

ALASKA ENERGY AUTHORITY

# AEA OVERVIEW AND FUNDING OPPORTUNITIES

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# About AEA

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.



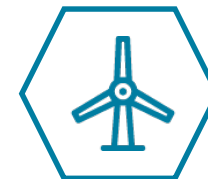
**Power Cost Equalization (PCE)** – PCE reduces the cost of electricity in rural Alaska for residential customers and community facilities, which helps ensure the sustainability of centralized power.



**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.

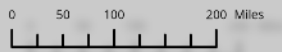
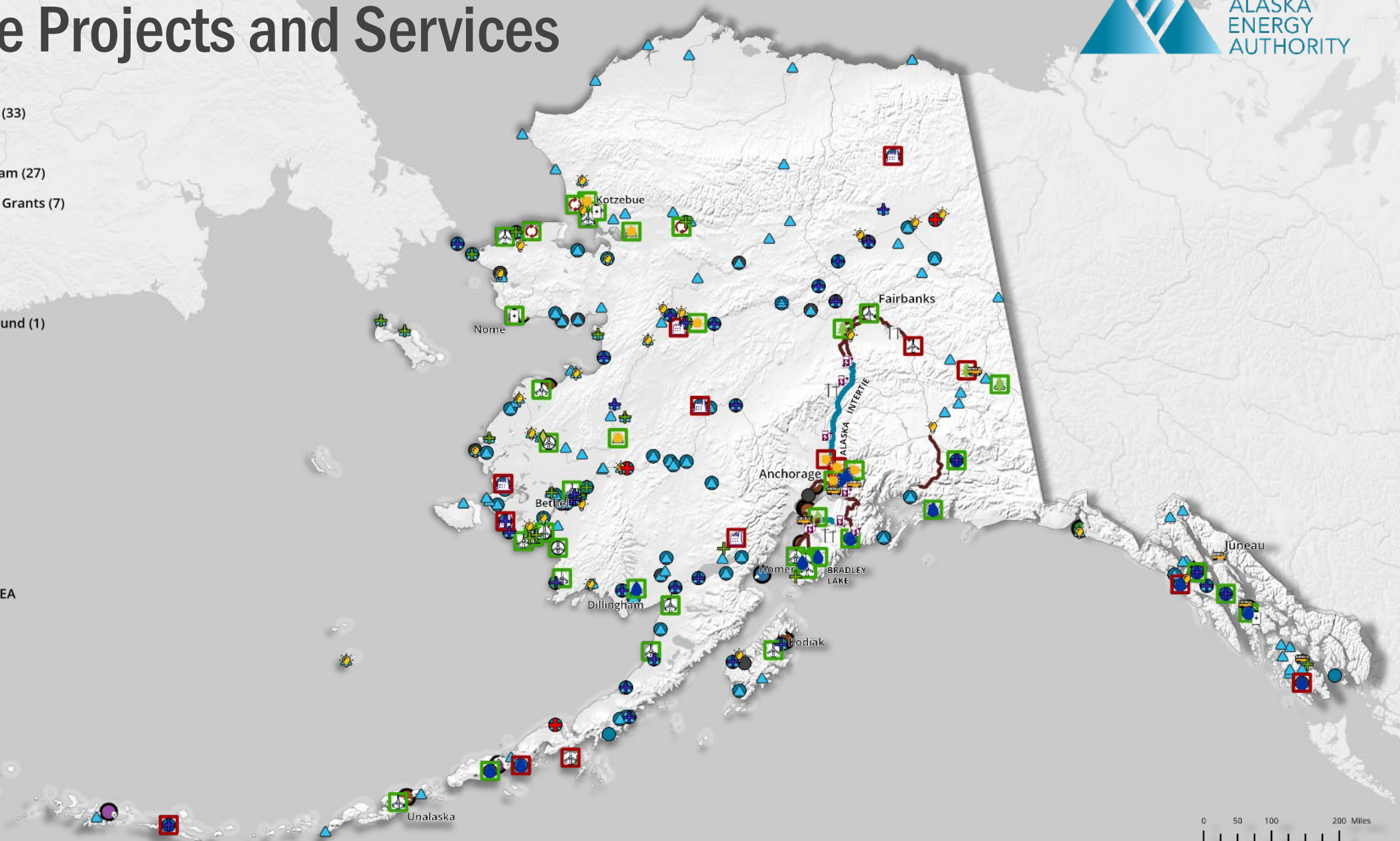


**Energy Planning** – In collaboration with local and regional partners, AEA provides economic and engineering analysis to plan the development of cost-effective energy infrastructure.

# AEA Active Projects and Services



- + Rural Power System Upgrades (33)
- + Bulk Fuel Upgrades (25)
- 💡 Village Energy Efficiency Program (27)
- 🚚 Volkswagen Diesel Settlement Grants (7)
- 🔥 Biogas (1)
- 🌲 Biomass (4)
- 🏠 Diesel (6)
- 💎 Emerging Energy Technology Fund (1)
- 🚗 Electric Vehicles (9)
- 🔥 Heat Recovery (3)
- 💧 Hydroelectric (18)
- 🌊 Hydrokinetic (1)
- ☀️ Solar (8)
- 🔋 Storage (3)
- 🏠 Transmission (3)
- 🌪️ Wind (21)
- Transmission Line owned by AEA
- Other Transmission Line
- Power Project Fund (16)
- Renewable Energy Fund (44)
- ▲ PCE Communities (193)
- + Emergency Assistance (3)
- Circuit Rider Assistance (93)
- Utility Training (81)



# Renewable Energy and Energy Efficiency Programs

AEA's renewable energy and efficiency programs provide technical and financial support for communities interested in developing renewable energy programs with the aim of growing Alaska's clean economy.

## Benefits of Renewable Energy

- Enhanced reliability, security, and resilience of the Alaska's power grids
- Stabilizes cost for electrical generation
- Job creation throughout renewable energy industries
- Reduced carbon emissions and air pollution from energy production
- Increased energy independence
- Expanded clean energy access for Alaska's Railbelt, rural and remote microgrid communities

Houston Solar Farm, Houston, AK



BIOMASS



ENERGY EFFICIENCY



ELECTRIC VEHICLES



ENERGY STORAGE



GEOTHERMAL



HEAT RECOVERY



HYDROELECTRIC



NUCLEAR



SOLAR



WIND

#### CAPACITY

# 120MW

Bradley Lake generators are rated to produce up to 120 MW of power.

#### ENERGY

# 10%

Bradley Lake generates about 10 percent of the total annual electrical energy used by Railbelt electric utilities.

#### GENERATION COST PER KWH

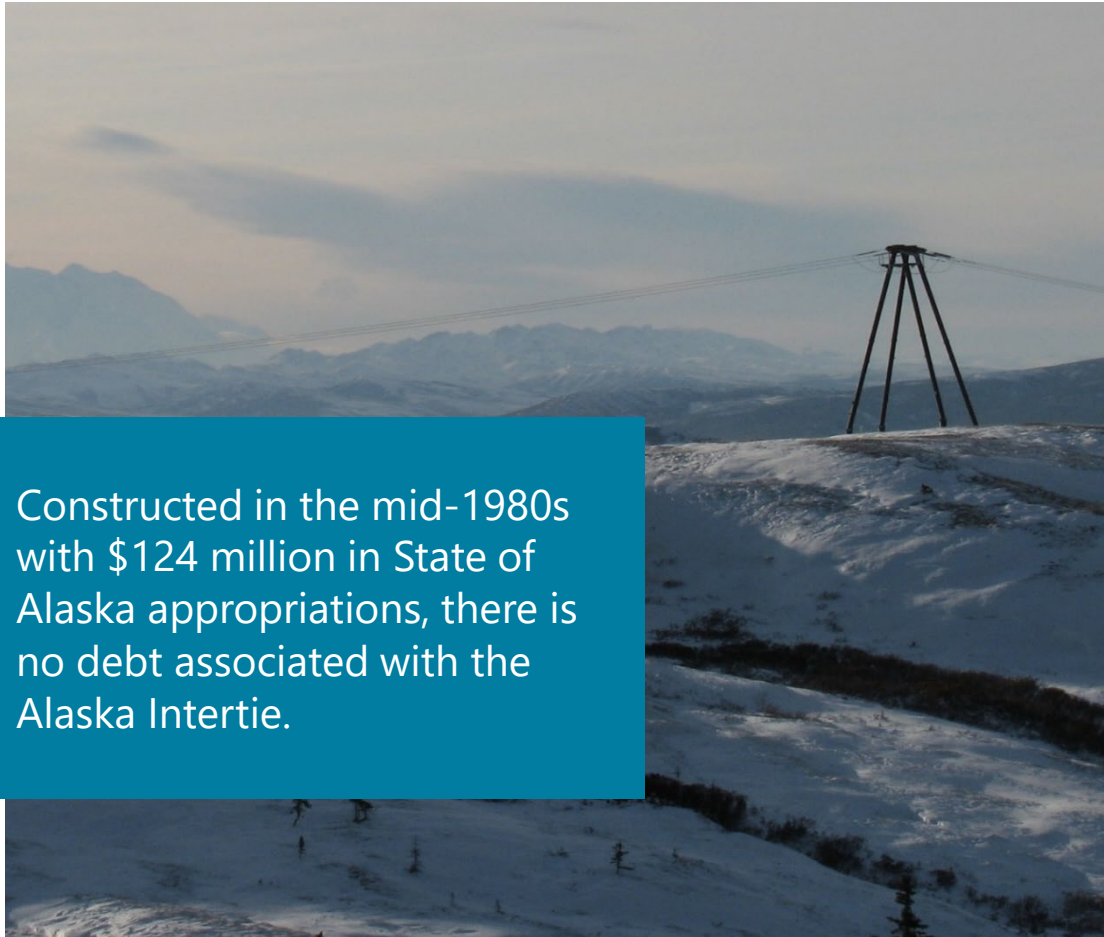
# \$0.04

From 1995 through 2020, the project averaged 392,000 MWh of energy production annually at \$0.04 per kWh.

## Bradley Lake Hydroelectric Project

- Bradley Lake is **Alaska's largest source of renewable energy**. Energized in 1991, the project is situated 27-air miles northeast of Homer on the Kenai Peninsula.
- The 120 MW facility provides **low-cost energy to 550,000+** members on the Railbelt.
- Bradley Lake's **annual energy production** is ~10% of Railbelt electricity at 4.5 cents/kWh (or ~54,400 homes/year) and over \$20 million in savings per year to Railbelt utilities from Bradley Lake versus natural gas.
- AEA, in partnership with the Railbelt utilities, **is studying the Dixon Diversion Project** which would increase the annual energy production of Bradley Lake by 50% — or the equivalent of 14,000-28,000 homes.

# Alaska Intertie



Constructed in the mid-1980s with \$124 million in State of Alaska appropriations, there is no debt associated with the Alaska Intertie.

- AEA owns the **170-mile Alaska Intertie transmission line that runs between Willow and Healy**. The line operates at 138 kV (it was designed to operate at 345 kV) and includes 850 structures.
- A **vital section of the Railbelt transmission system**, the Intertie is the only link for transferring power between northern and southern utilities.
- The Intertie transmits power north into the Golden Valley Electric Association (GVEA) system and provides Interior customers with low-cost, reliable power — between 2008 and 2021, the Intertie **saved GVEA customers an average of \$37 million annually**.
- The Intertie provides benefits to Southcentral customers as well through **cost savings and resilience to unexpected events**.

# Rural Power Systems Upgrades and Bulk Fuel Upgrades

AEA and Federal Partners (Denali Commission)

## Rural Power Systems Upgrade



- ~197 eligible communities
- 42 Active projects



## Bulk Fuel Upgrade



- ~400 rural bulk fuel facilities
- 34 Active projects



# Power Cost Equalization (PCE)

AEA, along with the Regulatory Commission of Alaska, administers the PCE program, which serves remote communities that are largely reliant on diesel fuel for power generation.



193

RURAL COMMUNITIES



91

ELECTRIC UTILITIES



82,000

ALASKANS



The cost of electricity for Alaska's rural residents is notably higher than for urban residents. PCE lowers the cost of electric service paid by rural residents. Ultimately ensuring the viability of rural utilities and the availability of reliable, centralized power.

750 kWh

RESIDENTIAL

Residential customers are eligible for PCE credit up to 750 kWhs per month.

70 kWh

PUBLIC FACILITIES

Community facilities can receive PCE credit for up to 70 kWhs per month multiplied by the number of residents in a community.

\$27.4M

FUNDS DISTRIBUTED

In Fiscal Year 2022, AEA disbursed \$27.4 million for payment of PCE to rural electric utilities for the benefit of our rural communities.



# Renewable Energy Fund (REF) Grant Program

Established in 2008, REF provides grant funding (subject to Legislative approval) incentivizing the development of qualifying and competitively selected renewable energy projects. The program is designed to produce cost-effective renewable energy for heat and power to benefit Alaskans statewide.



## STATEWIDE INVESTMENT

289 Grants Awarded  
Totaling \$317 Million



## ACTIVE PROJECTS

100 Projects in Operation  
62 in Development



## ROUNDS 13-15 AWARDS

56 Projects Awarded  
~\$37 Million Appropriated



## Round 16

Closed August 29, 2023  
28 applications under review

The REF's sunset date provision was repealed with House Bill 62, signed into law by Governor Dunleavy on May 25, 2023.

# Power Project Fund (PPF) Loan Program

The PPF loan program qualifies applicants seeking low-interest loans for eligible power projects. PPF provides local utilities, local governments, or independent power producers with an avenue to seek funding for the development, expansion, or upgrade of electric power facilities. PPF applications continue to increase due to federal matching fund requirements and tax incentives of up to 50 percent authorized by the Inflation Reduction Act.



**Outstanding Loans**  
\$32 Million  
16 Open Loans



**Pending Applications**  
\$5.6 Million  
3 Applications in Process



**Flexible Financing**  
Low-Cost Financing Tailored  
to Project and Borrower



**Competitive Rates**  
Current PPF Interest Rate  
5.37% as of November 2023

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

AEA and the Alaska Department of Transportation & Public Facilities (DOT&PF), submitted their **State of Alaska EV Infrastructure Implementation Plan (The Plan)** to the United States Joint Office of Energy and Transportation, as required by the Infrastructure Investment and Jobs Act's NEVI Formula Program.

- **AEA anticipates receiving a total of \$52 million** in federal funds for this program. Funds will be received by DOT&PF and administered by AEA.
- The **first round of Alaska NEVI awards was announced in September**. AEA and DOT&PF selected projects in nine Alaskan communities for a total investment of \$8 million. NEVI funding will be matched from private entities selected to install, own, and operate new EV charging stations.
- AEA will **build out Alaska's sole Alternative Fuel Corridor (AFC) first**. The AFC is the highway between Fairbanks and Anchorage.



## State of Alaska Electric Vehicle Infrastructure Implementation Plan FY24





**Build out Alaska's  
Alternative Fuel Corridor**



**Build out Alaska's Highway  
and Marine Highway Systems**

**As funding allows** ▶



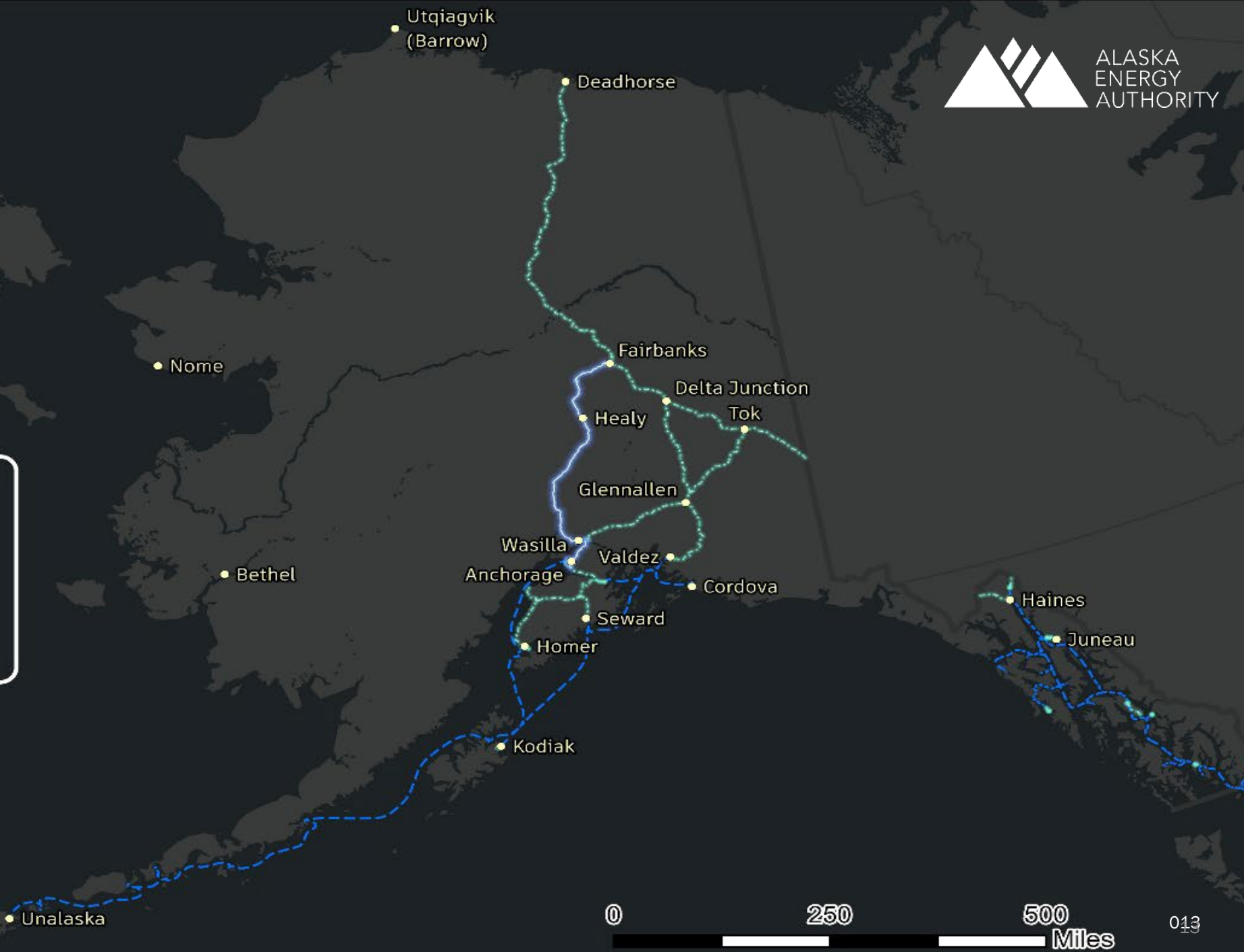
**Install Charging Stations  
in Rural Hub Communities**



**Urban and  
"Destination" Locations**



- Community
- Alternative Fuel Corridor
- - - National Highway System
- - - Marine Highway System Route



# EV Charging Equipment Competitive

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- AEA was awarded funding in the amount of **\$1,670,00** through the Office of Energy Efficiency and Renewable Energy Vehicle Technologies Office competitive grant program, **Area of Interest 9: Community-Driven Electric Vehicle Charging (EV) Deployment in Underserved Communities**.
- **The goals of this project are 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.
- **A 20% match is required, shared by AEA and project partners.**
- **Funds will become available in Fall 2023.**

AEA is collaborating with partners across Alaska to support vehicle electrification in rural, low-income, and Tribal communities to ensure an equitable and just transition to clean transportation.



# Alaska Rural EVSE Deployment (ARED)

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**AEA and Partners — Alaska Center for Energy and Power, Ahtna, Inc., Alaska Department of Transportation & Public Facilities, Alaska Municipal League, Launch Alaska, and Yellowstone Teton Clean Cities Coalition**

**DOE Vehicle Technologies Office Award:** 3-Year Period of Performance

## **High Level Project Goals:**

Electrify rural and disadvantaged Alaskan communities in multiple energy regions with the installation of Electric Vehicle Supply Equipment (EVSE).

- At least 40% of the program benefits will be received by Disadvantaged Communities.
- Plan, develop, and implement EVSE installation plans according to community needs.
- Team will designate hub communities and conduct outreach.



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



Per IIJA section 40101(a)(1),<sup>8</sup> 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**, were awarded to AEA. After that, AEA plans to launch a competitive solicitation for the funds later in the year. For fiscal year 2025, AEA requests \$12,110,523 in Federal Receipt Authority and **\$1,816,579 in matching funds**.
- 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**.



# Grid Resilience and Innovation Partnerships (GRIP)

AEA secured \$206.5 million for GRIP Topic Area 3: Grid Innovation through the United States Department of Energy's Grid Deployment Office. A cost share of 100 percent, or \$206.5 million, is required for a total project amount of \$413 million. The Railbelt Innovation Resiliency project will construct a High Voltage Direct Current submarine cable to serve as a parallel transmission route from the Kenai Peninsula to Anchorage, creating a much-needed redundant system in case of disruptive events.



## Anticipated Outcomes and Benefits

- Increases transfer capacity between regions that enables higher renewable energy integration into the electricity system.
- Resilience and reliability improvements for the tribal and disadvantaged communities located 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, including 650 highly paid union jobs with competitive employer-sponsored benefits.
- Creates apprenticeship and internship programs to train a new generation of lineworkers and wireworkers to reinvigorate Alaska's energy workforce.

# State Energy Program (SEP)

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- **AEA is developing activities for deployment that include:**
  - Statewide Energy Plan
  - State Energy Security Plan
  - Renewable Energy Fund and Village Energy Efficiency Program construction projects
  - IJJA Required Grid Planning
  - Training and Workforce Development
  
- **In collaboration with Alaska Housing Finance Corporation:**
  - Update AkWarm Energy Modeling Software to the requirements imposed by the Inflation Reduction Act.
  - Modernize Alaska Retrofit Information Systems database to accept the AkWarm modifications.
  
- **Alaska's Allocation is \$3,661,930.**

# Energy Efficiency Conservation Block Grant (EECBG)

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- The **EECBG program** will assist states, local governments, and tribes in implementing strategies to reduce energy use, to reduce fossil fuel emissions, and to improve energy efficiency.
- **Formula Funding:**
  - States
  - Local Governments
  - Tribes
- **State Application Deadline was July 31, 2023.**
- **Local and Tribal Government Deadline is January 31, 2024.**
- **Alaska's Allocation is \$1,627,450.**
- **No Match Required.**



## EECBG Renewable Energy – Village Energy Efficiency Program (RE-VEEP)

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- AEA will use this funding to establish RE-VEEP, which will **finance building-scale renewable energy, energy efficiency, and conservation projects** in public buildings and facilities in rural Alaska.
- Sub-awards **totaling \$2.6 million** are available through the solicitation.
- **142 city and/or borough governments are eligible for funding.**
- **Request for Applications will be released by the end of the year.**

# Home Energy Rebate Programs



AEA 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 double retrofits of low-and moderate-income homes.
- **Alaska's allocation is \$37.4 million**
- **No State match is required**

## Home Electrification and Appliance Rebates

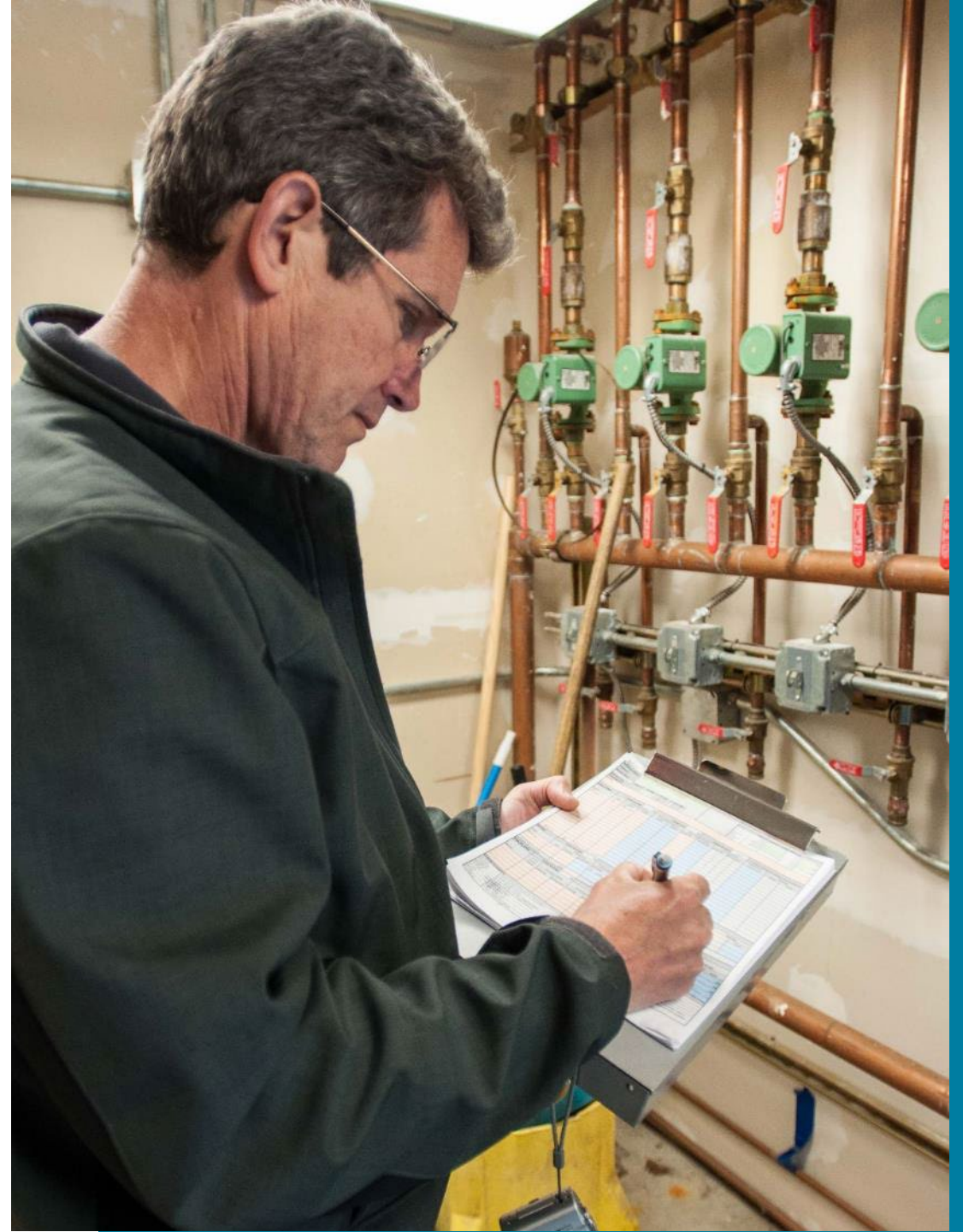
- Develop a high efficiency electric home rebate program.
- Include means testing and will provide 50% of the cost for incomes 80 to 150% of area median income, and 100% of the cost for incomes 80% of area medium income and below and similar tiers for multifamily buildings.
- Includes a \$14,000 cap per household, with an \$8,000 cap for heat pump costs, \$1,750 for a heat pump water heater, and \$4,000 for 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**

*\*Note: These funds are not available at this time. It is expected funds will be available late 2024 to early 2025.*

# Energy Efficiency Revolving Loan Fund (EERLF)

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- The Infrastructure Investment and Jobs Act provides funding for a new **EERLF program**.
- This funding will be used to **establish and capitalize a revolving loan fund**, under which the State shall provide loans and grants for residential energy audits, upgrades, and retrofits to increase energy efficiency, physical conform and air quality of existing building infrastructure.
- In collaboration with the Alaska Housing Finance Corporation, **AEA will administer the EERLF commercial loans/grants program**.
- **Alaska's allocation is \$4,569,780.**



# State-Based Home Energy Efficiency Contractor Training Grant Program

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AEA has partnered with the Alaska Housing Finance Corporation to administer the Energy Auditor Training Grant Program.

- IIJA funds will be used 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 IRA Home Energy Rebate Programs.
- **Program goals:** (1) Reduce the cost of training contractor employees by providing workforce development tools for contractors, their employees, and individuals including, subsidizing available training, testing and certifications; (2) provide testing and certifications of contractors trained and educated to install energy efficiency and electrification technologies; and (3) partner with nonprofit organizations to develop and implement a State sponsored workforce program.
- **This is a one-time funding request of \$1.3 million — no State match is required**



# Solar For All Competition

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- **AEA and the Alaska Housing Finance Corporation (AHFC) are collaborating to develop a statewide solar program:**
  - AEA focus on development of community solar projects in disadvantaged communities using a Renewable Energy Fund-style grant program.
  - AHFC focus on residential rooftop solar for low income households.
- **Program benefits:**
  - Energy cost savings
  - Increased resiliency
  - Equitable access to solar
  - Asset ownership benefits low-income and disadvantaged communities
  - Workforce development
  - Reduction in greenhouse gas emissions
- **This is a competitive grant program — no match required.**
- **AEA and AHFC submitted an application for a \$100 million grant.**



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