level to expand transmission lines across Alaska. Prioritize innovative construction and product types, such as submarine transmission and underground transmission. | Spectrum of timeframes based on local needs and initiatives | Governors Office, AEA | Congressional Delegation. Utilities; DCCED; AEA, AIDEA; local governments; tribal; state legislature; Governor's office | New |
| Strategy B-1: Alaska Policy Recommendations | Action B-1.5 | Establish and provide valuable energy planning and modeling metrics from State data sources, where available and requested (such as DMV electric vehicle registrations and Air Source Heat Pump (ASHP) installation) by individual communities. | | | | | |
| Strategy B-1: Alaska Policy Recommendations | Action B-1.6 | Recruit, Train, and Enhance Alaska workforce with technical skills and training for advancing beneficial electrification to lower Alaska energy costs and to sustain Alaska's growing energy infrastructure. | Establish a workforce development program to educate, train, and retain skilled workers in electrification. | Immediate (0 - 2 years) | Dept. of Labor | DOR, DCCED, University of Alaska, Labor Unions, AVTEC, Tribal Training Programs - (Tlingit Tribal Central Council), Yuut Elitnaurviat | New |
| Strategy B-2: State of Alaska Coordination with Federal Agencies and Federally Recognized Tribes Recommendations | Action B-2.1 | Establish an Alaska/federal Renewable Energy Policy Force to develop, collaborate, and prioritize State energy, plan, goals, and rights to optimally advance renewable energy and transmission on federal lands. | | | | | |



Priority B. Coastal Generation, Distribution, and Storage - Action Tracking Sheet

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|---|--------------|--|--|--|---|--|--|
| Strategy B-2: State of Alaska Coordination with Federal Agencies and Federally Recognized Tribes Recommendations | Action B-2.2 | State of Alaska partners and collaborates with Federally recognized Alaska tribes and federal agencies to develop mutually beneficial Energy Development and Transmission/Distribution to advance the State Energy Plan to lower the cost of energy. | Coordinate and collaborate with federal land holding agencies to establish a renewable energy land use and Transmission use corridor Primacy on federal land allow Alaska renewable energy development on federal lands. | Immediate, short term ongoing | Governors Office, AEA | Governors Office, AEA, DCCED; Legislature; DOT&PF; Dept of Law; Alaska Congressional Delegation, Denali Commission, Alaska Power Association | New |
| Strategy B-3: Alaska Hydropower Generation Recommendations | Action B-3.1 | Foster, Support, and Assist Hydropower development and their transmission in Alaska to lower energy costs, provide energy security, and spur economic growth, job creation, and prosperity for Alaska. | Build Execution ready Hydro Projects, Advance economically viable Hydro for energy security, spur economic growth and prosperity for Alaska. | Immediate-Execution Ready, Short (2 - 5 years) [licensed] Long-term (10 years plus) [unlicensed] | AEA | AIDEA, Federal funding, DCCED, DOL, DNR, ADF&G, state legislature | New |
| Strategy B-4: Alaska Market Initiatives | Action B-4.1 | Integrate and Promote Heat Pump technology and systems (ASHP, SWHP, GSHP) as an Alternative Energy Resource in Coastal Alaska. | Plan to promote heat pumps as an alternative energy/heat source in Coastal Alaska. Identify successful case studies for further implementation in Alaska (there is data available on heat pumps, e.g. Heat Pumps Center). | Immediate | Local Leadership, AEA | DCCED; Legislature; Dept of Law; Utilities; AHFC; Community Development Organizations; Local Governments; Tribes | New |
| Strategy B-4: Alaska Market Initiatives | Action B-4.2 | Plan, finance, and support the execution of Shore power at Public and Private Cruise Docks to Sell Excess Energy to Cruise Ships | Identify and execute shore power in Alaskan Ports and Harbors and make feasible. Identify funding sources, including Marine Passenger Fees and federal programs. | Immediate-Execution ready, short term (2-5 years) | AEA, Coastal Communities | Dept of Law; DCCED; DOT&PF | New |
| Strategy B-4: Alaska Market Initiatives | Action B-4.3 | Beneficially electrify the Alaska Ferry Fleet to lower the cost of transportation and assist in reducing the cost of power in coastal communities. | Establish plan to convert ferry fleet to electric or electric hybrid vessels, using BC Ferries as a case study for implementation. Identify key ferry routes in Alaska, and evaluate for feasibility and implementation. Work with AKDOTPF strategy and plans. Use electric demand forecasts to assist coastal region utilities and communities generation and transmission resource planning. | Short (2 - 5 years) | DOT&PF | DCCED; Legislature; Dept of Law; Local utilities and IPPs | New |
| Strategy B-4: Alaska Market Initiatives | Action B-4.4 | Identify and support the colocation of industrial load (e.g. data servers) with Alaska hydropower facilities for synergies to lower energy costs | Note: Emerging Opportunity - Subcommittee will review in detail in September 2023. | Short (2 - 5 years) | Private Industry or Utilities | DCCED, DEC, AEA | New |
| Strategy B-4: Alaska Market Initiatives | Action B-4.5 | Identify, assist, and fund Battery Energy Storage Systems (BESS) and other Energy Storage Systems (ESS) for successful integration into Coastal communities to increase energy security, grid resilience and to lower energy costs. | Identify successful ESS use in Alaska or other case studies beneficial for future use in Alaska communities. Explore all storage opportunities, including pump storage and battery energy. Evaluate opportunity to re-use or re-purpose existing infrastructure and stabilize grids. Integration of renewables. Acknowledge O&M of the systems. | Immediate. Change to Immediate and Short term | AEA, local communities | B&V; AEA; utilities; AIEDA; local communities, DOT&PF | New |



Priority C. Rural Generation, Distribution, and Storage - Action Tracking Sheet
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|---|--------------|--|---|--|---|---|--|
| Strategy C-1: Increase Capital Availability | Action C-1.1 | Identify a Funding or Financing Mechanism for Rural Communities including a "Local Match" for Federal Grants. | Identify local or state funding mechanisms to "bridge the gap" commonly found with federal grant funding - the local match component is often a prohibitive hurdle for rural communities to receive federal grant funding. | Medium (5 - 10 years) | | DOT&PF; Utilities; DEC; ANTHC P3 Partners | New |
| Strategy C-1: Increase Capital Availability | Action C-1.2 | Identify opportunities for Public Private Partnerships to finance/fund energy infrastructure projects in rural Alaska. | | | | | |
| Strategy C-1: Increase Capital Availability | Action C-1.3 | State of Alaska commit to sufficient capital budget funding for energy projects in rural Alaska. | | | | | |
| Strategy C-2: Infrastructure Investment | Action C-2.1 | Promote a regional planning approach to connected energy, transportation, and broadband infrastructure. | | | | | |
| Strategy C-2: Infrastructure Investment | Action C-2.2 | Identify gaps by leveraging studies done by regional ANC corporations, Economic Development Districts, Denali Commission, and other organizations as well as state and federal agencies. | | | | | |
| Strategy C-2: Infrastructure Investment | Action C-2.3 | Replace or appropriately displace community-focused aging infrastructure in rural communities of Alaska. | | | | | |
| Strategy C-2: Infrastructure Investment | Action C-2.4 | Invest in pilot projects using appropriate technologies that demonstrate a regional approach to supplying affordable and reliable power to multiple communities. | | | | | |
| Strategy C-2: Infrastructure Investment | Action C-2.5 | Fund and Construct Opportunities to Connect Rural Communities through Transmission Lines and Other Shared Energy Projects. | Where feasible, identify opportunities to connect rural communities through transmission lines and shared energy to enhance redundancy and connectivity. Focus on cost-effective solutions for connectivity. Expand transmission lines to connect outlying communities to the Railbelt (or other regional) grids wherever a cost-benefit analysis indicates a positive value. Where feasible, install renewable energy systems such as wind, tidal, geothermal, and solar to reduce power costs in rural areas. Upgrade rural energy infrastructure such as power houses and bulk fuel farms. | Medium (5 - 10 years) | AEA | DOT&PF; Utilities; DEC; ANTHC P3 Partners | New |



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|---|--------------|---|---|--|---|---|--|
| Strategy C-2: Infrastructure Investment | Action C-2.6 | Invest in critical repairs and resilient infrastructure that may be at high risk to current and future natural hazards (wildfire, extreme cold, storms, etc.), to avoid energy disruptions and preserve continuity of operations. | Invest in resilient energy infrastructure with focus on most frequent/severe hazards, instead of focusing on repair after the damage or destruction occurs. Reference case studies and future opportunities with FEMA as a funding resource. Deploy next generation renewable energy solutions throughout rural Alaska as legacy systems reach end of useful life, accounting for maintenance and training costs. | Medium (5 - 10 years) | | DOT&PF; Utilities; DEC; ANTHC | New |
| Strategy C-2: Infrastructure Investment | Action C-2.7 | Invest in expanding the grid in rural areas. | | Long-term (10 years plus) | | P3 Partners, Utilities | Modified CEDs 2022 Plan Action |
| Strategy C-2: Infrastructure Investment | Action C-2.8 | Evaluate micronuclear and other emerging/underutilized technologies throughout the State of Alaska. | Invest in expanding the grid in rural areas in cost effective ways to connect micro nuclear as it is adopted and built in the next 10+ years. | | | | |
| Strategy C-3: Lower Operational Costs | Action C-3.1 | Expand and Inventory technical assistance, training, and workforce development to identify gaps, and increase capability & capacity-building activities for Training a Rural Energy Workforce. i.e. apprenticeship programs for energy production | Explore technical assistance such as: workforce training programs, financing mechanisms, grant support, and economic development. | Immediate (0 - 2 years) | DCCED | DOL; DOR ,P3 Partners | New |
| Strategy C-3: Lower Operational Costs | Action C-3.2 | Identify Innovation in Logistics Transportation to Improve Supply Chain Reliability. | Identify new innovations in transportation that may support/improve supply chain logistics and reliability in rural AK - follow up with DOT&PF. Prioritize continuity of operations, and enhance redundancy where feasible. | Immediate (0 - 2 years) | DCCED | DOT&PF; Utilities; DEC; ANTHC P3 Partners | New |
| Strategy C-3: Lower Operational Costs | Action C-3.3 | Create and implement a community outreach and education program to combat NIMBYism in energy projects in rural areas. | Identify opportunities to educate local communities about proposed or future energy projects. Focus on benefits, particularly related to affordability. Curate outreach to known controversial projects, such as hydro-power or mining. Identify past projects that have successfully navigated opposition mounted by local communities and environmental NGOs. Develop case studies and a suite of tools to engage with opposition. Recognize concerns from those who are opposed, and implement mitigation actions as appropriate. Engage early and often, incorporate visuals and avoid fear mongering. | Medium (5 - 10 years) | | DOT&PF; Utilities; DEC; ANTHC P3 Partners | New |
| Strategy C-3: Lower Operational Costs | Action C-3.4 | Grid modernization and automation | | | | | |



Priority C. Rural Generation, Distribution, and Storage - Action Tracking Sheet
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|---|--------------|---|---|--|---|---|--|
| Strategy C-4: Improve Economies of Scale | Action C-4.1 | Identify Economies of Scope/Scale to Provide Multi-Benefit Utility Projects. | Identify development opportunities to be shared amongst multiple utilities. Expand transmission lines to connect outlying communities to the Railbelt (or other regional) grids wherever a cost-benefit analysis indicates a positive value. Develop energy projects in coordination with other utilities, such as water, sewer, heat, communications (broadband, fiber) or other infrastructure projects (transportation). Share costs associated amongst participants to enhance affordability, and thus pass off affordability to the users. | Medium (5 - 10 years) | DCCED | DOT&PF; Utilities; DEC; ANTHC P3 Partners | New |
| Strategy C-4: Improve Economies of Scale | Action C-4.2 | Identify Energy Anchor Tenants to Provide Economy of Scale for Rural Communities. | Identify existing and potential energy anchor tenants who are willing to share costs on energy projects and development. Examples include fishing, mining, industrial tenants. Explore opportunities where anchor tenants can partner with other business and communities for mutually beneficial projects, and enhance affordability. | Medium (5 - 10 years) | DCCED | DOT&PF; Utilities; DEC; ANTHC | New |
| Strategy C-4: Improve Economies of Scale | Action C-4.3 | Identify a Funding or Financing Mechanism for Rural Communities including a "Local Match" for Federal Grants. | | | | | |
| Strategy C-4: Improve Economies of Scale | Action C-4.4 | Identify and complete a regional pilot project to demonstrate economies of scale. | | | | | |
| Strategy C-4: Improve Economies of Scale | Action C-4.5 | Invest in rural beneficial electrification. | | | | | |
| Strategy C-5: Improve Data-Driven Decision Making | Action C-5.1 | Locate and catalog existing energy studies, and update and collect data necessary to make informed value decisions related to energy generation, distribution, transmission, and storage in rural Alaskan villages. | Explore opportunities to enhance remote sensing and technology for energy infrastructure in rural/remote locations. | Medium (5 - 10 years) | | | New |
| Strategy C-5: Improve Data-Driven Decision Making | Action C-5.2 | Leverage critical local knowledge provided by residents in coordination with and complement ongoing and planned projects. | | | | | |
| Strategy C-5: Improve Data-Driven Decision Making | Action C-5.3 | Explore and leverage existing and new data capture tools including artificial intelligence tools to quickly analyze existing and new data collected in rural Alaska to provide potential energy solutions | | | | | |



Priority D. State Energy Data - Action Tracking Sheet
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|--|--------------|---|--|--|---|---|--|
| Strategy D-1: Establish a Data Department within the Alaska Energy Authority (AEA), using statute as necessary | Action D-1.1 | Institute or update statutory requirements for AEA Data Department. | | | | | |
| Strategy D-1: Establish a Data Department within the Alaska Energy Authority (AEA), using statute as necessary | Action D-1.2 | Fund, develop, and implement a technical and needs assessment | | Immediate (0 - 2 years) | | | New |
| Strategy D-1: Establish a Data Department within the Alaska Energy Authority (AEA), using statute as necessary | Action D-1.3 | Fund, develop, and implement a capital asset plan | | | | | New |
| Strategy D-1: Establish a Data Department within the Alaska Energy Authority (AEA), using statute as necessary | Action D-1.4 | Develop and fund an operating and maintenance budget, to include the identification of potential funding sources and mechanisms | | | | | New |



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|--|--------------|--|--|--|---|---|--|
| Strategy D-1: Establish a Data Department within the Alaska Energy Authority (AEA), using statute as necessary | Action D-1.5 | Appropriately staff the department based on the technical and needs assessment | | | | | New |
| Strategy D-2: Establish an energy data governance committee that is responsible for establishing minimum protocols for data collection, quality, storage, use, and access | Action D-2.1 | Form a technical advisory committee to draft recommendations on where the data governance committee should be established, supported, staffed, membership composition, scope of duties responsibilities, and other issues that may need to be addressed. | | Immediate (0 - 2 years) | | | New |
| Strategy D-2: Establish an energy data governance committee that is responsible for establishing minimum protocols for data collection, quality, storage, use, and access | Action D-2.2 | Fund a long-term data governance strategy based on recommendations made by the Technical Advisory Committee. | | | | | New |
| Strategy D-3: Fund data capacity | Action D-3.1 | Establish dedicated data collection and analysis positions in state agencies that are responsible for collecting, analyzing, hosting, distributing data in formats that are accessible, and liaising with the AEA Data Department | | Short (2 - 5 years) | | | New |
| Strategy D-3: Fund data capacity | Action D-3.2 | Provide professional development and/or skills training opportunities for staff and other agency partners as it relates to data collection and analysis | | | | | New |



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|---|--------------|--|--|--|---|---|--|
| Strategy D-4: Improve existing statewide energy data and collect new, needed data with respect to electricity, heat, and transportation. | Action D-4.1 | | Fund a gap analysis of energy data, including existing data, accessibility, quality, age, and what is and would be needed for data-informed decision making. | Short (2 - 5 years) | | | New |
| Strategy D-4: Improve existing statewide energy data and collect new, needed data with respect to electricity, heat, and transportation. | Action D-4.2 | | Revitalize, fund, and maintain energy data platforms and services that ensures the availability and accessibility of data | | | | New |
| Strategy D-4: Improve existing statewide energy data and collect new, needed data with respect to electricity, heat, and transportation. | Action D-4.3 | | Conduct a data audit of the Regulatory Commission of Alaska (RCA), to include recommendations | | | | New |



Priority D. State Energy Data - Action Tracking Sheet
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|---|--------------|--|--|--|---|---|--|
| Strategy D-4: Improve existing statewide energy data and collect new, needed data with respect to electricity, heat, and transportation. | Action D-4.4 | Expand the Power Cost Equalization (PCE) report and extent of such data reported | | | | | |
| Strategy D-4: Improve existing statewide energy data and collect new, needed data with respect to electricity, heat, and transportation. | Action D-4.5 | Expand the definition of "energy data" by adopting the TAC definition, ensuring the term is inclusive of heat/thermal and transportation fuel data | | | | | |
| Strategy D-4: Improve existing statewide energy data and collect new, needed data with respect to electricity, heat, and transportation. | Action D-4.6 | Understand how heating and transportation fuel is delivered and used | | | | | |



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|---|--------------|--|--|--|---|---|--|
| Strategy D-4: Improve existing statewide energy data and collect new, needed data with respect to electricity, heat, and transportation. | Action D-4.7 | Re-establish annual updates to the Alaska Energy Statistics report | | | | | |

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Priority E. Incentives and Subsidies - Action Tracking Sheet
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|--|--------------|---|---|--|---|---|--|
| Strategy E-1: Strengthen state-federal coordination and investment | Action E-1.1 | Develop a funding and implementation toolkit for state/federal energy projects in Alaska | Funding and implementation toolkit for energy projects in Alaska will include: resources, guidelines, case studies, and a funding tracker of opportunities for Alaskan communities, ANCs, State Agencies, Utilities, etc. | Short (2 - 5 years) | AEA | DCCED; DOR; ACEP; State Legislature | New |
| Strategy E-1: Strengthen state-federal coordination and investment | Action E-1.2 | Establish a clean energy and transmission line land use designation on state and federal lands. | Establish a renewable energy land use designation or transmission line land use designation in Chugach and Tongass Forest plans to allow small community renewable energy development and transmission line corridors on federal lands. Establish an Alaska-Federal Renewable Energy Working Group to develop, collaborate, and execute State-Federal policy that supports State energy goals and rights to advance renewable energy development and transmission lines on federal lands to lower the energy cost for Alaskans. | This action item has a blend of Immediate and short-term tasks for implementation. | Governors Office, AEA | Governors Office, AEA, DCCED; Legislature; DOT Dept of Law; | New |
| Strategy E-1: Strengthen state-federal coordination and investment | Action E-1.3 | Establish a state and/or federal Alaska Clean Energy and Transmission Line Fund or an Alaska Energy Transition Fund | Alaska has second world transmission and generation assets. Requires federal support to bring Alaska into this century with same level of service and transmission line capacity aligned with national standards. | Medium (5 - 10 years) | State Legislature | DCCED; DOR; Dept of Law, AEA | New |
| Strategy E-1: Strengthen state-federal coordination and investment | Action E-1.4 | Ensure that criteria for state and federal project investments are weighted toward affordability goals, among other priorities. | Implement statewide energy project evaluation process that takes into account low cost, local, clean, and lifecycle. Alaska could use the levelized cost of energy for infrastructure projects. | | | | |
| Strategy E-1: Strengthen state-federal coordination and investment | Action E-1.5 | Implement a state/federal private sector investment energy coordinator (POC). | | | | | |
| Strategy E-1: Strengthen state-federal coordination and investment | Action E-1.6 | Utilize DOE LPO Title 17 Clean Energy Financing Program and/or Tribal Energy Loan Guarantee Program. | | | | | |
| Strategy E-2: Decrease barriers to private sector investments | Action E-2.1 | Improve and further implement Commercial Property Assessed Clean Energy and Resilience (C-PACER) programs and evaluate the future adoption of an R-PACER program. | | | | | |



Priority E. Incentives and Subsidies - Action Tracking Sheet
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|---|--------------|---|--|--|---|---|--|
| Strategy E-2: Decrease barriers to private sector investments | Action E-2.2 | Establish a standard integration tariff and reduction of interconnection and/or wheeling tariffs | | | | | |
| Strategy E-2: Decrease barriers to private sector investments | Action E-2.3 | Adopt a Renewable Portfolio Standard (RPS) followed by a Renewable Energy Credit (REC) | | | | | |
| Strategy E-2: Decrease barriers to private sector investments | Action E-2.4 | Implement low-interest loan program (concessionary capital, like Power Project Loan Fund) that facilitates affordable energy development and infrastructure improvements. | | | | | |
| Strategy E-2: Decrease barriers to private sector investments | Action E-2.5 | Conduct pre-development permitting, surveying, engineering, and/or environmental within principal energy zones. | | | | | |
| Strategy E-2: Decrease barriers to private sector investments | Action E-2.6 | Anticipate and plan for strategic demand increases, or pooled asset investments, including through project bundling and beneficial electrification. | | | | | |
| Strategy E-3: Maintain Residential subsidy focused on equity, while reducing need across communities | Action E-3.1 | Ensure that PCE funds are available at the right scale over the correct time period. | Increase analysis of potential benefits of PCE, to reduce disincentives for lowering energy costs. | Short (2 - 5 years) | | | |



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|--|--------------|--|---|--|---|---|--|
| Strategy E-3: Maintain Residential subsidy focused on equity, while reducing need across communities | Action E-3.2 | | Implement a strategic approach to lowering costs according to highest use communities. | | | | |
| Strategy E-3: Maintain Residential subsidy focused on equity, while reducing need across communities | Action E-3.3 | | Consider the development of a postage stamp rate alternative, where all Alaskans pay the same rate. | | | | |
| Strategy E-3: Maintain Residential subsidy focused on equity, while reducing need across communities | Action E-3.4 | | Increase the use of community facilities allocation to lower State, Tribal, and local governments costs. | | | | |
| Strategy E-3: Maintain Residential subsidy focused on equity, while reducing need across communities | Action E-3.5 | | Identify ways in which PCE can lower the cost of doing business, by evaluating residential costs beyond energy as part of the overall household burden. | | | | |



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|--|--------------|--|--|--|---|---|--|
| Strategy E-3: Maintain Residential subsidy focused on equity, while reducing need across communities | Action E-3.6 | Ensure ability to offset debt that results in lower cost energy project development. | | | | | |
| Strategy E-3: Maintain Residential subsidy focused on equity, while reducing need across communities | Action E-3.7 | Implement community-based IPPs that sell power to utility for PCE reimbursement. | | | | | |
| Strategy E-4: Improve the economics of project development | Action E-4.1 | Establish a liability Trust for utilities, capitalized by the State with pooled contributions to protect against risk of wildfires or other impacts. | | | | | |
| Strategy E-4: Improve the economics of project development | Action E-4.2 | Utilize FERC-defined open access on all State-owned/subsidized and RCA regulated utility transmission lines. | Transmission related fires can bankrupt utilities. Provide relief and risk exposure to Alaska utilities in return for FERC defined Open Access which would justify the public benefit for providing risk reduction and exposure to Alaska utilities. | Medium (5 - 10 years) | Dept of Law | DCCED; AEA; Legislature | New |
| Strategy E-4: Improve the economics of project development | Action E-4.3 | Establish a green bank for financing of community scale energy efficiency projects. | Establish a green bank to finance energy efficiency projects at the community scale in partnership with the private sector. Support initial capitalization by the State. | Short (2 - 5 years) | AHFC | AEA | From CEDs 2022 Plan (For Consideration) |
| Strategy E-4: Improve the economics of project development | Action E-4.4 | Ensure adequate workforce training and skills development alongside job creation goals of State. | Obtain federal grants under the IIJA to conduct workforce development, reskilling, and training, including as part of broad industry collaboration. | Medium (5 - 10 years) | | | From CEDs 2022 Plan (For Consideration) |



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|--|--------------|--|--|--|---|---|---|-------------|
| Strategy E-4: Improve the economics of project development | Action E-4.5 | | Ensuring efficiency of sunk costs and investments, while implementing financial tools (arbitrage, bonds, etc.) that facilitate decommissioning high-cost utilities and aging plant securitization. | | | | | |
| Strategy E-4: Improve the economics of project development | Action E-4.6 | | Implement pooling of RECs for system optimization and improving economy of scale. | | | | | |
| Strategy E-4: Improve the economics of project development | Action E-4.7 | | Reevaluate the role of anchor institutions and develop new models for economies of scale, such as through beneficial electrification. | | | | | |
| Strategy E-5: Evaluate and implement State policy, tax, and other incentives | Action E-5.1 | | Conduct an energy incentives program study to determine capacity of State to make investments. | | | | | |
| Strategy E-5: Evaluate and implement State policy, tax, and other incentives | Action E-5.2 | | Finalize and implement a statewide energy plan and policy, consistent with Task Force goals. | Conduct and implement a statewide strategic plan for energy development. | Short (2 - 5 years) | AEA | ACEP, Launch Alaska, REAP, Alaska Power Association | In Progress |
| Strategy E-5: Evaluate and implement State policy, tax, and other incentives | Action E-5.3 | | Evaluate all State energy-related expenses for maximizing impact. | | | | | |
| Strategy E-5: Evaluate and implement State policy, tax, and other incentives | Action E-5.4 | | Ensure availability of resources for investment, or the ability to forego revenue as part of incentive program. | | | | | |



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|---|--------------|--|---|--|---|--|--|
| Strategy E-5: Evaluate and implement State policy, tax, and other incentives | Action E-5.5 | Implement State income tax exemption or credit on revenue produced from private investment in new generation and transmission | | | | | |
| Strategy E-5: Evaluate and implement State policy, tax, and other incentives | Action E-5.6 | Reevaluate current mandatory municipal exemptions to encourage increased adoption of local exemptions that align with updated goals to attract private investment. | | | | | |
| Strategy E-6: Increase State Programmatic Investments | Action E-6.1 | Increase the capacity for and streamlining of regulatory and permitting action within state agencies and at the federal level. | Streamlining the permitting process leads to cost savings for utilities and contributes to cost savings for constituents. Permitting timelines should match the timelines for the expenditure of the funds for grant opportunities. Address staff turnover in the permitting agencies that cause delays in permitting. Execute the State of Alaska's internal streamlining policy and interagency coordination to support and streamline internal state regulatory and land use requirements for Alaska projects, providing a unity of purpose and coordination to advance renewable energy projects to accelerate development, financing, permitting to lower the cost of energy for Alaskans. | Medium (5 - 10 years) | Office of Governor | Office of Project Management and Permitting (OPMP), DNR; DOT&PF; DEC; DFG; Dept of Law | New |
| Strategy E-6: Increase State Programmatic Investments | Action E-6.2 | Strengthen the ability of the State and utilities to address the maintenance and operation needs of Alaska power systems. | | | | | |
| Strategy E-6: Increase State Programmatic Investments | Action E-6.3 | Increase availability of resources for weatherization, energy efficiency, and building retrofits. | | | | | |
| Strategy E-6: Increase State Programmatic Investments | Action E-6.4 | Ensure adequacy of staff resources at local and state level, including to provide technical assistance. | | | | | |
| Strategy E-6: Increase State Programmatic Investments | Action E-6.5 | Evaluate State and local procurement policies that align with affordable and clean energy adoption. | | | | | |



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|--|--------------|---|--|--|---|---|--|
| Strategy E-7: Respond to and implement evolving energy business models. | Action E-7.1 | Increase use of energy technology demonstration and deployment programs. | Execute pilot and demonstration projects for energy technology that lowers energy costs and leads to commercialization, including through collaboration with entities such as AEA, Launch Alaska, and the National Laboratories. | Short (2 - 5 years) | AEA | ACEP, Launch Alaska | From CEDs 2022 Plan (For Consideration) |
| Strategy E-7: Respond to and implement evolving energy business models. | Action E-7.2 | Implement emerging tools like on-bill financing, net metering, etc. | | | AHFC | | |
| Strategy E-7: Respond to and implement evolving energy business models. | Action E-7.3 | Mirror FERC safe harbor rule allowing for back feeding of up to 15% of circuit capacity. | | | | | |
| Strategy E-7: Respond to and implement evolving energy business models. | Action E-7.4 | Identify baseline and establish target for T&D capacity utilization of 90%. | | | | | |
| Strategy E-7: Respond to and implement evolving energy business models. | Action E-7.5 | Explore locational marginal pricing (LMP). | | | | | |
| Strategy E-7: Respond to and implement evolving energy business models. | Action E-7.6 | Implement utility rate incentives for time-of-use rates during periods of lower cost power. | | | | | |



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|--|--------------|--|---|--|---|---|--|
| Strategy E-7: Respond to and implement evolving energy business models. | Action E-7.7 | | Consider Alaska version of FERC Order 2222 to open wholesale markets to broader participation by aggregators of customer resources. | | | | |

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Priority F. Statutes and Regulations Reform - Action Tracking Sheet
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|--|--------------|---|---|--|---|--|--|
| Placeholder strategy to be determined. | Action F-1.1 | Restructure the RCA with 3 commissioners and administrative law judges to streamline/ handle rate cases. Example states include: Iowa, Virginia, etc. | <p>Legislation should be passed (similar to Iowa House File 577) which allows for advanced ratemaking principles</p> <p>Under this legislation, significant projects/improvements are reviewed and approved in advance so all parties have clarity on costs, return on equity, and approval before proceeding (versus traditional pay and pray methodology)</p> | Medium (5 - 10 years) | DCCED | AEA; Dept of Law; RCA; Legislature | New |
| Placeholder strategy to be determined. | Action F-1.2 | Streamline permitting for energy projects | Streamlining the permitting process leads to cost savings for utilities and contributes to cost savings for constituents. Permitting timelines should match the timelines for the expenditure of the funds for grant opportunities. Address staff turnover in the permitting agencies that cause delays in permitting. | Medium (5 - 10 years) | Office of Governor | Office of Project Management and Permitting (OPMP), DNR; DOT&PF; DEC; DFG; Dept of Law | New |
| Placeholder strategy to be determined. | Action F-1.3 | Establish state funding to help with local match for federal grant cost share | Work with the utilities to understand the feasibility of meeting the local match requirements for various federal grants. Establish a fund to contribute to grant match requirements that may pose a challenge to potential grant recipients. In some cases, utilities may need to raise costs to come up with the local match amount, which negates some of the benefits of being awarded the grant. | Medium (5 - 10 years) | AEA | Legislature; DCCED; OMB | New |
| Placeholder strategy to be determined. | Action F-1.4 | Continue to allow transmission and distribution lines to share DOT right-of-way | Note: Need to coordinate with DOT and partners to understand issue to define a recommendation. | Medium (5 - 10 years) | | | New |
| Placeholder strategy to be determined. | Action F-1.5 | Evaluate similar states (such as Wyoming, North Dakota, etc.) for case studies and best practices regarding energy distribution, transmissions, and connectivity. | Investigate through energy commissioner organizations and inter-state governmental organizations. | Short (2 - 5 years) | ACEP | AEA | New |



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|--|--|--|---|--|---|---|--|
| Placeholder strategy to be determined. | Action F-1.6 | Provide budgetary support for the Regulatory Commission of Alaska (RCA) | | | | | |
| | APA Policy Position (For Consideration) | Clarify statute on wildfire liability | <p>Alaska's electric utilities work hard to maintain their rights-of-way for transmission and distribution lines but have no control over vegetation that grows outside their rights-of-way. This creates a scenario in which trees or other vegetation outside the right-of-way -- but tall enough to fall into the right-of-way -- can cause damage, such as a wildfire.</p> <p>The Alaska legislature can protect electric ratepayers by making clear in statute that electric utilities can only be held liable for damage, death or personal injury from contact between vegetation and the utility's facilities if the vegetation is located entirely within the boundaries of the utility's right-of-way. The state can help mitigate fire risk by continuing to provide funding for the mitigation of spruce beetle-killed trees, which are a significant problem in many parts of the state.</p> <p>Alaskans already pay some of the highest costs for electricity in the country. Making Alaska utilities, and ultimately their customers, responsible for damages caused by vegetation outside of utility control will drive those costs even higher. This could raise the prospect of financial difficulty for utilities themselves, as has happened in California.</p> | Medium (5 - 10 years) | Dept of Law | DCCED; AEA; Legislature | APA Policy Positions (For Consideration) |



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|----------|--|--|---|--|---|---|---|
| | <p>APA Policy Position (For Consideration)</p> | <p>Prioritize state investment in electric infrastructure and leverage federal funding opportunities</p> | <p>Electric infrastructure is the bedrock of the state’s economy and the operation of the daily lives of Alaskans. The Alaska legislature must leverage every federal dollar available that benefits infrastructure with a strong emphasis on electric infrastructure – generation, transmission, and distribution. The legislature should direct the appropriate state agencies to work with electric utilities statewide to determine where funding can best serve Alaskans through investment in electric infrastructure, including renewable energy technologies and digital communications infrastructure.</p> <p>Concurrently, the legislature should call on Congress to focus on funding for electric infrastructure when passing spending bills and when funding federal agency operations. Many areas of the United States continue to benefit from long running federal power marketing administrations (PMAs) that have brought low-cost power to vast reaches of the country. Alaska has not been afforded such federal programs. Through robust state and federal investment in electric systems, Alaska would strengthen its economic health during and following the COVID-19 pandemic.</p> | <p>Short (2 - 5 years)</p> | | <p>Legislature; Dept of Law; OMB</p> | <p>APA Policy Positions (For Consideration)</p> |



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|----------|---|--|---|--|---|---|--|
| | APA Policy Position <i>(For Consideration)</i> | Support reasonable and economic carbon reduction strategies that consider costs to consumers | <p>Carbon reduction efforts, whether legislative or regulatory, must allow for a technology neutral approach to decreasing fossil fuel consumption. Integrating renewable generation is one method of lowering reliance on fossil fuels, in addition to demand side management, energy efficiency, dynamic demand, and beneficial electrification, among others. Collectively, they are proven pathways to achieving carbon reduction. Above all, safety, reliability, and affordability must be considered as carbon reduction efforts are undertaken.</p> <p>For many years, Alaska’s electric utilities have developed renewable generation assets and integrated renewable generation into their systems while exploring additional, economically feasible renewable generation. This integration, while partially driven by a goal to decrease carbon emissions, is also reliant on what is technologically and financially feasible at the various-sized electric utilities around the state. It must always be taken into consideration when creating new laws and regulations that ratepayers ultimately bear the costs of any new generation assets. All legislative or regulatory efforts that aim to reduce carbon emissions and increase renewable energy should carefully account for the cost impacts on Alaska electric consumers.</p> | Short (2 - 5 years) | | DEC; DCCED; Dept of Law: AEA | APA Policy Positions <i>(For Consideration)</i> |



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|----------|--|--|---|--|---|---|--|
| | APA Policy Position (For Consideration) | Preserve Power Cost Equalization Endowment, using the Endowment only for its statutory purposes, ensuring all eligible communities can maximize the PCE program, and full funding the PCE program in FY 2023 | <p>The Power Cost Equalization (PCE) Endowment must be preserved and maintained to provide certainty for 200 Alaska communities. The PCE program is a vital, lifeline program that makes it feasible for rural Alaskans to have access to affordable electric power and for rural communities to have affordable electricity for streetlights, water and sewer facilities, and other essential infrastructure. The Alaska Power Association urges the Legislature to fund the PCE program from PCE Endowment earnings at 100 percent for FY 2023. Until there is a permanent solution to the high cost of energy in rural Alaska, the PCE program must continue providing economic assistance to customers in areas of our state where the cost of electricity per kilowatt-hour can be three to five times higher than the cost in more urban areas.</p> <p>The state should also explore ways to address the diminishment of PCE for communities that have invested heavily in renewable electricity generation. Some communities that have lowered their reliance on fossil fuels by bringing on clean electric generation have seen lower PCE rates while still facing high electric rates. The state should allow for flexibility within the PCE program to accommodate communities that increase renewable generation but still face high electric costs.</p> | Short (2 - 5 years) | AEA | AEA; RCA; OMB; State Legislature | APA Policy Positions (For Consideration) |
| | APA Policy Position (For Consideration) | Alternative Uses for Coal Regulations | Explore alternative uses for coal, such as gasification and hydrogen production. | Long-term (10 years plus) | | University of Alaska, Mining companies | From CEDs 2022 Plan (For Consideration) |
| | CEDS Action (For Consideration) | Carbon and Sequestration Regulations | Pursue carbon capture and sequestration to make existing resources cleaner. | Long-term (10 years plus) | | | From CEDs 2022 Plan (For Consideration) |
| | CEDS Action (For Consideration) | Hydrogen Roadmap and Regulations | Develop and implement Hydrogen Roadmap for Alaska. | Long-term (10 years plus) | UAF | Governor's Office, AGDC, University of Alaska Center for Economic Development, ACEP | From CEDs 2022 Plan (For Consideration) |
| | CEDS Action (For Consideration) | Establish Alaska Hydrogen Hub | Support the establishment of an Alaska Hydrogen Hub and an Alaska Carbon Capture, Utilization and Storage (CCUS) Hub. | Short (2 - 5 years) | Governor's Office | AGDC; Governor's Office, Congressional delegation | From CEDs 2022 Plan (For Consideration) |

APPENDIX III.

ADDITIONAL ACTION DETAIL SUMMARY PAGES

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PRIORITY A. RAILBELT TRANSMISSION, GENERATION, AND STORAGE

STRATEGY A-1: UNIFY TRANSMISSION

ACTION A-1.1:

Unify and convey all existing transmission assets along the Railbelt and Bradley Lake to AEA or a new non-for-profit regulated utility for the net book value.

Background:

The “Railbelt” refers to the interconnected electric grid that stretches approximately 700 miles from Fairbanks through Anchorage to the Kenai Peninsula. About 70 percent of Alaska’s population is served by the Railbelt electric system. The Alaska Energy Authority (AEA) owns the Bradley Lake Hydroelectric Project, the largest hydroelectric plant in Alaska. Energized in 1991, Bradley Lake generates the lowest-cost electricity on the Railbelt and provides clean power to more than 550,000 Alaska residents. There is now a unique opportunity to leverage past investments in Bradley Lake. Through further federal, state, utility and private sector investment in specific shovel-ready capital projects, Alaska can optimize Bradley Lake’s value without incurring significant additional costs to Alaskans. The Alaska Energy Authority (AEA), in partnership with the five Railbelt utilities, has identified several opportunities for transmission line upgrades and battery energy storage systems that will reduce existing constraints on the Railbelt grid by increasing the Kenai Peninsula’s transmission capacity to export power from Bradley Lake hydropower, while also allowing for the integration of additional renewable energy generation. The current system is in need of upgrades to facilitate a diverse fuel supply portfolio.

Benefits:

- Reduces transmission constraints on Railbelt grid, while also allowing for the quicker integration of additional renewable energy generation.
- Provides system redundancy, resilience, and increases reliability.
- Benefits utilities and ratepayers by sharing power throughout the region.
- Reduces costs for consumers and promotes job creation.
- Coordinates planning, financing, and construction of new infrastructure.
- Augments and diversifies Environment, Social, and Governance investment portfolio holdings.

How Do We Get There?

- Unify and convey all existing transmission assets along the Railbelt and Bradley Lake to AEA or a new non-for-profit regulated utility for the net book value.
- Develop financing plan.
- Develop transmission, operation, and control reform (potentially the Iceland model) with a regulated version of management committee.
- Align ERO statute and regulations with transmission reform.
- Complete design, permitting, and right-of-way acquisitions.
- Execute construction and commissioning.

Implementation Timeline:

2023 – 2035

Expected Results:

This strategy will result in a more resilient and reliable transmission and electric grid system that will lower rates, help bring online clean energy, reduce costs for consumers, and promote job creation.

**ACTION A-2.1:**

Adopt a Clean Energy Standard with incentives to facilitate reaching diversification goals

Background:

Today, 80-90% of the Railbelt's energy (heat and power) is generated using Cook Inlet (CI) natural gas, a supply source which is forecasted to fall short of demand as soon as 2027. Alaska utilities may likely need to import Liquefied Natural Gas (LNG) to meet short term supply needs and this is anticipated to increase the cost of energy and introduces potential energy security concerns. In order to ensure a secure, local supply of energy that is affordable and reliable, the Alaska Energy Security Task Force, (AESTF) Railbelt Subcommittee set a long term goal of significantly diversifying the Railbelt's energy generation.

Today, many proven and cost competitive electricity generation technologies exist and are ready for at-scale deployment across the Railbelt, and the state as a whole. Alternative technologies for central heat generation are not as ready to deploy and distributed heat generation solutions such as heat pumps point to electricity generation as their source. Based on this, the Railbelt Subcommittee recommends a near term focus on diversifying electricity generation. This will conserve natural gas for heat while increasing energy security with local and diverse electricity generation projects.

In order to ensure Alaska's future energy mix is affordable, reliable and secure, it's critical that diversification targets are set and positively reinforced. To ensure strong commitment and action to electricity generation diversification the Railbelt Subcommittee recommends the State adopt a Clean Energy Standard with incentives for new generation projects and for utilities when diversification goals are reached. The Railbelt Subcommittee considered both a Renewable Portfolio Standard and a Clean Energy Standard. Ultimately a Clean Energy Standard was preferred as it allows the widest range of generation technologies to compete driving affordability and gives Alaska the most options to diversify. Secondly, a Renewable Portfolio Standard policy typically includes penalties when targets are not met. Given Alaska's co-op utility structure, these penalties would pass directly to co-op members and drive up electricity prices which is counterproductive to the AESTF objective of affordable energy. Penalties may also likely lead to utility staff spending time to request relief or negotiate penalties where issues are encountered with meeting diversification targets; tying up valuable utility staff time and distracting staff from deploying new generation projects. Based on this, the Railbelt Subcommittee recommends providing incentives for generation diversification rather than penalties to drive the right behaviours, action and outcomes for our State. The Railbelt Subcommittee recommends the following incentives be implemented with a Clean Energy Standard:

- 1. Direct Payment to Utilities for Achieving Diversification Targets:** Ultimately, it is up to each individual utility to agree to terms with these different types of generation so that it can be included in their portfolio. To incentivize utilities to consider a variety of options, the State of Alaska can award each utility with a direct payment when diversification targets are reached. This direct payment rewards utilities for diversifying and will result in an immediate reduction of rates for consumers, aligning with the AESTF mission of affordable energy.
- 2. Augmentation of the Renewable Energy Fund (REF):** To facilitate significant diversification of statewide electricity generation, with a particular emphasis on the Railbelt, it is important to have many generation projects being developed as only a small fraction will succeed in being fully developed. Project development is inherently risky and carries the most uncertainty, particularly for generation technologies which have not been broadly deployed in Alaska. To encourage numerous and diverse generation project development, the State should augment the Renewable Energy Fund to provide matching funds for development expenses. The intent of this funding structure is that grant funds will be a small fraction of the total project cost but will be awarded at a time when the project is most vulnerable. This will increase the number of projects being developed and accelerate the diversification of the Railbelt electricity generation.



STRATEGY A-2: DIVERSIFY GENERATION

ACTION A-2.1 (CONT.):

Adopt a Clean Energy Standard with incentives to facilitate reaching diversification goals

- 3. Augmentation of the Power Project Fund (PPF):** New generation projects can also face obstacles with securing competitive debt terms for projects in Alaska given its remoteness and that for many technologies is seen as a nascent market. Debt interest rate and term (duration) significantly affect project economics and ultimately the energy price paid by consumers. Providing a reliable debt source for generation projects which diversify the Railbelt's power generation will increase the number of successful projects, reduce the energy cost to consumers and earn the state a modest return. Given the funding scale of these projects, it's important that this capital support from the state is structured as a loan and not a grant. This ensures responsible project spending while generating a return for the state.

Benefits:

Diversify statewide, with a particular emphasis on Railbelt Electricity Generation

- Conserve CI natural gas supply for heating and base load to integrate new generation sources
- Provide secure electricity supply through locally built generation projects
- Enable affordable energy across the state
- Increase energy reliability where no one source dominates or threatens overall supply
- Economic development with local projects

How Do We Get There?

Institute a Clean Energy Standard with Incentives to facilitate reaching diversification goals

- Clearly state Railbelt generation diversification percentages and target dates
- Adopt the following incentive program to drive diversification:

1. Direct Payment to Utilities for Meeting Diversification Targets:

- All direct payments to a Utility from the State of Alaska are a direct pass through to energy consumers
- Establish a \$/% diversification value and diversification percentages at which payouts are received
- Payout will be made if diversification percentage is achieved by target date
- Direct payment from the State will be used by the utility to directly lower member costs, effectively lowering the cost of electricity
- Ideally the incentive payment would be illustrated on member bill so public can see the benefit of utility diversification

2. Augment the Renewable Energy Fund to:

- Provide up to 50/50 matching funds for projects which diversify the community or regional generation mix.
- The projects must demonstrate how they're providing affordable energy that is reliable and local
- Matching funds will be used for project development costs only
- Allocate annual funding for this program such that funding is secure and can be efficiently deployed. Increase the reward cycle (e.g. 2x/yr) to enable new project ideas to move forward with development at a faster pace than the current annual REF award process.
- Increased operational funding for AEA to accommodate increased administrative workload, including but not limited to elements such as additional staff or consultants to assist in program and/or application streamlining.

3. Augment the Power Project Fund to:

- Provide loans, for all development phases, for projects greater than 10MW in size
- For projects greater than 10MW increase the approval thresholds for AEA Board and Legislative approval such that it is commensurate with utility scale projects
- Adequately capitalize the PPF program to support utility scale generation projects
- Provide operational funding staffing to efficiently and timely process increased volume of loan applications.



STRATEGY A-2: DIVERSIFY GENERATION

ACTION A-2.1 (CONT.):

Adopt a Clean Energy Standard with incentives to facilitate reaching diversification goals

Implementation Timeline:

Implement policy change in 2023/2024 legislative session

Expected Results:

- Diverse electricity generation projects being built over the next 10-15 years
- Accelerated diversification timeline
- Lower cost power from new generation projects, ultimately flowing down in the form of reduced rates for ratepayers across varying time domains.
- Economic development across those funded communities, including the Railbelt.

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PRIORITY A. RAILBELT TRANSMISSION, GENERATION, AND STORAGE

STRATEGY A-2: DIVERSIFY GENERATION

ACTION A-2.2:

Modify existing statute(s) requiring the Regulatory Commission of Alaska (RCA) to consider long term diversification goals when approving additional/new Railbelt power generation.

Background:

The general powers and duties of the RCA are defined in Alaska Statute 42.05.141. Specifically, it is tasked with the power to “appear personally or by counsel and represent the interests and welfare of the state in all matters and proceedings involving a public utility[.]” The Railbelt Generation, Distribution, Transmission, and Storage Subcommittee (RGDTSS) has determined that the state should be working toward a long-term goal of diversifying power generation with an emphasis on local supply, reliability, and affordability. In support of this goal, the RGDTSS recommends the legislature amend AS 42.05.141 to broaden the RCA’s scope of considerations and ensure it has the ability to consider projects related to power generation.

Benefits:

- The amended statute provides the RCA with more definition on what truly is in the best “interest and welfare of the state” beyond just setting reasonable rates and promoting conservation.
- Pushes the Railbelt utilities towards diversification of power generation.

How Do We Get There?

- Amend AS 42.05.141 (c) add new subpart (d) and renumber existing subpart (d) as follows:
 - (c) In the establishment of electric service rates under this chapter the commission shall promote the conservation and diversification of resources used in the generation of electric energy.
 - (d) When considering whether the establishment or approval of electric service rates under this chapter is in the public interest the commission shall
 - (1) recognize the public benefits of allowing a utility to negotiate different pricing mechanisms with different suppliers and to maintain a diversified portfolio of resource contracts to protect customers from the risks of inadequate supply or excessive cost that may arise from a single pricing mechanism; and
 - (2) consider whether a utility could meet its responsibility to the public in a timely manner and without undue risk to the public if the commission fails to approve a rate or a contract proposed by a utility.
 - (e) When considering whether the approval of a rate or a gas supply contract proposed by a utility to provide a realable supply of gas for a reasonable price is in the public interest, the commission shall...[.]

Implementation Timeline:

Implement timeline is in the 2023/2024 Legislative Session.

Expected Results:

This structured execution list offers a clear roadmap of the proposed steps to promote the Action to lower the energy cost for Alaskans for future generations.

**ACTION A-2.3:**

Additional details on Dixon Diversion Project

Background:

The Alaska Energy Authority (AEA) owns the Bradley Lake Hydroelectric Project (Bradley Lake), which has been a low-cost source of electricity for the Railbelt and 550,000 Alaskans for more than 30 years. The 120-megawatt (MW) facility generates about 10 percent of the total annual power used by Railbelt electric utilities at some of the lowest-cost energy in the state. The “Railbelt” refers to the interconnected electric grid that stretches approximately 700 miles from Fairbanks through Anchorage to the Kenai Peninsula. About 70 percent of Alaska’s population is served by the Railbelt electric system.

The proposed Dixon Diversion Project would boost the energy potential of Bradley Lake, the largest hydroelectric plant in Alaska. The project would be located five miles southwest of Bradley Lake dam, approximately 27 miles northeast of Homer on the Kenai Peninsula, and divert water from Dixon Glacier, increasing the annual energy production of Bradley Lake by 50 percent — or the equivalent of 24,000-30,000 homes. Bradley Lake currently electrifies the equivalent of 54,000 homes.

Benefits:

- Increases Bradley Lake’s energy production capacity by 50 percent by leveraging existing generation assets.
- Enhances Alaska’s energy security by increasing renewable penetration and grid stability, improving resilience to fuel price fluctuations and supply side disruptions, and regulating other renewable energy.
- Fosters economic development through job creation.
- Promotes environmental sustainability.
- Power Sharing Agreements with Railbelt Utilities provide stable long-term returns through revenue stability and market risk mitigation.
- Produces a substantial amount of renewable energy that will reduce greenhouse gas emissions and combat climate change.
- Augment and diversify Environment, Social, and Governance investment portfolio holdings.
- All land is owned by the State of Alaska

How Do We Get There?

AEA is currently conducting feasibility studies to assess the potential of increasing hydroelectric power generation at Bradley Lake. These studies include engineering studies (feasibility, hydrological, geological) and environmental studies (fisheries, water quality, and geomorphology). The Dixon Diversion Project would expand Bradley Lake by capturing outflow from the Dixon Glacier and conveying it to Bradley Lake for generation. The main project components include:

- Small diversion dam and intake below the Dixon Glacier,
- Gravity flow 4.7 mile tunnel to Bradley Lake, and
- Raise of Bradley dam to lake level by 14 feet.

Implementation Timeline:

2023 – 2025: Engineering and Environmental Studies

2026 – 2027: Federal Energy Regulatory Commission (FERC) License Amendment

2028 – 2032: Construction

Expected Results:

The increased storage would provide Bradley Lake with an additional 55,000 megawatt-hours of “battery storage.”



STRATEGY A-2: DIVERSIFY GENERATION

ACTION A-2.3:

Additional details on Susitna-Watana

Background:

The Susitna-Watana project has been on hold since 2017. Considerable expenditures were made to develop and license the project in the 1980s and from 2010 to 2017. The project is a viable alternative to meet the State's goal of 80 percent sustainable power by 2040. Once the project is licensed the State has a 10-year window before construction must begin. This should afford sufficient time for the State to determine the most advantageous approach to build the project.

Alaska has a strong track record of developing successful hydroelectric projects that provide clean, reliable energy across the state. Hydroelectric power is Alaska's largest source of renewable energy, supplying about 27 percent of the state's electrical energy in an average water year. Dozens of hydro projects provide power to Alaskans, including the 120-megawatt Alaska Energy Authority-owned Bradley Lake project near Homer, which supplies 10 percent of the Railbelt's electrical energy. The "Railbelt" refers to the interconnected electric grid that stretches approximately 700 miles from Fairbanks through Anchorage to the Kenai Peninsula. About 70 percent of Alaska's population is served by the Railbelt electric system.

AEA has completed a feasibility level design and was approximately two-thirds of the way through the Federal Energy Regulatory Commission (FERC) Integrated Licensing Process when it was paused by the previous administration. To proceed, the FERC licensing process would need to be completed at a cost of \$50-100 million. The anticipated construction cost is \$5.6 billion (\$2014). Financing type and level are not yet finalized, but AEA's financial consultant recommended Rural Utilities Service (USDA) and government obligation bonds or by the private sector, financial modeling indicated the lowest long term cost of energy compared with other fuel sources.

Benefits:

The proposed Susitna-Watana Hydroelectric Project is a large hydro project that would provide long-term stable power for generations of Alaskans. The project would result in approximately 70 percent of the power generated in the Railbelt originating from renewable sources, up from the current 15 percent — a nearly four-fold increase. As part of the project, transmission lines will be connected to the existing Railbelt transmission system providing a more secure transmission system, and an access road will be constructed. The Susitna-Watana Hydroelectric Project will help provide reliable power for future generations of Alaskans, diversify Alaska's energy portfolio, and accelerate the transition to renewable energy.

How Do We Get There?

1. Update the Project Management Plan with specific focus on the approach, budget, and schedule to complete licensing activities.
2. Update construction cost and project economics
3. Meet with FERC staff to determine the licensing approach and studies necessary for FERC to conduct their National Environmental Policy Act (NEPA) process and make a licensing decision.
4. Go/no go decision for final FERC licensing.



STRATEGY A-2: DIVERSIFY GENERATION

ACTION A-2.3 (CONT.):

Additional details on Susitna-Watana

Implementation Timeline:

Update the Project Management Plan regarding approach, budget, and schedule, including updating construction cost and project economics before a decision is made to complete FERC license.

- Preparation, Planning, Collaboration, and Environmental Studies 2-3 years
- FERC Review & Determination 2 years
- Project Execution Phase && Construction Phase 9-11 years
- Operational Phase 100 years

Expected Results:

Based on the economic studies conducted a decade ago, the project remained a viable alternative with a levelized power cost of about 6.5 cents per kWh. Based on this information and the amount of power the project would generate annually, the project remains a viable alternative to meeting the Energy Security Tasks Forces goals. The State should undertake the tasks outlined above to successfully license the project. Once the project is licensed, the State has options to complete the project.

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PRIORITY A. RAILBELT TRANSMISSION, GENERATION, AND STORAGE

STRATEGY A-2: DIVERSIFY GENERATION

ACTION A-2.3:

Additional details on AKLNG.

Background:

The Alaska Utilities Group June 28, 2023 Phase 1 Assessment Cook Inlet Gas Supply Project estimated that 2021 natural gas consumption from the Cook Inlet was comprised of approximately 49 BCF (67%) for heating requirements and 24 BCF (33%) for electrical generation. Forecasts for continued gas consumption for electrical generation are flat or decreasing by 5 BCF/yr. Assuming natural gas remains the space heating fuel of choice on the Railbelt, the largest distributor for natural gas for space heating on the Railbelt projects no decline in demand over the next 20 years. Without a change in this fuel source, natural gas will remain a necessary energy source on the Railbelt.

The Utilities Group Study determined that the median case gas supply shortage in the Cook Inlet is projected to be 8 BCF/yr beginning in 2028 and growing to 52 BCF/yr in 2040. In the short term, in order to meet the expected supply gas shortfall in 2027-2028, a decision to pursue LNG imports will likely need to be made in late 2023. In the long term, the study found that a gas pipeline from the North Slope could meet the projected demand most economically.

Benefits:

The 2023 contract price for natural gas from the Cook Inlet is approximately \$8/Mcf. Imported gas is forecast to cost approximately \$12/Mcf. Incremental supply potentially available from augmented Cook Inlet production is forecast to be generally at or above the imported gas cost. Gas prices from the proposed AK LNG project are estimated at \$4.40/Mcf., while a smaller subsidized State-owned pipeline might deliver \$9.10/Mcf.

Alaska is presently near the bottom compared to other states in terms of economic growth. Out migration from rural Alaska is rampant due to the lack of economic opportunities. Importing LNG into our resource rich state may be necessary in the short term but would be contrary to the goals of energy security over the long term.

The availability of a local and long term fuel source to support affordable and reliable baseload power generation throughout the Railbelt would provide stability for economic development and a platform around which further diversification of generation could confidently occur. Railbelt businesses and residents would enjoy predictability for their space heating requirements. Availability of natural gas from a pipeline could allow substantial new projects, such as the Donlin Gold Project in western Alaska, to help defray the cost of building gas pipeline infrastructure, and associated transmission and distribution, into western Alaska.

How Do We Get There?

Alaska needs to advance on two parallel tracks: (1) Advance the AKLNG project (permitting, design, financial), including Alaska using its financial strength as necessary to support the negotiation of commercial terms that could lead to a positive project decision; and (2) Resume planning on the in-state "bullet" pipeline so that a backup plan is in place to support Alaska's need for natural gas if the AKLNG project does not proceed.

Implementation Timeline:

Alaska must keep its options open for support of our economy over the next decades. While imports of LNG may occur in the short term, doing so over the long term or long past 2030 would be regrettable, would do little to boost our local economy.

Expected Results:

Unlocking Alaska's stranded natural gas and monetizing these assets will provide long term energy security, and positive economic benefit for all Alaskans, but should not be done so at the expense of diversifying the overall energy generation mix.

**ACTION A-3.1:**

Significantly increase load to drive down energy rates.

Background/Benefits:

All other things being equal, if the fixed infrastructure costs of a power grid are spread over more customers and greater energy loads, customers will end up paying less on a per-kWh basis. This strategy has been used in Iceland, for example, where a high volume of production and sales have created efficiencies and economies of scale. According to analysis provided by Holdmann and Gudleifsson (in preparation), Iceland's total electric production and Alaska's tracked very closely until the mid-1990s, as did the delivered cost for electric power. After that point in time, the trajectories diverged significantly both in terms of annual production and sales as Iceland actively courted and attracted large industry (aluminum smelting) to its electric grid. This new industry increased Iceland's energy demand by four-fold. Iceland's cost of power delivered to the customer's meter is now \$0.7-\$0.13 per kWh, as compared with \$0.19-\$0.26 for power from Alaska's Railbelt grid.

A similar approach could be undertaken on Alaska's Railbelt to drive the cost of power down for all customers and spur continued economic growth. Examples of new, large customers on the Railbelt could include ore processing of locally-sourced materials as well as new fuel generation production facilities for the transportation industry (air carriers, shipping, etc.), among others. A key insight is that Iceland simultaneously sought out new industry and committed to lower than current energy costs to incentivize industry to select Iceland as the preferred location.

How Do We Get There?

This strategy assumes that necessary transmission capacity and reliability upgrades are completed to handle increased loads. To facilitate and incentivize substantial load growth, three possible actions were identified, including (1) issuing an RFP to industry for a large load that would be provided at a guaranteed low energy price (the energy price could be tiered based on amount of load growth), (2) providing tax credits or similar offsets for proposed large load customers to reach attractive power rates, and (3) identifying sites along the Railbelt which are already built to handle load growth.

(1) Upon sufficient analysis of rates achievable by large load additions to the Railbelt, an RFP could be issued by a coordinating Railbelt entity, utility, or the State guaranteeing a rate for power in exchange for the load addition to the grid. Such an approach would eliminate risk for a potential large industrial customer and also ensure load growth for the Railbelt. Long term rate stability would promote industry investment and aggregation of demand side resources.

(2) Alternatively, if a potential industrial customer could not add enough load to the grid to guarantee a satisfactorily low rate, the State could offset the difference with a tax credit or similar vehicle. Again, this approach would help eliminate risk for the new industrial customer and attract economic investment in the state. The tax credit amount would be informed by the estimated savings to utility co-op members due to the load growth associated with the new industrial customer.

(3) In concert with the above actions, it is important to identify areas on the Railbelt that are well-suited to large load growth in the short term, without necessarily waiting for transmission upgrades. Identification of these sites would help potential large industrial customers hone in on realistic locations and spur investment. In addition to specific sites, there may be larger geographic areas that can accommodate rapid growth of distributed loads, such as electric vehicles and heat pumps. These "load-friendly" areas could be further enhanced by management of the distributed loads ("load as a resource") so they can strengthen, not strain, the grid.
growth.

One risk of these actions is potential cost overruns in the buildout of any required generation for increased loads, the contingencies and responsible parties for which would need to be considered carefully. However, this risk must be viewed in context because cost overruns from new infrastructure would likely be even more problematic without load growth.



PRIORITY A. RAILBELT TRANSMISSION, GENERATION, AND STORAGE

STRATEGY A-3: INCREASE DEMAND

ACTION A-3.1 (CONT.):

Issuing an RFP to industry for a large load that would be provided at a guaranteed low energy price (the energy price could be tiered based on amount of load growth).

Implementation Timeline:

1. Identify areas within the Railbelt which are well-suited for load growth (minimal to no upgrades or new generation needed): 1-2 years
2. Establish incentivized industry/anchor tenant rates: 1-2 years.
3. Issue state-led RFP for new industry articulating \$/kWh rate scale based on load growth amount or state tax incentives to offset energy cost for new industrial customers based on load growth savings to co-op members: 2-5 years

Expected Results:

The Railbelt will significantly increase its load to drive down prices for all consumers and spur economic development overall.

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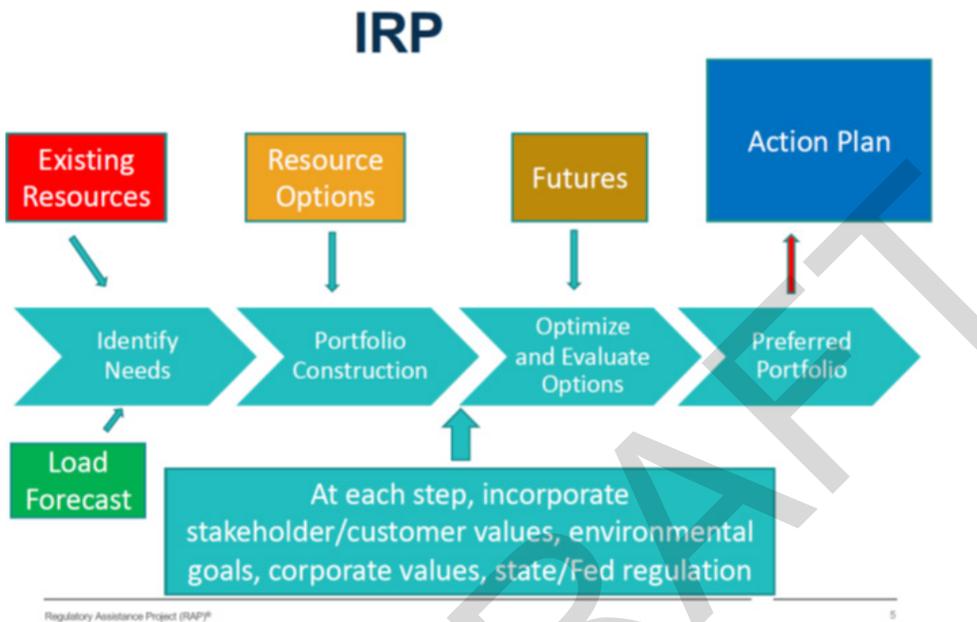
STRATEGY B-1: ALASKA POLICY RECOMMENDATIONS

ACTION B-1.1:

Establish, require, assist, and implement community Integrated Resource Plans (light) to forecast energy demand and generation for community and regional future energy needs to lower energy costs.

Background:

Integrated Resource Plans (IRP) and their associated forecasts of demand, generation, transmission, and distribution with public input are a tried and proven electrical industry methodology to coalesce State and community energy goals openly and transparently. Large utilities with regulatory oversight can engage in extensive plans that require deeply engaging studies. On the other hand, a lighter integrated resource planning analysis based on the collaboration of community energy needs is a cost-effective approach to local strategic and tactical energy planning required to move toward lower energy costs.



All communities engaged in future supply uncertainty, rising demand for heat pumps, conversion from fossil fuel use to lower-cost renewables, and electrified transportation benefit from intelligent and collaborative planning from utilities, communities, non-utility generators, and the public. The critical component in this process is public participation, as it provides an opportunity to educate the public, build support and constituencies required to advance renewable energy projects and transmission, and ultimately focus on lowering the energy cost for Alaskans.

According to the Pacific Northwest National Laboratory (PNNL), Over 35 US states require utilities to file IRPs or equivalent planning yearly or up to once every four years. These requirements are imposed either through regulation or legislation. The US Department of Energy (DOE), in its 2016 publication, "Sustainable Energy Solutions for Rural Alaska, provided a recommendation for Alaska Utility resource planning to identify a utility's least-cost path over time. These efforts are sometimes called "least-cost integrated resource plans" or simply "integrated resource planning" (IRP) when the scope of the resource decisions include demand-side considerations. The DOE publication explained that the IRPs typically include scenario planning and consideration of uncertainty. IRPs are also typically high-level plans frequently with time horizons of 20 years that look at a broad array of resource choices. However, they may include specific project-related and transmission analysis in the near term (i.e., 1-5 years).



STRATEGY B-1: ALASKA POLICY RECOMMENDATIONS

ACTION B-1.1 (CONT.):

Establish, require, assist, and implement community Integrated Resource Plans (light) to forecast energy demand and generation for community and regional future energy needs to lower energy costs.

Benefits:

The State of Alaska can optimize State resources (and parlay federal resources) by establishing, requiring, assisting and implementing an Integrated Resource Plan Light (IRPL) for every utility in Alaska that requires a periodic update to ensure that local and grassroots energy planning is occurring collaboratively at the local Alaskan level with utilities, tribes, non-utility operators, community leadership, NGO's and the Alaska public so that there is a unified focus and format to ensure that no community is left behind in Alaska's transition to lower cost and self-sustaining energy for current and future generations of the affected community.

How Do We Get There?

Establish an Alaska-based IRPL, easy-to-implement model and format. Upon acceptance of the RCA, request each regulated Alaska utility to guide on with minimally established requirements based on prudent IRP practices. This model and format can be initiated and supervised by the Alaska Energy Authority and collaborated with the Regulatory of Alaska and Attorney General Office, Regulatory Affairs & Public Advocacy Section (RAPA). Municipal utilities and other non-regulated electrical utilities in Alaska can also adopt Alaska's IRPL model.

While large Alaska utilities can use this model, the use of the IRPL would not detract from the RCA authority to impose a more robust IRP on Alaska's sophisticated electrical utilities, and the IRPL can serve as an interim or an update adjustment to a utilities existing and perhaps more robust IRP.

AEA and any state of Alaska generation and transmission funding can use the IRPL to determine the viability and economic justification of the public IRPL as a requirement to obtain state funding. RCA can be a repository for the public record and public dissemination of all Alaska utility load and generation forecasting so that other communities and interested parties can learn and adapt from other communities' planning efforts.

AEA and other state agencies can provide resources and technical assistance to assist Alaskan utilities and communities. AEA can require IRPL as a prerequisite for future assistance, aid, and funding as an incentive to collaboratively participate together to analyze the community energy needs, demands, and agreed-upon solutions to lower the energy cost for the affected community. An IRPL also certifies that a utility and a community are wisely and responsibly planning to conserve PCE burdens and preserving PCE trust funds by optimizing appropriate energy solutions on a community-by-community basis. AEA, the Denali Commission, and other state agencies can assist a community with implementing the solutions and results from a community IRPL.

Implementation Timeline:

This action item has a blend of immediate and short-term tasks for implementation.

Expected Results:

This Action item, IRPL, with its implementation steps, offers a fundamental milestone required to methodically transition to premeditated energy planning in an open, objective, and transparent process that will lead, if properly implemented and conducted, to lower cost energy and energy security for Alaskans.

**ACTION B-1.2:**

Strengthen Alaska's Net Metering energy framework, tariffs, and regulations for Alaska's diverse stakeholders to promote net metering investments to provide grid resiliency and energy security and lower the energy cost for Alaskans.

Background:

Net Metering is a billing arrangement for owners of renewable energy systems. Under Net Metering, excess electricity generated by an Alaskan customer's renewable energy system is sent back to the utility grid, offsetting the electricity the customer draws from the grid when their system isn't producing electricity. Net Metering of private energy systems plays an integral role in the ongoing transition to more sustainable and flexible power grids and lowers the costs of power for Alaskans.

Benefits:

An advanced Net Metering statutory and regulatory framework for Alaskans can optimize mutually beneficial benefits from an advanced net metering program to act as a linchpin for a sustainable, resilient, and economically advantageous energy future in the islanded grid and transmission interconnected Alaska communities to provide a diverse energy portfolio that invigorates and sustains private and public investment, provides energy security and grid resiliency benefits while lowering the energy costs for Alaskans.

How Do We Get There?

Investigate, evaluate, recommend, and update/modify changes to Alaska's net metering laws and regulations for Best Management Practices (BMP) based on other successful State net metering programs.

Encourage the Alaska Energy Authority (AEA), Alaska Housing and Finance Corporation (AHFC), Denali Commission, and other agencies to assist and finance community, tribal, business, and residential net metering investments in Alaska to improve grid stability and resilience and lower energy costs.

Policy Framework and Regulation:

Develop through the Governor's office, AEA, and Regulatory Commission of Alaska (RCA) a clear, supportive regulatory framework that invigorates and favors net Metering incorporating vigorous net metering models and best management practices (BMP). Provide resources, leadership, and agency assignments and oversight to ensure the resulting regulatory framework provides long-term clarity and certainty to private/public investors, community energy security, and utilities.

Infrastructure Development:

Invest and finance grid infrastructure for residential, business, community renewables, and grid distribution systems to handle increased distributed energy resources and increase energy security through AHFC, AEA, AIDEA, Tribal and federal funding to facilitate grid interconnectivity for renewable energy sources.

Develop and promote short and long-term energy storage solutions, such as battery systems, to address the intermittent nature of community and residential renewable sources like solar and wind.

Incentivization and Financial Support: Develop and offer a breadbasket of incentives such as tax credits, rebates, or grants for individuals and businesses that invest in renewable energy systems. Set up a competitive feed-in tariff for excess energy fed into the grid. Work to develop State Agency and federal programs to provide zero or low-interest loans or financial incentives for energy storage solutions. Develop and structure incentives to assist higher PCE cost communities and the PCE program.

Outreach and Stakeholder Collaboration:

Create platforms for dialogue between utility companies, private investors, and government agencies. Incentivize and encourage utilities to develop advanced net metering models that benefit from distributed generation rather than viewing it as a threat.



STRATEGY B-1: ALASKA POLICY RECOMMENDATIONS

ACTION B-1.2 (CONT.):

Plan, finance, and support the execution of Shore power at Public and Private Cruise Docks to Sell Excess Energy to Cruise Ships.

Engage with Native tribes and corporations to ensure their perspectives and needs are incorporated. Encourage and direct State of Alaska (SOA) agencies and utilities to partner with Alaska university programs and renewable energy Non-Governmental Organizations (NGO), boroughs, and city governments to integrate renewable energy net metering in development planning for localized energy security, emergency planning, and sustained energy operations with natural disasters.

Develop state code and design criteria using prudent utility practices for net Metering. Consider state procurement agreements for integration hardware and controls selection and purchase.

Technology and Innovation:

Promote research and development in renewable energy net metering regimes tailored to Alaskan conditions. Support innovation in grid management tools and technologies using best management systems to efficiently and effectively handle distributed energy.

Collaborate with tech companies to integrate advanced consumer energy management systems, such as smart meters and home energy management systems, that assist utilities and overall grid management.

Monitoring and Feedback Mechanisms:

State of Alaska: Stand up or administer/assign a dedicated agency or body to monitor utility progress and impacts of the net metering program and make suggestions to recalibrate and use adaptive management to gain incremental effectiveness of net metering regimes. Continuously gather net metering and utility participant feedback and iterate on the program's design and incentives.

Publish annual reports for AEA, AIDEA, RCA, the Governor, the Legislature, and the public to highlight achievements, challenges, and next steps.

Implementation Timeline:

This action item has a blend of Immediate, short-term, mid-term, and long-term (follow-up, review, and recalibration as necessary) tasks for implementation.

Expected Results:

The net metering roadmap places Alaska at the pinnacle of energy innovation and leadership while empowering net metering participants and utilities to collaboratively advance the state of Net Metering in Alaska as a public interest good. This strategy and tactics empower Alaskans to amplify private and public investments, fortify grid stability, strengthen grid resilience, and slash energy expenses. Embracing this Action Item, Alaska is assisting in meeting Alaska's energy demands and security while ensuring Net Metering advances are addressed collaboratively, openly, transparently, sustainably, and economically, ensuring a sustainable and cost-effective energy future that reduces the energy cost for Alaskans.

**ACTION B-1.3:**

Strengthen and Streamline the State of Alaska's internal state regulatory and land use administrative processes to accelerate approval to advance strategic energy projects and transmission for regional energy security and lower energy costs.

Background:

The State of Alaska has multiple departments with diverse missions and responsibilities. Developing energy projects in Alaska requires developer coordination with competing agencies with differing priorities and willingness to assist a project developer. This lack of unity of effort can lead to chaos and time delays in permitting and executing energy projects and transmission with differing state agencies. There is a need for a navigation coordinator and assistance for Alaska communities and Alaska renewable energy developers to coordinate among the differing State Agency requirements.

Benefits:

The development of State policies and oversight that produce a coordinated and affirmative mindset for developing cost-effective renewable energy and transmission lines in Alaska lowers energy costs for Alaskans while also assisting developers in their pursuit with federal agencies in meeting national clean energy goals through mutual cooperation, respect, and understanding.

How Do We Get There?

Establish an Alaska Energy Authority (AEA)-sponsored in-state working group/oversight body between the Governor's Office, AEA, and State agencies to find common ground and purpose to streamline renewable energy, transmission, and energy project interconnection permitting, regulations, and State of Alaska authorizations. The focus and mindset are to "promote" and develop sustainable energy projects and related transmission lines to accelerate permit processing and get to "yes" renewable energy development to lower costs and increase energy security for Alaskans.

Each State agency and department conducts a critical internal review to identify permitting and authorization bottlenecks that impede or slow down renewable energy development and then develop internal agency courses of action and corrections necessary to fulfill the overarching directive to lower the cost of power for Alaskans.

Each State agency assigns a Change Officer duty and responsibility for implementing and executing departmental administrative changes based on permitting review/audit and course of action analysis.

Develop an energy development interdepartmental liaison between Commissioners and delegated staff to coordinate and accelerate renewable energy project and transmission development.

Identify state laws or regulations that impede or block renewable energy and transmission development and make recommendations to change statutes and regulations for the Governor and legislative leadership to accelerate energy development, transmission, and interconnections to lower the cost of energy for Alaskans and Alaska industry.

Create directional versus aspirational intentions to deliver results for Alaska's citizens desiring the lowest long-term and sustainable energy costs.



STRATEGY B-1: ALASKA POLICY RECOMMENDATIONS

ACTION B-1.3 (CONT.):

Strengthen and Streamline the State of Alaska’s internal state regulatory and land use administrative processes to accelerate approval to advance strategic energy projects and transmission for regional energy security and lower energy costs.

Implementation Timeline:

This action item has a blend of Immediate and short-term tasks for implementation.

Expected Results:

The State of Alaska, with careful and planned execution, can advance and promote Alaska’s renewable energy development with cooperation, support, and a unity of effort between State agencies to support and accelerate the growth of Alaska’s renewable energy resources for the maximum benefit of Alaskans, reducing energy costs and providing the energy security that Alaskans are entitled to from their State government leadership.

This structured execution list offers a clear roadmap of the proposed policy initiatives and steps to promote the coordinated and cooperative development of energy resources between and among state agencies to provide a unity of effort to execute the State energy plan and lower the energy cost for Alaskans.

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STRATEGY B-1: ALASKA POLICY RECOMMENDATIONS

ACTION B-1.4:

Strategize and Prioritize State of Alaska funding to match federal funding and federal financing to build and expand Transmission and Distribution Lines in Alaska to bring Alaska on par with the US transmission system for Alaskan energy security and lower energy costs.

Background:

Despite its vastness, covering 17.5% of the US landmass, Alaska's transmission system is strikingly underdeveloped. With only 1,697 miles of high and low-voltage transmission lines, it represents less than 0.25% of the nation's total transmission infrastructure. To put this transmission deficiency in perspective, the contiguous US boasts over 700,000 circuitous miles of these lines. Furthermore, Puerto Rico, a US territory, has 2,478 miles, while Wyoming—a state with a population size comparable to Alaska—has 4,300 miles. This subpar transmission network hampers the integration of renewable energy sources and poses challenges for military installations in ensuring transmission contingencies to support critical national security missions.

Moreover, there's an urgent need for Congressional funding action. For example, despite having Congressional authorization for \$384 million for the Southeast Alaska Intertie, which aims to connect Metlakatla through Skagway, the promised funds have not been authorized. Alaska's grid modernization is not just about powering homes and lowering costs; it's crucial for national security, economic growth, and future energy resilience that Alaskans deserve.

Regardless of any metric, stating that there is a transmission need in Alaska is an understatement.

Benefits:

Alaska must upgrade its outdated territorial grid system to a modern, 21st-century standard, incorporating N-1 contingencies. This transformation is crucial for integrating renewables and other new energy sources. Bringing Alaska on par with the rest of the nation with a first-world transmission grid will reduce energy costs and enhance energy security, laying a self-reliant solid energy foundation for Alaska's future.

How Do We Get There?

Strategies and Tactical Steps for Advancing Action

Develop and create a State of Alaska Power Transmission Fund under AEA to promote, secure and establish federal authorization and appropriations funding to develop an additional 3000 miles of transmission corridor for Alaska to move Alaska from pre-territorial grid system to a grid system that ignites development and integrates renewables, displaces more expensive diesel generation reducing energy costs.

Create a system that allows AIDEA, AEA, and Federal funding to develop, design, build, execute, and operate additional regional transmission sections and lengths under a unified plan.

Implementation Timeline:

This action item has a blend of Immediate and short-term tasks for implementation.

Expected Results:

Alaska must exponentially increase its haphazard and subgrade transmission system if Alaska is to develop and maintain its economic viability. Federal funding for a State of Alaska Power Transmission Fund State of Alaska Power Transmission Fund will enable the State to develop other State Energy Plan action items. Creating a robust transmission network in the Railbelt and Coastal areas is essential for Alaska to prosper economically.

This structured execution list to develop a State of Alaska Power Transmission Fund offers a clear roadmap of the proposed steps to promote the Action to lower the energy cost for Alaskans while providing the means and funding to transform the dire transmission situation as it exists within Alaska today.



STRATEGY B-1: ALASKA POLICY RECOMMENDATIONS

ACTION B-1.5:

Establish and provide valuable energy planning and modeling metrics from State data sources, where available and requested (such as DMV electric vehicle registrations and Air Source Heat Pump (ASHP) installation) by individual communities.

Background:

Alaska community energy planning ensures a stable and sustainable energy future, providing the optimum lowest cost power over time. For community leaders, citizens, and utilities to effectively plan growth, demand, and evolving market conditions, specific metrics are required to guide decisions continuously and track progress. Further, Alaska already has many data sets available, although this information is not readily boiled down and packaged for usefulness for community decision-makers or is not widely known. There is a demand and need for community data and metrics to make wiser community energy decisions, to prepare and request grant funding, and to position communities for greater energy self-reliance, energy security, and ultimately to lower the cost of energy-heating, electricity, and transportation.

Some key indicators and metrics could assist local energy planning and decision-makers in no priority order.

1. Energy Consumption:

- Total energy consumed per sector (e.g., residential, commercial, industrial).
- Per capita energy consumption.
- Forecasted energy consumption due to market condition changes-shore power, industrial loads, beneficial electrification in heating and transportation sectors.

2. Energy Production:

- Total energy produced from various sources (e.g., solar, wind, fossil fuels).
- The capacity factor of energy-producing installations (how often they produce energy compared to their maximum potential).

3. Energy Efficiency:

- Energy saved due to efficiency measures.
- Forecasted energy efficiency savings due to energy efficiency measures

4. Energy Import/Export:

- Amount and type of energy and units imported/exported to or from an Alaska community or utility.
- Dependency percentages on external energy sources that can be improved with local or regional energy resources or transmission.
- Forecasted energy dependence reduction with the forecasted increase in local or regional renewable energy production to include impacts from beneficial electrification in heating and electric transportation.

5. Renewable Energy:

- Percentage of total energy derived from renewable sources.
- Installed capacity and generation from each renewable source (e.g., solar, wind).
- Forecasted installed capacity and generation from each renewable source.

6. Carbon Emissions:

- Total carbon emissions from energy production.
- Carbon intensity (carbon emissions per unit of energy produced).
- Forecasted Carbon Emission reductions from new carbon free energy sources or due from transformation from fossil fuels to renewable energy from beneficial electrification.



ACTION B-1.5 (CONT.):

Establish and provide valuable energy planning and modeling metrics from State data sources, where available and requested (such as DMV electric vehicle registrations and Air Source Heat Pump (ASHP) installation) by individual communities.

7. Economic Metrics:

- Cost of energy production per unit.
- Economic benefits of energy projects (jobs created, GDP impact).
- Forecasted savings over life cycle of new generation and economic quantification of other benefits-emission reductions, fuel savings, etc.

8. Energy Resilience and Reliability:

- Duration and frequency of power outages.
- Energy storage capacity.
- Forecasted energy storage capacity needs and economic and ESG quantification of benefits.

9. Energy Transition Goals:

- Targets for renewable energy adoption.
- Reduction targets for carbon emissions.
- Forecasts for transition goals with data to support transition initiatives

10. Energy Sales, volume by customer sector and price Information

- Transparent and accurate information provides objective fuel alternative calculations for collaborative community decision-making.
- Forecasted sales based on beneficial electrification, shorepower, industrial load growth, and converting interruptible sales to conditional firm power.

11. Overhead of utility costs

- Overhead cost data for comparison between similarly sized utilities to determine and approve managerial efficiencies.

12. Infrastructure Health

- Age, condition, and capacity of energy infrastructure (e.g., power plants, transmission lines).
- Forecasted infrastructure replacement and upgrades with new technology that provides operational control benefits and improves grid security and resilience.

13. Electric Vehicle number and percentage of community vehicle stock

- Estimated annual power demand and consumption
- Forecasted loads in 1 to 5 years.

14. Electric Vehicle public level 2 and level 3 charging stations

- Estimated annual power demand and consumption
- Forecasted loads in 1 to 5 years.

15. Heat Pumps

- Total Number of Air Source Heat Pump units in a community or utility, annual installation growth, and percentage breakdown of building and housing units by fuel source.
- Forecasted loads in 1 to 5 years.

16. Shorepower Installations

- Total number of units, annual sales, and peak demand
- Forecasted loads in 1 to 5 years.



STRATEGY B-1: ALASKA POLICY RECOMMENDATIONS

ACTION B-1.5 (CONT.):

Establish and provide valuable energy planning and modeling metrics from State data sources, where available and requested (such as DMV electric vehicle registrations and Air Source Heat Pump (ASHP) installation) by individual communities.

There is a cost to producing, maintaining, and updating information. Therefore, a cost-benefit analysis would need to occur to determine the net value of each data metric. However, as data-driven decision makes progress and we mature Alaska community energy decision-making from black box data to transparent and open information scenario, data is required for planning, decision making and also enabling Alaska communities to be armed with data when competing against communities from other States in competitive federal infrastructure, energy, and emission reduction grants.

Lastly, this recommendation does not include the requirement or decision bar that Alaska or communities must have perfect data or complete data to make decisions. Too much useless data or requirement to have impossible-to-achieve data has historically plagued some communities and energy decisions, or opposition will use stall-by-study tactics to impede energy development and transmission build-out required to elevate Alaska on an energy security level with the rest of the country. In other words, let us not fall into the trap that the enemy of good is the requirement for perfect or complete information.

Benefits:

Alaska can help make wise local energy planning decisions, forecasting demand and supply and using data to apply for grants and assistance requiring data-driven applications. All of these actions enable community leaders with utilities and public input to plan for a community's energy needs while working toward the lowest energy cost.

How Do We Get There?

In general, "how we get there" is to support the recommendations from the Data Subcommittee of the AESTF with the insistence that the viewpoint, practical delivery, and service from data is customer-focused, being the Alaska community and decision-makers. Data should be "community customer-driven" and community-centric in its approach and philosophy of conducting and maintaining data to help and propel Alaskan communities using data in a practical and common sense approach to drive energy affordability, reliability, and resilience for Alaskans now and for the future.

Establish a Data Department within the Alaska Energy Authority (AEA) with regulatory authority to request and receive data from any electrical utility in Alaska that is issued a Regulatory Commission of Alaska (RCA) Certificate of Public Convenience and Necessity (CPCN).

Establish an energy data governance committee that is responsible for establishing minimum protocols for data collection, quality, storage, use, and access that is "customer focused" on delivering data to customers for practical and cost-effective decision-making that propels and not slows the development of energy projects, solutions, and transmission systems.

Fund data capacity on a cost/benefit and the biggest bang for the buck approach to maximize data benefits at the lowest cost.

Improve existing energy data and collect new, needed data. Consider that if a utility and/or community desires state support from PCE and grant applications, it volunteers to judiciously supply requested data as required to ensure maximum participation in the production and use of energy data for the benefit of all Alaskans.



STRATEGY B-1: ALASKA POLICY RECOMMENDATIONS

ACTION B-1.5 (CONT.):

Establish and provide valuable energy planning and modeling metrics from State data sources, where available and requested (such as DMV electric vehicle registrations and Air Source Heat Pump (ASHP) installation) by individual communities.

Implementation Timeline:

This action item has a blend of Immediate and short-term tasks for implementation as suggested by the Data Subcommittee of the Alaska State Energy Task Force.

Expected Results:

The expected results from this roadmap are for the State funded AEA Data department, as suggested and articulated by the Data Subcommittee mission is to provide customer-relevant information, metrics, and data that assist Alaska communities and utilities in making practical and wise energy decisions that lower the cost of energy, provide energy security and increase resilience for Alaska communities and electrical utilities.

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STRATEGY B-1: ALASKA POLICY RECOMMENDATIONS

ACTION B-1.6:

Recruit, Train, and Enhance Alaska workforce with technical training for advancing beneficial electrification to lower Alaska energy costs and sustain Alaska's growing energy infrastructure.

Background:

Alaska has entered an unprecedented demand for apprentices and skilled electrical trade workers that are critically necessary to build out and achieve the required generation, transmission, distribution, storage, and commercial/residential wiring essential for Alaska to migrate from higher-cost fuel sources to lower-cost fuel sources. Various agencies, labor organizations, and contractors operate many training and apprenticeship programs to meet the training needs of Alaskans without an inventory of forecasted demand. When there's a shortage of workers, it disrupts the balance of supply and demand. This scarcity means Alaskans must pay higher wages to attract the limited available labor. As companies spend more on recruitment and possibly higher wages, these increased costs inflate energy project costs and raise energy costs.

Additionally, in energy generation and transmission systems, where contracts are awarded to the lowest bidder, companies must increase their bid amounts to cover the higher labor expenses and contingency risks in obtaining qualified employees to perform the work. This phenomenon can lead to higher prices for Alaska generation and transmission, construction delays, and potential quality declines. Worker shortages have immediate impacts; they ripple through the entire Alaska economy, driving up energy and transmission costs and potentially slowing growth.

Benefits:

Alaska can achieve its labor and workforce training requirements through a unity of effort with multi-year "forward planning" to engage Alaskans to successfully enter critical job skills in the electrical trades to build out the infrastructure needed to assist Alaskans in lowering the cost of energy with a self-reliant and local Alaskan workforce. With its unique challenges and vast geographic expanse, Alaska requires an innovative approach to workforce development, particularly in critical sectors like electrical trades. Meeting the state's labor and workforce training needs necessitates a holistic, long-term strategy from secondary to post-secondary and trade schools.

How Do We Get There?

Conduct an objective Alaska inventory demand and forecasting for critical skilled jobs with a multi-year forecast and then develop a plan to recruit, train, and place Alaskans to meet Alaska's needs for these critical skill sets.

Calibrate and coordinate with Alaska Dept. of Labor, Intl. Brotherhood of Electrical Workers (IBEW), other organized labor, Alaska Vocational Technical Center (AVTEC), Associated General Contractor of Alaska (AGC), Alaska Safety Alliance to optimize resources and coordinate together to maximize results to ensure that Alaska's labor market has the skilled workers necessary to achieve results on time and on budget.

Engage trades and secondary school systems in developing advanced secondary education, enabling a seamless transition from secondary education to successful building trades job placement.

Implementation Timeline:

This action item has a blend of Immediate and short-term tasks for implementation.

Expected Results:

By harnessing Alaska's own resources and prioritizing its people, especially the coastal and rural communities, the state can build a self-reliant workforce ready for its unique challenges and opportunities that are essential in helping Alaskans lower the cost of energy, producing energy generation, transmission, and energy security for our communities and maintaining grid resilience.



STRATEGY B-2: STATE OF ALASKA COORDINATION WITH FEDERAL AGENCIES AND FEDERALLY RECOGNIZED TRIBES RECOMMENDATIONS

ACTION B-2.1:

Establish an Alaska/Federal Renewable Energy Policy Force to develop, collaborate, and prioritize State energy, plan, goals, and rights to optimally advance renewable energy transmission lines on federal lands.

Background:

The State of Alaska has the highest disparity of power costs from one community or region to another. Some of America's highest-cost energy communities amplify that these communities are in the Tongass and Chugach Forests lands controlled by the US Department of Agriculture (USDA) US Forest Service (USFS). Currently, there is limited or no State input or consultive rights provided by the State of Alaska to affect the federal policies of the federal government in a collaborative and constructive dialogue that lowers the cost of energy for Alaskans and reduces emissions and other national goals of energy security and lessening dependence on fossil fuels.

RS 2477 (Revised Statute 2477) refers to a provision in the Mining Act of 1866, which allowed for the construction of highways across public lands not reserved for public uses. In simple terms, RS 2477 granted a "right-of-way" to build roadways and transmission lines over public land that provide access to renewable energy project areas.

Section 4407 of Public Law 109-59 (Section 4407) of a 2005 federal transportation funding bill refers to a Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU). SAFETEA-LU was a bill sponsored by the late Congressman Don Young and was signed into law by President George W. Bush in August 2005. Section 4407 provides as follows: Notwithstanding any other provision of law, the reciprocal rights-of-way and easements identified on the map numbered 92337 and dated June 15, 2005, were enacted into law. Section 4407 Rights of Way provides roadways and transmission line corridors over the Tongass National Forest, instrumental for the State of Alaska's interests in providing access to renewable energy project areas and transmission lines. However, Tongass Forest Land Management Plans, Land Use Designations (LUD), and other federal regulations are at odds with the State exercising its rights.

Benefits:

The development of state policies and goals to negotiate and execute with federal agencies for developing cost-effective renewable energy and transmission lines on federal lands lowers energy costs for Alaskans while assisting federal agencies in meeting national clean energy goals through mutual State-Federal cooperation, respect, and understanding.

How Do We Get There?

Establish an Alaska-Federal Renewable Energy Working Group between the Governor's Office, Attorney General, Alaska Energy Authority, Alaska Department Commissioners, the USDA Forest Service and US Dept. of Interior (DOI) landholding agencies, and the US Department of Energy (DOE) and USDA Rural Utilities Services officials that promote energy development in Alaska to find common ground to develop renewable energy projects and related transmission lines to collaboratively and successfully open up Alaska federal lands for Alaska renewable energy development and transmission execution.

Utilize the creation of an Alaskan-Federal Renewable Energy working group to Develop, Draft, and Execute mutually approved agreements between the authority of the Governor and the Executive Orders of the President of the United States and initiate binding Congressional legislation and Alaska legislation as needed for asserting the State of Alaska consultive and input rights on the development of federal lands for the purpose of renewable energy development and transmission siting authorities. This collaboration aims to ensure Alaska's consultative rights in renewable energy projects on federal lands and to shape necessary legislation.



PRIORITY B. COASTAL GENERATION, DISTRIBUTION, AND STORAGE

STRATEGY B-2: STATE OF ALASKA COORDINATION WITH FEDERAL AGENCIES AND FEDERALLY RECOGNIZED TRIBES RECOMMENDATIONS

ACTION B-2.1 (CONT.):

Establish an Alaska/Federal Renewable Energy Policy Force to develop, collaborate, and prioritize State energy, plan, goals, and rights to optimally advance renewable energy transmission lines on federal lands.

Seek, negotiate, and obtain through agreement or through initiated federal legislation State primacy on existing and potentially new renewable energy Power Site Classification Sites (PSC) found on federal lands in Alaska identified in established Bureau of Land Management Public Land Orders and aimed for greater access to these PSC for development.

<https://archive.org/details/powersiteclassif02geol/mode/2up>

Seek, negotiate, and obtain through agreement or through initiated federal legislation a Renewable Energy Land Use Designation (RELUD) and Transmission Line Land Use Designation (TLUD) that overlay and have priority over all other Land Use Designations in the Tongass and Chugach Forest Land Use Management Plans.

Negotiate with federal agencies and obtain State Primacy over RS 2477. A component of actions to accomplish through an Alaska-Federal Renewable Energy working group is to gain State primacy and control all Alaska RS 2477 Rights of Way located on or near federal lands to facilitate access to and from renewable energy sources for development. Seek to have State primacy on all RS 2477 trails and roadways in Alaska located on federal lands to facilitate access to and from renewable energy sites for development.

https://www.blm.gov/sites/default/files/docs/2022-05/PDF_AK_State_of_Alaska_RS2477_BLM_AK_RAC_May_2022_James_H_Walker.pdf

Enlist support from the Alaska Congressional Delegation to introduce legislation to have Alaska and other affected States gain state primacy over RS 2477 Rights of Way located in their respective states.

A component of actions to accomplish through an Alaska-Federal Renewable Energy working group is to gain State authority over Section 4407 easements in Southeast Alaska or near federal lands to facilitate access to and from renewable energy sources for development. These easements were created pursuant to a land exchange ratified by Congress in Section 4407 of a 2005 federal transportation funding bill.

https://dot.alaska.gov/sereg/projects/sitka_katlianbayroad/assets/Section_4407_Easement.pdf

Implementation Timeline:

This action item has a blend of Immediate and short-term tasks for implementation.

Expected Results:

The State of Alaska, with careful and planned execution, can Advance and Promote Alaska's renewable energy development with cooperation and support from the federal government to achieve national purposes while reducing the energy cost of Alaskans. The expected results will lower Alaska's energy costs and reduce the dependency on imported fuels, using local Alaska land and energy resources.

This structured execution list offers a clear roadmap of the proposed policy initiatives and steps to promote the coordinated and cooperative development of energy resources on federal lands to achieve lower costs and meet national goals for reducing emissions.



STRATEGY B-2: STATE OF ALASKA COORDINATION WITH FEDERAL AGENCIES AND FEDERALLY RECOGNIZED TRIBES RECOMMENDATIONS

ACTION B-2.2:

The State of Alaska partners and collaborates with Federally recognized Alaska Tribes and federal agencies to develop mutually beneficial Energy Development and Transmission/Distribution to advance the State Energy Plan to lower the cost of energy.

Background:

Coastal Alaska communities are keen on lowering their energy, heating, and transportation costs through collaboration of State, Tribal, and federal resources. Federally Recognized Tribes actively explore energy solutions and are supported in tribal energy endeavors by federal resources. Tribal goals align with the broader Alaska state mission of making energy more affordable for all residents. Furthermore, many federally recognized tribes have designated staff working specifically on energy projects, often in collaboration with federal entities. By working together, the State of Alaska, Federally Recognized Tribes, and our shared Alaskan communities can assist the wider Alaskan population by cooperatively developing and sharing efficient energy solutions. This joint effort can enhance the creation, sharing, and use of energy across the State. Additionally, recent legislative changes in the Inflation Reduction Act actively seek to fund energy developments with tribal entities, which could provide lower-cost energy benefits and local energy resilience in many areas of Alaska.

Federal agencies, specifically the US Department of Energy (DOE) and the US Department of Agriculture, Rural Utilities Services (USDA-RUS) have rural and tribal-centric programs that can advance the State of Alaska's goals to develop energy infrastructure and reduce energy costs for Alaskans.

Benefits:

The State of Alaska, specific federal agencies, and federally recognized tribes have mutually shared goals to provide low-cost heating, electricity, and transportation to Alaskans and Alaskan communities. By identifying and sharing information, plans, and initiatives and then establishing a framework to cohesively advance energy generation, transmission, distribution, storage, and heating solutions, the State of Alaska, federal agencies, and Alaska Tribes can optimize resources and benefits to lower the cost of energy and increase energy security for Alaskans.

How Do We Get There?

Establish a working group of regional tribes interested in or working on energy solutions to lower the cost of energy with State of Alaska officials, Alaska Energy Authority (AEA), the Governor's Office, and the Denali Commission. The working group would identify areas of mutual assistance to advance locally sustainable energy developments and transmission projects by strategically and tactically optimizing federal and tribal funds to achieve mutual energy goals of lower-cost and self-sustaining energy systems.

Identify and attract federal tribal energy program participation, technical assistance, and financing to work with state agencies to streamline permitting, regulatory processing, and funding to advance projects and transmission to lower energy costs and provide community energy security.

The US government has specific energy assistance programs for tribal entities to partner with the State of Alaska, Communities, and public/private developers of generation and transmission that work together with a unity of purpose and effort to assist in lowering the cost of energy for Alaskans.

If deemed viable and valuable, create a Fed State Navigator role or duties assigned to an existing position to assist rural and tribal entities in navigating the State permitting processes to develop and construct local renewable energy and transmission projects using tribal and federal funding with State assistance.



STRATEGY B-2: STATE OF ALASKA COORDINATION WITH FEDERAL AGENCIES AND FEDERALLY RECOGNIZED TRIBES RECOMMENDATIONS

ACTION B-2.2 (CONT.):

The State of Alaska partners and collaborates with Federally recognized Alaska Tribes and federal agencies to develop mutually beneficial Energy Development and Transmission/Distribution to advance the State Energy Plan to lower the cost of energy.

Implementation Timeline:

This action item has a blend of Immediate and short-term tasks for implementation.

Expected Results:

This Action item, with its implementation steps, offers a roadmap to gain common ground, synergies, and practical outcomes for Alaska communities with overlapping interests of federally recognized tribes to achieve the mutually beneficial goal of lowering the cost of energy for Alaskans.

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STRATEGY B-3: ALASKA HYDROPOWER GENERATION RECOMMENDATIONS

ACTION B-3.1:

Foster, Support, and Assist Hydropower development and transmission in Alaska to lower energy costs, provide energy security, and spur economic growth, job creation, and prosperity for Alaska.

Background:

The foundation of Alaska's most cost-effective energy lies in its legacy hydropower infrastructure, some of which dates back decades or even a century. With proper maintenance, these hydropower systems have a life expectancy of over 100 years. Once the hydropower project's initial debts are settled, they yield consistent, renewable, and lowest-cost power, benefiting multiple generations of Alaskans and commerce today and well into the future.

Historically, Alaska's economic vitality is due directly to its hydropower assets. Whether the small local hydropower systems that powered early mining and fishing sectors or the subsidized projects like Bradley Lake and Snettisham Hydro and the hydropower investments from the era of the Four Dam Pool, these assets have consistently provided low-cost energy, driving Alaska's prosperity.

Both in Alaska and across the U.S., the National Hydropower industry is expanding to include river hydrokinetics, tidal, and marine power projects as hydropower projects. As these technologies evolve, Alaska's extensive coastline and lengthy rivers — greater than all other states combined — position it to capitalize on these innovations and benefit from these advancements to provide energy security and lower the energy cost for Alaska.

Today, hydropower accounts for 29% of Alaska's electricity. This reliable power source underpins vital sectors of the Alaskan economy: mining, fisheries, military, and tourism, ensuring energy security and economic stability for the state.

Benefits:

Hydropower in Alaska is not just an energy source; it's our Alaska energy DNA. Historically, hydropower has consistently delivered the state's most affordable power. By investing in hydroelectric infrastructure, we're not just tapping into a proven energy solution but securing Alaska's energy future. This investment strategy, rooted in a track record over a century, offers unmatched cost-effectiveness in the long run and past most investment cycles. While the initial outlay is significant, the long lifecycle of hydropower — exceeding 100 years — ensures that Alaska is planting seeds for today's needs and also reaping benefits for future generations with sustainable, clean energy. Investing in hydropower is our Alaska commitment to Alaska's proven energy model, where hydropower assets exist for a brighter, more affordable, energy-secure future for Alaska.

How Do We Get There?

Evaluate and execute adaptive investment practices from the Bradley Lake and Four Dam Pool model and combine them with some of the prudent practices of BC Hydro to create a public-private State of Alaska corporation to develop, invest, own, and oversee operations of new hydropower facilities in Alaska.

Provide and fund AEA the authority to identify and invest in regional hydropower and hydropower transmission and distribution assets for the public benefit.

Encourage utilities to financially participate in ownership and long-term offtake arrangements to provide energy security and growth in service areas or to allow utilities to service new large industrial loads-mining and cruise industry shore power.

Combine federal tax incentives, grants, and loan programs to optimize lower-cost financing and equity costs to lower the cost of power now and over the life of the assets.

Establish a State of Alaska Power Fund to own and operate Alaska hydropower assets that can provide regional benefits. Establish State of Alaska administered and supervised investment mechanisms and equity ownership for utility, tribal, and local community investments, combining local equity with federal financing through existing or new federal programs.



STRATEGY B-3: ALASKA HYDROPOWER GENERATION RECOMMENDATIONS

ACTION B-3.1 (CONT.):

Foster, Support, and Assist Hydropower development and transmission in Alaska to lower energy costs, provide energy security, and spur economic growth, job creation, and prosperity for Alaska.

Seek federal legislation to provide funding for a State of Alaska Power Fund to help Alaska provide energy security for Alaska military bases and installations for the benefit of Alaska support for Alaska-based military and Coast Guard operations for national security.

Identify, support, and fund to build local and regional hydropower to serve Alaska communities and multiple transmission interconnected communities at economies of scale, providing lower-cost power. Alaska Energy Authority (AEA) and Alaska Industrial Development and Export Authority (AIDEA) financially support through existing programs and investments any executable-ready hydropower project (permitted/licensed, designed, economically feasible) that will provide lower-cost electricity over the project's life.

Identify, seek, and support the construction of hydropower assets to export power to provide economies of scale for hydropower projects to lower the energy cost for Alaskans by selling export power to finance and economically enhance a hydropower project's economic viability.

Develop and support economically and with regulatory approval intertie connections and transmission corridors to strategically place transmission to interconnect current and future transmission to provide transmission corridors to known and undeveloped hydropower locations.

Establish a State/Federal Power board, through Congressional legislation, to cooperatively have the Federal government land owners actively assist the State of Alaska in developing hydropower assets on federal lands.

Review, refine, and amend Sec. 42.45.350. Licensing for water-power development projects and enacting state regulatory control over small hydropower development with Alaska interdepartmental coordination to support hydropower projects with abbreviated regulatory permitting.

Governors Office and AEA work with the Congressional delegation to craft legislation to ensure that FERC-exempt or state-licensed hydropower projects qualify for all eligible federal Production Tax Credits (PTC) and Investment Tax Credits (ITC).

The Governor's Office and AEA work with Alaska's Congressional delegation to craft and support legislation identifying hydropower as a renewable carbon-free energy source for all federal legislative, regulatory, taxation, incentive, and national security purposes.

AEA provides an option for Renewable Energy Credit (REC) participation through a statewide pool. This pooling approach aims to achieve economies of scale when selling RECs. By doing so, both state-owned and other hydropower projects can maximize the value of Alaska's hydropower RECs. The ultimate goal is to reduce the cost of electricity for Alaskans.

These action steps have statewide applicability for other regions of Alaska where critically important hydropower development assets exist.

Implementation Timeline:

This action item has a blend of Immediate for execution-ready hydropower and short-term, mid-term, and long-term tasks for hydropower in earlier analysis and development stages.

Expected Results:

This structured execution list offers a clear roadmap of the proposed steps to promote the Action to lower the energy cost for Alaskans for future generations.



ACTION B-4.1:

Integrate and Promote Heat Pump technology and systems (ASHP, SWHP, GSHP) as an Alternative Energy Resource in Coastal Alaska.

Background:

Heat pumps are widely used in Northern Europe, with over 90% market penetration. They efficiently provide affordable heating even at temperatures as low as 13° F, lowering the costs in these arctic, subarctic, and temperate regions.

| | | 2014 | 2015 | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 |
|---|---------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Table 3.5-1: Heat pump market shares development by country - space heating | Denmark | 43.9% | 54.3% | 56.5% | 69.2% | 72.0% | 75.8% | 80.4% | 82.6% | 91.4% |
| | Estonia | 77.5% | 77.6% | 80.7% | 80.5% | 79.9% | 80.5% | 82.5% | 86.0% | 86.7% |
| | Finland | 88.1% | 86.6% | 87.4% | 88.9% | 90.5% | 92.5% | 93.5% | 94.7% | 96.5% |
| | Norway | 95.4% | 96.0% | 96.9% | 96.5% | 96.7% | 96.6% | 96.3% | 97.6% | 98.0% |
| | Sweden | 90.6% | 90.8% | 91.3% | 91.4% | 91.0% | 90.9% | 90.8% | 92.1% | 94.8% |

Source EHPA-European Heat Pump Market and Statistics 2023

Several communities of Alaska are experiencing a significant transformation from more expensive fossil fuel heating sources to lower-cost heat pumps, saving Alaska households.

Benefits:

How can Alaskans and Alaskan communities capture the lessons learned from Northern Europe, Canada, and Maine in ensuring that Alaskans gain from these successes and promote the same opportunities to lower their energy costs and improve their quality of life by spending less of their income on home heating?

How Do We Get There?

Strategies and Tactical Steps for Advancing Heat Pump Adoption in Alaska:

- a. Collaborate Internationally: Partner with the European Heat Pump Association <https://www.ehpa.org/> and the International Energy Administration Heat Pump Centre <https://heatpumpingtechnologies.org/about/heat-pump-centre/> to leverage models and programs that have successfully increased heat pump adoption. Collaborate with Provinces of Canada that have heat pump adoption programs
- b. Collaborate with Maine State Housing Authority and Efficiency Maine to learn of their programs to adapt and adopt a tailored State of Alaska heat pump program with the following suggestions
- c. Homeowner Financing: Offer zero or low-interest loans to homeowners through AHFC and related programs, enabling Alaskans to transition to cost-effective heat pump heating systems.
- d. Business and Public Facility Financing: Provide zero or low-interest loans via AHFC and other state organizations for businesses, apartment complexes, schools, governmental buildings, and NGO facilities to adopt heat pumps. This effort aims to reduce heating expenses for these entities, ultimately benefiting Alaskans.
- e. Community Heating Solutions: Allocate funds for community District Heating projects that utilize heat pumps, further decreasing energy expenses for Alaskan residents.
- f. Have AHFC publish and adopt for use the Juneau Commission of Sustainability fuel price calculator to assist communities and individual households with their annual fuel savings and use the savings to assist in financing for heat pump purchase and installations https://juneau.org/wp-content/uploads/2019/06/jcos_fuel_price_calculator.xlsx
- g. Bulk Purchasing: Collaborate with top manufacturers and suppliers to buy heat pumps in bulk, ensuring Alaskans receive a discounted rate and, consequently, more affordable heating solutions.
- h. Workforce Training: Invest in workforce development initiatives with Alaska’s trade unions and contractor associations. High-quality training ensures high-quality heat pump installations across Alaskan communities.



STRATEGY B-4: ALASKA MARKET INITIATIVES

ACTION B-4.1 (CONT.):

Integrate and Promote Heat Pump technology and systems (ASHP, SWHP, GSHP) as an Alternative Energy Resource in Coastal Alaska.

i. Public Education: Partner with Alaskan non-profits such as Alaska Heat Smart and tribal organizations with heat pump programs to educate the public about heat pump benefits. This includes offering building assessments for heat pump suitability and providing unbiased advice and recommendations.

j. Utility Billing Integration: Obtain RCA authorization allowing electrical utilities to introduce on-bill financing. This lets Alaskans conveniently pay off their heat pump loans directly through their utility bills, streamlining the repayment process for consumers and AHFC alike.

k. RPACE-Residential Property Assessed Clean Energy. Consider State adoption of a streamlined, easy-for-consumer RPACE program. USDOE best practice guidelines: <https://www.energy.gov/sites/prod/files/2016/11/f34/best-practice-guidelines-RPACE.pdf>

l. Federal Support: Pursue federal aid and funding to bolster State of Alaska initiatives and community projects. This support will drive the widespread adoption of heat pumps, ultimately reducing energy costs for Alaskans.

Implementation Timeline:

This action item has a blend of Immediate and short-term tasks for implementation.

Expected Results:

The State of Alaska, with careful and planned execution, can Advance and Promote Heat Pump technology and systems (ASHP, SWHP, GSHP) as an Alternative Energy Resource in Coastal Alaska that is tried and proven in other arctic, sub-arctic, and temperate locations. The expected results will lower Alaskan's heating costs and reduce the dependency on imported fuels, creating demand for the development of local energy resources to displace imported fuels.

This structured execution list offers a clear roadmap of the proposed steps to promote the adoption of heat pumps in Alaska to lower the cost of heating in Alaska.

DRAFT

**ACTION B-4.2:****Plan, finance, and support the execution of Shore power at Public and Private Cruise Docks to Sell Excess Energy to Cruise Ships.****Background:**

Alaska set the standard for cruise ship shore power in Juneau, a model now global. This system benefits cruise lines financially, extends their stay in Alaskan ports, and fortifies our coastal grids. All modern cruise ships, including those being built today, are shore-power compatible. Seward and Whittier, with their utilities, are now developing these facilities. Efficient shore power involves precise transmission infrastructure, substations, and quick-connect equipment for cruise ships requiring 3MW to 8MW each. For perspective, Juneau's Franklin dock, with full shore power utilization, recorded over 6,000 MWh in a single cruise season. Such infrastructure investments uplift not just the cruise sector they also bolster community resilience and present affordable energy alternatives, enhancing community energy reliability and assisting the State and communities to reduce the cost of power for Alaskans.

Benefits:

By spearheading shore power, Alaska boosts its grid reliability, attracts local energy investments, and showcases greener, emission-free ports—enhancing its global appeal. The Alaska shore power task and purpose propels job growth and infrastructure enhancement, supports industries, augments energy resilience, and slashes energy bills for its residents.

How Do We Get There?

Alaska Energy Authority (AEA) provides technical oversight and assistance to communities, Independent Power Producers (IPP's), and local utilities to develop a shore power electrification plan to provide shore power at all cruise dock facilities in Alaska.

AEA and Alaska Industrial Development and Export Authority (AIDEA) support public-private transmission, distribution, and generation investments to execute shore power in Alaska communities using state head tax funding distributed and accountable to AEA.

Dept of Commerce and Community Development (DCCED) AEA, and the Regulatory Commission of Alaska (RCA) encourage communities to develop shore power planning for future-proofing generation and distribution infrastructure to meet current and future demand, fully utilizing Alaska generation and transmission resources.

AEA/AIDEA Develop a technology term sheet and outline for communities using known and established Alaska and worldwide shore power engineering and infrastructure firms established with tried and proven late generation (automated quicker connect and disconnect times) shore power distribution, BESS, and shore-to-ship connection infrastructure. EPS-Anchorage, WABTEC Stemman Technik, and other late shore power generation systems.

State of Alaska engage with Alaska's congressional delegation to modify federal transportation statutes and programs to include and support cruise marine vessel port funding on par with freight ports.

State of Alaska, AEA Establish and encourage cruise line industry participation and support in statewide shore power planning.

AEA/AIDEA Support by encouraging and funding power generation projects that support firm power generation for cruise line shore power during cruise season and supply winter load power in the off-season to bolster local energy resilience and security.

Identify legislative and regulatory modifications to support shore power installations in coastal communities to support economic development.

State, DCCED, and private companies combine Alaska tourism marketing programs to incorporate Alaska's strategy to shore power Alaskan ports to assist in marketing Alaska as a clean port state destination.



STRATEGY B-4: ALASKA MARKET INITIATIVES

ACTION B-4.2 (CONT.):

Plan, finance, and support the execution of Shore power at Public and Private Cruise Docks to Sell Excess Energy to Cruise Ships.

AEA provides engineering systems to assist with pre-engineer systems to the extent possible to reduce purchase costs, gain consistency in systems, and incorporate local Battery Energy Storage Systems to enable local utilities to ramp up and provide quick connect and disconnect times using proven late-generation technologies used in fast connecting ports worldwide.

Implementation Timeline:

This action item has a blend of Immediate and short-term tasks for implementation.

Expected Results:

The State of Alaska has the potential to take a leadership role in shore power development by executing a carefully planned strategy. By focusing on shore power, Alaska can expand the demand for renewable energy. This increased demand can then stimulate further growth and construction of the state's renewable energy sources. The ultimate goal is for Alaska to be recognized globally as a leader in shore power implementation. Successful results have multiple benefits: higher revenues for utilities, encouraging investment in the energy generation and distribution infrastructure, enhancement of the State's energy resilience, reliability, and capacity, and decreasing energy costs for the residents of Alaska.

Additionally, dock electrification resources could provide electrical delivery from ship to shore emergency power to communities in the event of natural disasters providing an energy security back up for distressed communities.

DRAFT

**ACTION B-4.3:**

Beneficially electrify the Alaska Ferry Fleet to lower cost of transportation, and emissions and assist in reducing the cost of power in coastal communities.

Background:

Alaska Department of Transportation & Public Facilities (DOT&PF) and Southeast Conference (SEC) are partnering to conduct a Low Emission Ferry Research project. Alternative fuel powered, low-emission, and electric ferries could be a game-changer for Alaska's Marine Highway System, as DOT&PF starts to replace AMHS's aging fleet in upcoming years. Fuel efficient ferries could increase the range and capacity of the fleet, potentially increasing service to communities and reducing AMHS operating costs.

Benefits:

How can Alaskans, Alaskan communities, utilities, and independent power producers work together or independently to finance, execute, and operate Battery Energy Storage System (BESS) to integrate additional power supplies, assist in serving cruise ships, and stabilize local and regional transmission and distribution grids.

How Do We Get There?

Strategies and Tactical Steps for Advancing Action

- Refine shoreside energy storage system sizing for expected future vessel schedules.
- Prepare site plans for each port where a shore-side charging BESS is beneficial to meet current and future charging demands. Consider:
 - Permitting difficulties;
 - Floating vs. Shoreside.
- Investigate the capacity of available hydro power and impacts to the community where it is expected to be the primary source for powering electric ferries. Evaluate the impact to local power costs from periods of constricted supply when diesel power plants must be utilized to supplement or replace hydro power.
- Develop benefit calculation for avoided greenhouse gas emissions due to use of electric ferry routes powered by greenhouse gas neutral-generation electricity.
- During Low/No Emission port and BESS design, consider incorporating electric motor vehicle (National Electric Vehicle Infrastructure Program – NEVI) charging stations.

Implementation Timeline:

This action item has a blend of Immediate and short-term tasks for implementation.

- 3-5 years to secure funding from IJJA and other sources for specific ferry replacement projects.
- 5-10 years to complete design and construction of IJJA-financed vessels.

Expected Results:

- Lower carbon emissions compared to conventional diesel-mechanical engines.
- Increased electric utility revenues from purchase of electricity by BESS.
- Purchase of electricity at less than peak-rates for lower cost energy to AMHS ferries.
- BESS supported microgrids in AMHS communities.
- More reliable ferry service to AMHS communities.

This structured execution list offers a clear roadmap of the proposed steps to promote the Action to lower the energy cost for Alaskans.



STRATEGY B-4: ALASKA MARKET INITIATIVES

ACTION B-4.4:

Identify and support the colocation of industrial loads (e.g., data servers) with Alaska Hydropower facilities for synergies to lower energy costs.

Background:

Alaskan entities and government agencies built many legacy Alaska hydropower projects in Coastal Alaska to serve industrial loads. Many of the legacy hydropower assets of Juneau were developed, constructed, and operated by mining interests to power mills and lower the cost of mining. This tried and proven model of building hydropower to subscribe the generation output to large mines and other industrial loads provides economies of scale to finance large hydropower and transmission investments by creating economies of scale. The hydropower development history of Alaska and the colocation of industrial loads offer valuable lessons learned for Alaska as Alaska leans forward to increasing its energy security, and resilience and achieving lower-cost energy. These legacy hydroelectric facilities built in the past now provide the lowest-cost wholesale power in Alaska, proving the long-term investment model through providing long-term energy dividends in some cases for over 100 years.

The large customer concept whereby a hydropower project serves the Alaska industrial base, be it a military installation, a mine, a fish processing plant, or future industries like data service centers or even transferring a power consumptive industry (ferries, cruise ships, trains—such as electrifying the Alaska railroad) from diesel to electric provides the opportunity to colocate industrial loads near hydropower generation that can provide firm and conditionally firm power to establish lynchpin industry and employment in Coastal and Alaskan communities situated with hydropower resources. This concept is a tried and proven Alaska energy model based on historical development.

Today, the added benefit of producing clean power to meet Environmental, Social, and Governance (ESG) further compels the attraction of industry to use Alaska hydropower. ESG refers to the three central factors in measuring an investment's sustainability and societal impact on a company or business. These criteria are increasingly becoming crucial to investment decisions, as many investors recognize the long-term importance of sustainable operations for business success. In the context of investing, Socially conscious investors evaluate and screen investments for sustainability and ethical considerations using ESG metrics. Companies with strong ESG profiles may be deemed more future-ready and less risky in facing regulatory or reputational challenges. Colocating industrial loads with clean hydropower can competitively assist the State and investing companies in reducing regulatory and reputational risks.

Additionally, hydropower offers another product form that can generate revenues to lower costs of energy: cold water. The cold outtake water from a hydroelectric facility is valuable for circulating cooling water for data servers that require chilled rooms to operate efficiently. Colocating future data server operations at or near hydropower locations is a recent phenomenon that offers lower-cost energy to operate the data servers and reduces server chilling costs necessary to operate data server centers at peak efficiency.

Indeed, large industrial loads such as mines, data server centers, fish processing and freezing operations, and other large energy-consumptive industries provide the requisite economies of scale to finance and build hydropower opportunities in Alaska but also invigorate clean industrial development that not only creates and sustains family wage jobs but also provides the trajectory to lower energy costs through economies of scale.

Benefits:

Strategically collocating large industries, such as mines, fish processing plants, military bases, and data centers, near hydropower facilities is a game-changer for Alaska. It offers a dual benefit: fostering economic growth and ensuring cost-effective, sustainable energy for Alaskans. By leveraging the enduring 100-year lifecycle of hydropower, which has the lowest cost over time, Alaska can capitalize on its historic model of harnessing hydropower to drive industrial growth. This symbiotic relationship boosts Alaska's economic prosperity, creating jobs and opportunities and guarantees the most affordable power for its residents.



STRATEGY B-4: ALASKA MARKET INITIATIVES

ACTION B-4.4 (CONT.):

Identify and support the collocation of industrial loads (e.g., data servers) with Alaska Hydropower facilities for synergies to lower energy costs.

How Do We Get There?

1. Unified Policy Development :
 - Policy-making entities: Governor’s Office, Department of Commerce and Community Economic Development (DCCED), Alaska Industrial Development and Export Authority (AIDEA), and Alaska Energy Authority (AEA) can collaborate to devise a policy promoting the recruitment and facilitation of industrial load development in Alaska to mate with future hydroelectric development. This collaboration of policy can leverage the historically successful Alaskan energy model to achieve multiple and synergistic Alaska benefits: local economic prosperity, energy security, job creation, and long-term reductions in energy costs.
2. Promotion of Long-term Hydropower Resources:
 - DCCED, AIDEA, AEA, and RCA should advocate and actively recruit for developing enduring hydropower resources, emphasizing their anchoring by industrial loads. Through strategic industrial collocation, hydropower, and related transmission, Alaska can harness the compounded benefits and ensure lower-cost energy for its residents throughout the century-long lifecycle of hydropower assets.
3. Legislative Action for Industry Attraction:
 - The Alaska legislature should enact laws and regulations incentivizing industries to align with Alaska’s hydropower potential. Legislative action would underscore the vast economic advantages and clean energy outcomes resulting from maximizing the use of existing hydropower and fostering the creation of new hydropower projects within the State to advance the stated multiple and synergistic Alaska benefits that this initiative inspires.
4. Assistance and cooperative support for local initiatives and developments
 - DCCED, AIDEA, AEA, and RCA assist local communities and hydropower developers in local initiatives and development of optimizing hydropower assets and industrial loads to provide synergistic Alaska benefits, including lowering the energy cost for Alaskans.

Governors office, DCCED, AIDEA, and AEA, develop a policy that supports the recruitment and attraction of industrial load development in Alaska using this proven Alaska energy model for multiple beneficial purposes: prosperity, energy security, job creation, and long-term lower energy costs.

DCCED, AIDEA, AEA, and RCA support the development of long-term hydropower resources anchored by industrial loads and collocation/transmission of hydropower to achieve the synergistic benefits and obtain lower-cost energy for Alaskans over the 100-year life cycle of hydropower assets.

Alaska legislature enacts legislation to attract industry and support the collocation of Alaska industrial development to subscribe to new hydropower generation economically, recognizing the substantial economic prosperity and clean energy emissions benefits of fully subscribing to current hydropower and developing and constructing new hydropower in Alaska.

Implementation Timeline:

This action item has a blend of Immediate to long-term tasks for implementation.

Expected Results:

This proposed roadmap enables Alaska to tactically accelerate the positive development of new hydropower assets by strategically positioning and transmitting clean hydropower energy to industrial loads. The economies of scale of industrial sales assist hydropower in meeting economic viability while paying down the debt to offer the lowest cost power over time. This tried and proven Alaska hydropower/industrial load model can repeat itself as Alaska looks to develop the next tranche of hydropower assets to meet Alaska’s energy needs to propel economic prosperity and achieve lower-cost energy for Alaska’s current and future generations.



STRATEGY B-4: ALASKA MARKET INITIATIVES

ACTION B-4.5:

Identify, Assist, and fund Battery Energy Storage Systems (BESS) and other Energy Storage Systems (ESS) for successful integration into Coastal communities to increase energy security, increase grid resilience, and lower energy costs.

Background:

BESS/ESS technology has advanced to the point that indicates significant potential savings for communities that are dependent on diesel power generation for electrical needs. Some new supercapacitor systems boast 97% efficiency and estimate up to 75% savings in diesel fuel consumption to provide equivalent power using BESS/ESS. US DOD is looking at exploiting this technology in Alaska. Other utilities have deployed other BESS technologies and energy storage works, promising to stabilize Alaska grid networks and microgrids.

There are several BESS demonstration projects currently being tested in Alaska. BESS technology provides a potential opportunity to significantly lower the cost of power generation in some rural and coastal Alaskan communities.

Background on Battery Energy Storage System (BESS):

1. Functionality: Simply, BESS stores electrical energy for use at a later time. BESS is especially important for integrating intermittent forms of renewable energy and immediately supplying large quantities of energy in seconds or minutes (supplying power to cruise ships) while stabilizing grid operations.

2. Components: A BESS typically includes the following:

Batteries: These are the actual storage units and can be of various types, such as lithium-ion, lead-acid, flow batteries, etc.

Power Electronics: This includes inverters and converters, which help transform electricity from AC to DC (and vice versa) and control the flow of electricity.

Control Systems: These manage the BESS's operations, ensuring it charges and discharges at the correct times and maintains optimal performance.

Thermal Management Systems: Maintaining a stable temperature is crucial for battery longevity and safety.

3. Types of Batteries: The most common type used in modern BESS installations is the lithium-ion battery due to its high energy density, long cycle life, and decreasing costs. However, other types, like flow and solid-state batteries, are being researched and deployed for specific applications.

Advantages of Battery Energy Storage Systems (BESS):

1. Grid Stability and Reliability: BESS can absorb or release power quickly, helping to stabilize grids, especially when there's intermittent renewable generation like solar or wind, and is especially useful in turning on and off large periodic loads like cruise ships.

2. Peak Shaving: Batteries can be charged during off-peak hours when demand (and often cost) is low and then discharged during peak demand times. BESS helps utilities and consumers reduce costs and can prevent the need for firing up expensive and potentially polluting "peaker" power plants or forego electric sales waiting for ramp-up times from other sources.

3. Integration of Renewables: Batteries make it easier to integrate renewable energy sources by storing excess energy when it's available and releasing it when needed.



ACTION B-4.5 (CONT.):

Identify, Assist, and fund Battery Energy Storage Systems (BESS) and other Energy Storage Systems (ESS) for successful integration into Coastal communities to increase energy security , increase grid resilience, and lower energy costs.

- 4. Microgrids & Energy Independence:** In areas with unreliable grid connections or no connection at all, BESS can form the backbone of Coastal community grids that can operate independently and withstand outages.
- 5. Reduced Transmission and Distribution Investment:** By placing BESS at strategic locations, utilities can delay or avoid expensive upgrades to transmission and distribution infrastructure.
- 6. Load Leveling:** By storing energy during periods of low demand and releasing it during high demand, BESS can help level out the demand curve, ensuring a consistent power supply and reducing stress on the grid.
- 7. Backup & Emergency Power:** BESS can serve as an emergency power source during outages, ensuring continuity in critical facilities like hospitals.
- 8. Support for Electric Vehicle (EV) Charging:** As EV adoption grows, BESS can ensure that rapid charging stations get the power they need without causing strain on the local grid.
- 9. Economic Benefits:** With the suitable RCA regulatory structures in place, BESS operations can pay for themselves by providing various grid services, from frequency regulation to capacity services.
- 10. Environmental Benefits:** BESS can significantly reduce greenhouse gas emissions by enabling more renewable energy integration and reducing the need for fossil fuel-based peaker plants.

Benefits:

How can Alaskans and Alaskan communities, utilities, and independent power producers work together or independently to finance, execute, and operate Battery Energy Storage System to integrate additional power supplies, assist in serving cruise ships, and stabilize local and regional transmission and distribution grids, while lowering energy costs and improving their quality of life by spending less of their income on home energy costs and promoting local economic development?

How Do We Get There?

Strategies and Tactical Steps for Advancing BESS/ESS Adoption in Alaska:

- a. Gather data from modeling and from existing BESS/ESS demonstration projects in Alaska to determine actual diesel fuel savings, and power reliability to meet demand, maintenance, and operation costs.
- b. Gather proven performance data from BESS projects to prove out cost-saving claims.
- c. Funding: Support local community efforts to access to Energy Improvement in Alaska to include rural or Remote Areas grants through the US Dept of Energy, Office of Clean Energy Demonstrations (OCED).
- d. PPP: Encourage rural/coastal communities to pursue innovative financing vehicles to attract public-private-partnerships (PPP) and investment.
- e. Public Facility Financing: Offer zero or low-interest loans to communities through AHFC and related programs for power generation to purchase and install BESS/ESS systems to improve reliability and lower energy costs.



STRATEGY B-4: ALASKA MARKET INITIATIVES

ACTION B-4.5 (CONT.):

Identify, Assist, and fund Battery Energy Storage Systems (BESS) and other Energy Storage Systems (ESS) for successful integration into Coastal communities to increase energy security, increase grid resilience, and lower energy costs.

f. Bulk Purchasing: Encourage local communities in regions to pursue discounted contracts with BESS/ESS providers for multiple unit purchases.

g. Workforce Training: Invest in workforce development initiatives with Alaska's trade unions and contractor associations. High-quality training ensures high-quality BESS/ESS operation and maintenance across Alaskan communities.

Implementation Timeline:

This action item has a blend of Immediate and short-term tasks for implementation.

Expected Results:

Alaska's Energy Revolution with BESS/ESS

- **Strategic Approach:** Alaska can effectively deploy BESS/ESS, a proven energy solution in similar climates.
- **Multiple Gains:** This leads to reduced power costs, decreased fossil fuel use, full utilization of energy resources by saving energy surpluses when available, and lower Greenhouse Gas (GHG) emissions.
- **Power Stability:** Enhances energy reliability throughout Alaska in both interconnected and stranded grid systems.
- **Coastal Advantages:** Enables coastal areas to support cruise ships and port growth.

In essence: With careful planning, Alaska can capitalize on BESS/ESS for cleaner, cheaper, and more resilient power, benefiting railbelt, rural, and coastal communities.

This structured execution list offers a clear roadmap of the proposed steps to promote the adoption of BESS/ESS in Alaska to lower the cost of heating in Alaska and improve local energy security and grid resilience, helping communities achieve task force goals of Affordability, Reliability, and Resilience.



STRATEGY C-2: INFRASTRUCTURE INVESTMENT

ACTION C-2.5:

Fund and Construct Opportunities to Connect Rural Communities through Transmission Lines and Other Shared Energy Projects.

Background:

Due to the remote nature of many Alaskan communities, many rural Alaskan communities must generate their own power for electricity and heat. Rural power generation in many cases is from diesel fueled generators. This vastly increases the cost of power in rural Alaska. Infrastructure investments that may help lower the cost for some rural Alaskan villages are building transmission lines from the Railbelt utility system to local villages, between local villages, or between local villages and private or public sector anchor tenants to grow economies of scale. This would allow villages connected to other power grids to enjoy power costs comparable to Railbelt residents.

Benefits:

Alaskans, Alaskan communities, utilities, and independent power producers work together or independently to finance, construct, and maintain transmission infrastructure tied to the Railbelt or other grids to ensure remote/rural Alaskan communities enjoy similar cost of power as Railbelt residents.

How Do We Get There?

Strategies and Tactical Steps for Advancing Action

- Identify the appropriate organization(s) that will oversee the development and construction of the grid. Task 1 is to ensure that all impacted parties are onboard, and that the organization has appropriate authority.
- Coordination and cooperation between energy sources and requirements of an integrated grid.
- Consolidate the variety of interconnection proposals that have been performed to date and select those most technically feasible.
- Estimate greenhouse gas reductions, fuel savings, and other direct savings.
- Assemble the team to recommend approaches to accomplish technically feasible alternatives i.e., segmented versus consolidated grid system.
- Investigate alternative financing options, including direct state investment, allocation of PCE funds, federal & state grants, subsidized loans, and P3 opportunities.
- Identify priorities that bring maximum and immediate return. The savings that can be applied to the balance of the project.
- Evaluate opportunities to co-develop energy infrastructure with transportation and other infrastructure developments

Implementation Timeline:

- Within 1 year have the organization identified and established.
- Within 2 years:
 - Have a technically feasible alternative identified.
 - Implement design and engineering.
 - Identify the most likely funding sources and environmental requirements.
- By year 3:
 - Obtain necessary permits.
 - Develop schedule for construction activities (define scope).
 - Procure qualified contractors.
- By year 5:
 - Authorize construction.
 - Establish operating guidelines and responsibilities.



STRATEGY C-2: INFRASTRUCTURE INVESTMENT

ACTION C-2.5 (CONT.):

Fund and Construct Opportunities to Connect Rural Communities through Transmission Lines and Other Shared Energy Projects.

Expected Results:

- Fuel cost savings from reduced diesel dependency.
- Greenhouse gas reductions.
- Reliability and resiliency benefits.
- Spur local economic development and employment.
- Expanded opportunities for distributed renewable resources.
- Reduced dependency on PCE (could funds be reallocated i.e., M&O).
- Measure and demonstrate the project as a template for other regions

DRAFT

**ACTION C-3.4:**

Grid modernization and automation

Background:

Due to the remote nature of many Alaskan communities, there is potential for loss of power (electric/heat) without awareness outside of the community. Power loss may also reduce or prevent the ability to communicate outside of the community, threatening public health and life safety during temperature or climate extremes. Power plant automation, remote sensing equipment or use of growing drone technology, data management and artificial intelligence, and other emerging technologies provide the ability to automatically or remotely to avoid power system failures or outages, and alert power providers with notice of a failure to focus and accelerate recovery and restoration efforts.

Benefits:

Alaskans, Alaskan communities, utilities, and independent power producers work together or independently to finance, execute, and operate plant automation, remote sensing technology, unmanned aerial systems, data-driven preventative maintenance programs and other grid modernization enhancements to ensure remote/rural Alaskan communities are able to avoid or recover from power failures as expeditiously as possible, while improving reliability and reducing operating costs.

How Do We Get There?

- Enhance communications infrastructure and reliability. For example, ensure all new power conductors incorporate a fiber optic data and communications line.
- Enhance manually operated power plants with automation and remote monitoring and control operations including necessary communications infrastructure upgrades i.e. fiber optic and other platforms. Prioritize critical functions including remote black start, emergency stop, economic dispatch, video monitoring, and fuel system monitoring capabilities.
- Incorporate automation, remote monitoring and control, computer based data collection and storage predictive and preventative maintenance platforms, and communications upgrades into all new or replacement power plant projects.

Implementation Timeline:

- Within 1 year identify pilot communities and develop a modernization framework for those communities. Identify currently automated rural communities and capture lessons learned and best practices for guidance and knowledge-sharing to advise and streamline pilot deployments.
- Year 2 – Perform feasibility assessments, identify and select pilot communities or energy systems for modernization. Aggregate funding sources that can be allocated to selected projects to be undertaken by the producers and project partners. Identify adjacent opportunities for infrastructure enhancements to share the costs and benefits of grid modernization (automation of community water and sewer treatment facilities, for example).
- Years 3-5 deploy grid modernization enhancements to pilot community/communities and document and refine the process to serve as a template for additional communities. Each implementation should be continuous from inception to completion.

Expected Results:

- Improved grid reliability.
- Faster response and restoration times for outages.
- Improved operating efficiencies.
- Improved operations and maintenance of rural system to reduce preventable or catastrophic failures.
- Improved communications platforms that can be co-purposed to meet other community needs
- Provide opportunities to cost-share for other community infrastructure modernization initiatives.



STRATEGY F-1: PLACEHOLDER STRATEGY TO BE DETERMINED

ACTION F-1.6:

Provide budgetary support for the Regulatory Commission of Alaska (RCA).

Background:

The RCA is responsible for regulation of public utilities and pipeline carriers in Alaska. Most of the statutes and regulations that govern RCA authority were developed during a period of time when the electrical generation and transmission utilities in Alaska generally operated islanded systems primarily built around baseload generation. However, as Alaska has grown and the technology for generation, transmission, and storage has advanced, the responsibilities of the RCA have grown more complex.

The Alaska Energy Security Task Force (AESTF) did not conduct a review sufficient to be able to recommend a comprehensive overhaul of the statutes or regulations that govern the RCA. Anectodely, it is understood that there are some improvements that could be made to facilitate more efficient utility regulation. It is also understood that the RCA is evaluating its own process and regulations to identify potential efficiencies.

However, the AESTF did find that within all expected scenarios, the RCA must be provided sufficient budgetary support to be able to attract and retain the highly skilled technical, legal, and administrative staff necessary to help adjudicate the complex and rapidly increasing pace of decisions that are necessary in today's to support Alaska's continued access to affordable, reliable, and resilient energy.

Benefits:

Provide enhanced regulatory support to better facilitate proposed recommendations of the AESTF.

How Do We Get There?

Executive branch collaborate with RCA to incorporate staff budgetary recommendations into 2024 operating budget.

Implementation Timeline:

2024 Alaska operating budget.

Expected Results:

Reduced casefile processing time by a highly skilled RCA will support Alaska's transition to a more integrated and technologically advanced energy utility landscape.

DRAFT