

Alaska Energy Authority - Renewable Energy and Efficiency Programs

FY2024 Request: \$5,000,000
Reference No: 64641

AP/AL: Appropriation

Project Type: Energy

Category: Development

Location: Statewide

House District: Statewide (HD 1 - 40)

Impact House District: Statewide (HD 1 - 40)

Contact: Curtis W. Thayer

Estimated Project Dates: 07/01/2023 - 06/30/2028

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Brief Summary and Statement of Need:

Develop the Alaska Energy Authority's (AEA) renewable energy & efficiency programs (biomass, efficiency, electric vehicle, energy storage, geothermal, heat recovery, hydroelectric, solar, wind and nuclear). These programs grow Alaska's clean energy economy. These programs provide critical technical support for communities interested in developing renewable energy and efficiency projects. Funds are used for reconnaissance level studies and feasibility analysis to help identify project locations, and technical assistance and support for utilities and communities interested in developing cost-effective renewable energy and energy efficiency projects. This request leverages federal funds.

Funding:	FY2024	FY2025	FY2026	FY2027	FY2028	FY2029	Total
1004 Gen Fund	\$5,000,000						\$5,000,000
Total:	\$5,000,000	\$0	\$0	\$0	\$0	\$0	\$5,000,000

<input checked="" type="checkbox"/> State Match Required	<input type="checkbox"/> One-Time Project	<input type="checkbox"/> Phased - new	<input type="checkbox"/> Phased - underway	<input checked="" type="checkbox"/> Ongoing
20% = Minimum State Match % Required		<input type="checkbox"/> Amendment	<input type="checkbox"/> Mental Health Bill	

Operating & Maintenance Costs:

	<u>Amount</u>	<u>Staff</u>
Project Development:	0	0
Ongoing Operating:	0	0
One-Time Startup:	0	0
Totals:	0	0

Prior Funding History / Additional Information:

Sec8 Ch1 SLA2021 P70 L16 HB69 \$5,000,000
 Sec1 Ch16 SLA2013 P4 L11 SB18 \$2,000,000
 Sec1 Ch17 SLA2012 P6 L3 SB160 \$4,800,000
 Sec7 Ch43 SLA2010 P20 L24 SB230 \$8,000,000

Project Description/Justification:

This request helps AEA leverage funding from federal partners such as, but not limited to, the Denali Commission, the United States Department of Energy, and the United States Department of Agriculture. This request is imperative for the continued development of renewable energy fields specific to Alaska. Federal funds typically require a 20 percent state match.

The work conducted with these funds strongly supports the success of the Renewable Energy Fund and supports achieving the 50 percent renewable energy goal as well as the 25 percent reduction in energy usage through efficiency measures.

In addition to providing a "pipeline" of qualified projects to advance towards construction, such as the

Renewable Energy Grant Fund program and the Power Project Fund, this program removes barriers and solves problems in each of the different renewable energy technology types. Each program area works on statewide resource assessments, regulatory and permitting issues, outreach, and stakeholder involvement in order to advance cost-effective renewable energy in Alaska. The programs provide a foundation of support critical to the proper development of renewable energy technologies in Alaska. Each of the renewable technology areas and efficiency have a working group facilitated by AEA that supports the proper application of their technology in both urban and rural communities in the state. These general funds will support the continuation of these programs.

The technology programs include the following focuses and projects:

Biomass: The AEA's biomass energy program focuses on exploring opportunities to increase utilization of wood for energy production throughout the state. The program provides technical assistance, project management, and funding to develop wood-fired systems that displace fuel oil for heating public facilities.

Efficiency: The AEA's energy efficiency program focuses on rural community outreach and education, public buildings, commercial buildings, and public infrastructure such as street lighting and water & sewer infrastructure. AEA's core efficiency program efforts are focused on two primary goals: 1) achieving the most cost-effective energy efficiency gain, and 2) providing services where energy costs are critically high.

Electric Vehicle: The transportation sector is rapidly transitioning to electric vehicles (EVs). These vehicles and their charging infrastructure can bring new industries to Alaska, helping to promote the state economy and save Alaskans money. Alaskans have identified barriers to adoption such as range anxiety and performance in cold climates. The AEA has a mission to lead the effort to minimize barriers that inhibit EV adoption in Alaska and will continue to seek other federal opportunities (IIJA) to help support advancement of this program.

Energy Storage: Energy storage allows for energy from non-firm generation sources such as wind or base load thermal generation sources such as natural gas or coal to be stored for later use. The stored energy is used during periods of high electrical demand to avoid turning on additional generation units or to provide energy when the non-firm source is not generating. Energy storage can be accomplished through the use of several different technologies such as, but not limited to, battery energy storage systems (BESS), water storage, pumped hydro, flywheels, and compressed air. Battery storage can be used in many different ways but typically it is to peak shave, support system stability, or prevent blackouts.

Geothermal: Alaska has 141 volcanoes and over 100 hot springs. Many of these have the potential for providing energy for agriculture, space heating and other power generation purposes.

Heat Recovery and CHP: Combined heat and power (CHP) project development activities, including "waste" heat recovery, are supported through a U.S. Department of Energy (DOE) cost-share program for technical assistance and project development.

Hydroelectric: The hydroelectric program focuses on improving efficiency and quality in hydroelectric development, lowering the cost of construction, and coordinating with state, federal, municipalities,

tribal entities, and private investors in analyzing, planning, and generally assisting hydroelectric project development.

Solar: The AEA provides solar energy information, resources, and technical assistance. The Power Project Fund and the Renewable Energy Fund have provided grant and loan financing for several EV projects on the Railbelt and in rural Alaska.

Wind: Since 2012, Alaska's wind energy capacity has increased 400 percent. This growth is supported by AEA's Renewable Energy Fund and information sharing among wind energy producers and stakeholders. In partnership with the Wind Working Group, AEA facilitates annual educational events including the wind-diesel and energy storage workshops. The AEA assists communities in evaluating wind energy and often aids in rural community decision-making.

Nuclear: The AEA's work in nuclear energy includes general program management, assisting with the Nuclear Roadmap Development, stakeholder engagement, and working with partners like the Alaska Center of Energy and Power.