

ALASKA ENERGY AUTHORITY

# DOE FUNDED PROJECTS

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# About AEA

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**AEA's mission is to reduce the cost of energy in Alaska. To achieve this mission, AEA strives to diversify Alaska's energy portfolio — increasing resiliency, reliability, and redundancy.**



**Railbelt Energy** – AEA owns the Bradley Lake Hydroelectric Project, the Alaska Intertie, and the Sterling to Quartz Creek Transmission Line — all of which benefit Railbelt consumers by reducing the cost of power.



**Renewable Energy and Energy Efficiency** – AEA provides funding, technical assistance, and analysis on alternative energy technologies to benefit Alaskans. These include biomass, hydro, solar, wind, and others.



**Power Cost Equalization (PCE)** – PCE reduces the cost of electricity in rural Alaska for residential customers and community facilities, which helps ensure the sustainability of centralized power.



**Grants and Loans** – AEA provides loans to local utilities, local governments, and independent power producers for the construction or upgrade of power generation and other energy facilities.



**Rural Energy** – AEA constructs bulk fuel tank farms, diesel powerhouses, and electrical distribution grids in rural villages. AEA supports the operation of these facilities through circuit rider and emergency response programs.

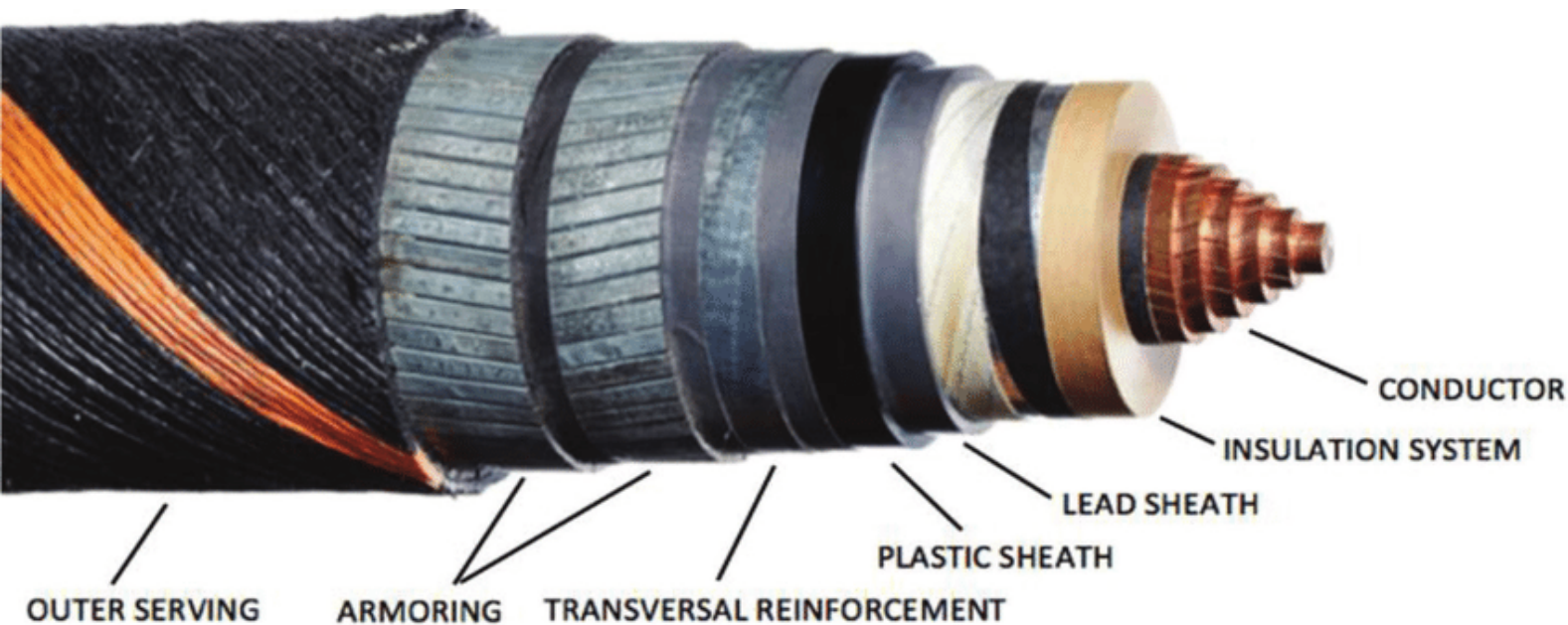


**Energy Planning** – In collaboration with local and regional partners, AEA provides economic and engineering analysis to plan the development of cost-effective energy infrastructure.

\$413 Million (206.5 Million Federal Award and \$206.5 Million Alaska Match)

# GRIP 3, Round 1 - Railbelt Innovation Resiliency (RIR) Project: HVDC Submarine Cable

- The RIR project encompasses several projects — one of them being the installation of **a new submarine high-voltage direct current (HVDC)** transmission line from the Kenai Peninsula across Cook Inlet to the existing Beluga Power Plant — and, if feasible, **one or two battery energy storage systems (BESS)** in the Central (Anchorage) and Northern (Fairbanks) regions.



## Anticipated outcomes and benefits:

- Increases transfer capacity between regions that enables higher renewable energy integration into the electricity system.
- Improves resilience and reliability for tribal and disadvantaged communities in the Railbelt region, and a reduction in reliance on fossil fuel generation and associated emissions.
- Supports the retention of high-quality jobs in the region.
- Creates apprenticeship and internship programs to train a new generation of lineworkers and wireworkers to reinvigorate Alaska's energy workforce.



\$60 Million (Over Five Years)

# Grid Resilience Formula Grant Program, IIJA 40101(d)



Per IIJA section 40101(a)(1), a disruptive event is defined as “an event in which operations of the electric grid are disrupted, preventively shut off, or cannot operate safely due to extreme weather, wildfire, or a natural disaster.”

- Over the next five years, Alaska will receive **\$60 million in federal formula grants** to catalyze projects to increase grid resilience against disruptive events. In August 2023, **the first two years of allocations, \$22.2 million**, was awarded to AEA. Notification of sub-awards are expected 2<sup>nd</sup> QTR 2024, pending DOE approval. In April 2024, AEA applied for **\$17,627,018**, Alaska’s formula allocation for year 3.
- Resilience measures include but are not limited to:
  - Relocating or reconductoring powerlines
  - Improvements to make the grid resistant to extreme weather
  - Increasing fire resistant components
  - Integrating distributed energy resources like microgrids and energy storage
- Formula-based funding requires a **15% state match** and a **33% small utility match**.

\$52 Million (Over Five Years)

# State of Alaska Electric Vehicle (EV) Infrastructure Implementation Plan

- AEA and the Alaska Department of Transportation & Public Facilities (DOT&PF), continue their partnership in deploying the **State of Alaska EV Infrastructure Implementation Plan (The Plan)**.
- The **first round of Alaska NEVI awards was announced on September 25, 2023**. AEA and DOT&PF selected projects in nine communities for a total investment of \$8 million. The \$6.4 million in NEVI funding will be matched with \$1.6 million from private entities selected to install, own, and operate the new EV charging stations.
- On September 29, 2023, the Federal Highway Administration approved the fiscal year 2024 plan. This **unlocked \$11 million in addition to \$19 million** available in the fiscal years 2022 and 2023.
- Phases 2 and 3 of The Plan will develop charging infrastructure in more than 30 communities along the **Marine Highway System** and in hub communities as funding allows.



## State of Alaska Electric Vehicle Infrastructure Implementation Plan FY24



# Home Energy and High Efficiency Rebate Allocations

AEA is collaborating with the Alaska Housing Financing Corporation to distribute Alaska's allocation of \$74 Million

## Home Efficiency Rebates

- Rebates for energy efficiency retrofits range from \$2,000-\$4,000 for individual households and up to \$400,000 for multifamily buildings.
- Grants to states to provide rebates for home retrofits.
- Up to \$2,000 for retrofits reducing energy use by 20% or more, and up to \$4,000 for retrofits saving 35% or more.
- Maximum rebates amounts are doubled for retrofits of low-and moderate-income homes.
- **Alaska's Allocation is \$37.4 million.**
- **No State match is required.**
- **Funding is estimated to be available between fall 2024 and spring 2025.**

## Home Electrification and Appliance Rebates

- Develop a high efficiency electric home rebate program.
- Inclusive of means testing and will provide 50% of the project cost for incomes ranging from 80% to 150% of area median income. Rebates to cover 100% of the proposed cost for incomes 80% of area medium income and below, with similar tiers applied for multifamily buildings.
- Includes a \$14,000 cap per household, with an \$8,000 cap for heat pump costs, \$1,750 for a heat pump water heater, and \$4,000 for electrical panel/service upgrade.
- Other eligible rebates include electric stoves, clothes dryers, and insulation/air sealing measures.
- **Alaska's Allocation is \$37.1 million.**
- **No State match is required.**
- **Funding is estimated to be available between fall 2024 and spring 2025.**



\$62.5 Million (Split Evenly Between AEA and AHFC)



# Solar For All Competition

- On April 22, 2024, AEA and the Alaska Housing Finance Corporation (AHFC) were selected for a **\$62.5 million Environmental Protection Agency’s Solar for All grant**. Low-income and disadvantaged households will benefit from rooftop solar and community solar projects — with no cost matching required from the grantees.
- **Grant will support a two-pronged statewide solar program:**
  - AEA will administer a grant program to develop community solar array projects using a Renewable Energy Fund-style grant program.
  - AHFC will administer a residential rooftop solar
- **Program benefits include:**
  - energy cost savings,
  - increased resiliency,
  - equitable access to solar,
  - asset ownership benefits low income and disadvantaged, communities,
  - workforce development, and
  - reduction in greenhouse gas emissions.

# Other DOE Funding



## **Energy Efficiency Revolving Loan Fund – \$4.8 million**

\$4,782,840 to capitalize an existing residential energy efficiency loan program through AHFC, under which the State shall provide interest rate reductions for loans, and also grants for residential energy audits, upgrades, and retrofits to increase energy efficiency, physical conform and air quality of existing building infrastructure.

## **State Energy Program – \$3.6 million**

\$3,661,930 to develop Statewide Energy Plan and Statewide Energy Security Profile, as well as (1) update AkWarm Energy Modeling Software to the requirements imposed by the Inflation Reduction Act and (2) modernize Alaska Retrofit Information Systems database to accept the AkWarm modifications in collaboration with AHFC.

## **Electric Vehicle (EV) Charging Equipment Competitive – \$1.6 million**

\$1,670,000 to (1) increase access to vehicle electrification in multiple rural and underserved communities across Alaska; (2) demonstrate the benefits of EVs to key decision-makers and the broader public to accelerate clean transportation transition; and (3) support the development of community charging equipment. AEA working with project partners for site selection.

## **State-Based Home Energy Efficiency Contractor Training Grant Program – \$1.3 million**

\$1.3 million to fund a State-Based Home Energy Efficiency Contractor Training Grant Program to develop and implement a state workforce energy program that prepares workers to deliver energy efficiency, electrification, and clean energy improvements, including those covered by the Inflation Reduction Act Home Energy Rebate Programs.

## **Energy Future Grant Program – \$0.5 million**

AEA is partnered with the Alaska Municipal League to evaluate barriers, and assist to streamline energy permitting in 45 communities across Alaska.



\$730 Million – Application Pending

# GRIP 3, Round 2 - Beluga to Healy Overhead High-Voltage Direct Current

- The Railbelt Innovative Resiliency (RIR) Project, Round 2 is a crucial initiative to build a clean, smart, and affordable grid in Alaska. This project consists of constructing a 240-mile high-voltage direct current (HVDC) overhead transmission line from Beluga (west of Cook Inlet) to Healy. Coupled with the RIR Phase 1 project (Subsea cable from the Kenai Peninsula to Beluga), which includes two battery energy storage systems (BESS), this will provide a redundant connection between Bradley Lake Dam and Fairbanks.

## Project Status:

- In January 2024, AEA and the Railbelt Utilities submitted a concept paper to the Department of Energy (DOE) for the project. In late February, we were notified that our concept paper had been reviewed and we were encouraged to submit a full application.
- For this type of project, 50 percent of the concept papers were advanced to the full application phase. The full application was submitted on April 17, 2024, and we expect notification in early third quarter of this year. If successful, DOE will provide 50 percent of the project funding.



\$348 Million (Application Pending)

## BRADLEY LAKE HYDROELECTRIC PROJECT

AEA owns the 120-megawatt hydro facility, which produces ~10% of the total annual electricity at 4.5 cents per kilowatt-hour and is used by more than 550,000 Alaskans on the Railbelt (~54,400 homes/year).



# Dixon Diversion Project

AEA is studying the Dixon Diversion Project to optimize the energy potential of the AEA-owned Bradley Lake Hydroelectric Project. Like the West Fork Upper Battle Creek Diversion Project, the Dixon Diversion would divert water from Dixon Glacier to increase Bradley Lake's annual energy production by 50 percent.

- Located five miles from Bradley Lake and would utilize existing powerhouse at Bradley Lake
- Estimated annual energy 100,000-200,000 MWh (~24,000-30,000 homes)
- Estimated to offset 1.5-1.6 billion cubic feet of natural gas per year in Railbelt power generation (equal to 7.5% of Alaska's unmet natural gas demand projected for 2030)
- AEA submitted an application for **EPA's Climate Pollution Reduction Grants** to fund the Dixon Diversion. Award selections expected summer 2024.
  - Requested funding \$348 million
  - Includes studies, licensing, and construction.

# Contact Us

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