

# Alaska Energy Authority Overview

Curtis W. Thayer  
Executive Director

EPA Alaska Oil, Gas and Energy Sector  
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Safe,  
Reliable, and  
Affordable  
Energy  
Solutions

# About the Alaska Energy Authority



## Our Mission

Reduce the cost of energy in Alaska.



Created in 1976 by the Alaska Legislature, the Alaska Energy Authority (AEA) is a public corporation of the State of Alaska governed by a board of directors with the mission to “reduce the cost of energy in Alaska.” AEA is the state's energy office and lead agency for statewide energy policy and program development.

# AEA Programs and Services

**AEA works to diversify Alaska's energy portfolio, engages on energy planning and policy, invests in Alaska's energy infrastructure, and provides rural Alaska with technical and community assistance.**



**Railbelt Energy** – AEA owns the Bradley Lake Hydroelectric Project and the Alaska Intertie. These assets benefit Railbelt consumers by reducing the cost of power.



**Renewable Energy** – AEA provides renewable energy and energy efficiency grants, analysis, and expertise to benefit Alaskans. These include hydro, biomass, wind, solar, and others.



**Power Cost Equalization** – The Power Cost Equalization Program reduces the cost of electricity in rural Alaska for residential customers and community facilities.



**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.



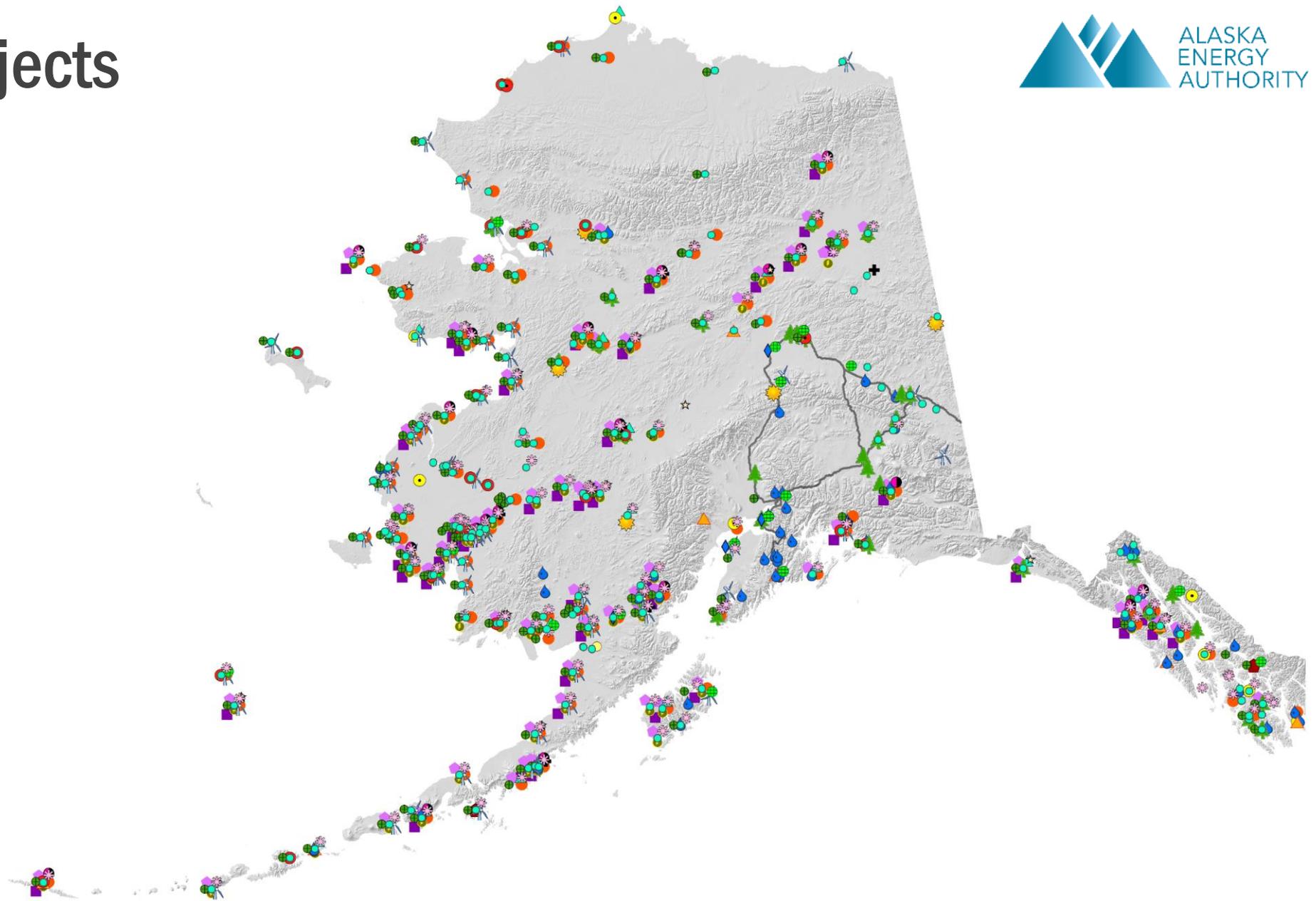
**Rural Energy** – AEA constructs bulk fuel tank farms, diesel powerhouses, and electrical distribution grids in rural villages. AEA supports the operation of these facilities through circuit rider and emergency response programs.



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

# AEA Active Projects and Services

-  Biomass/Biofuels
-  Bulk Fuel Upgrades
-  Circuit Rider Assistance
-  Diesel Emission Reduction Act
-  Electrical Emergency Response
-  Emerging Energy Technology Fund
-  Heat Pump
-  Heat Recovery
-  Hydroelectric
-  Maintenance and Improvement
-  Ocean/River
-  PCE Community
-  PCE Utility Clerk Training
-  Rural Power System Upgrade
-  Solar
-  Storage
-  Transmission
-  Utility Operator Training
-  Utility Technical Assistance
-  VEPP (Efficiency)
-  Wind





# URBAN ENERGY

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# Bradley Lake Hydroelectric Project



- Benefits 550,000+ members of Chugach Electric Association, City of Seward, Golden Valley Electric Association, Homer Electric Association, and Matanuska Electric Association
- Produces ~10% of Railbelt electricity at 4.5 cents/kWh or ~54,400 homes/year
- Over \$20 million in savings per year to Railbelt utilities Bradley Lake versus natural gas



- The project diverts runoff from Battle Creek into Bradley Lake expanding the state's largest hydroelectric facility
- Includes three miles of road, concrete diversion dam, and a five-foot diameter pipeline under the road to carry water from its source to Bradley Lake
- Result is more energy at lower cost can be produced and delivered to ratepayers

## West Fork Upper Battle Creek Diversion Project

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- Project cost \$47 million
- Will add ~10% energy or ~5,100 homes in a year
- Completed July 2020





# SSQ Transmission Line

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- 39.3 miles of 115-kV transmission line delivers Bradley Lake hydroelectric generated power
- AEA's purchase allows for better cost alignment, increased reliability, and future prospect for upgrades to the line, which would decrease line losses and allow for increased power transmission north, and unconstraining Bradley Lake power
- Schedule begins with preliminary design with 6 months, 24 to 36 month estimate to finalize construction



# Maximizing Clean Energy for the Railbelt

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- Bradley-Soldotna 115kV Line – \$66 million
- Soldotna-Quartz Creek (and Substation) – \$70 million
- Dave’s Creek-University 230kV Line – \$58 million
- Bradley Lake Expansion (Spillway Raise) – \$4 million
- Grid Stabilization – \$115 million
- Bernice Lake-Beluga HVDC – \$185 million

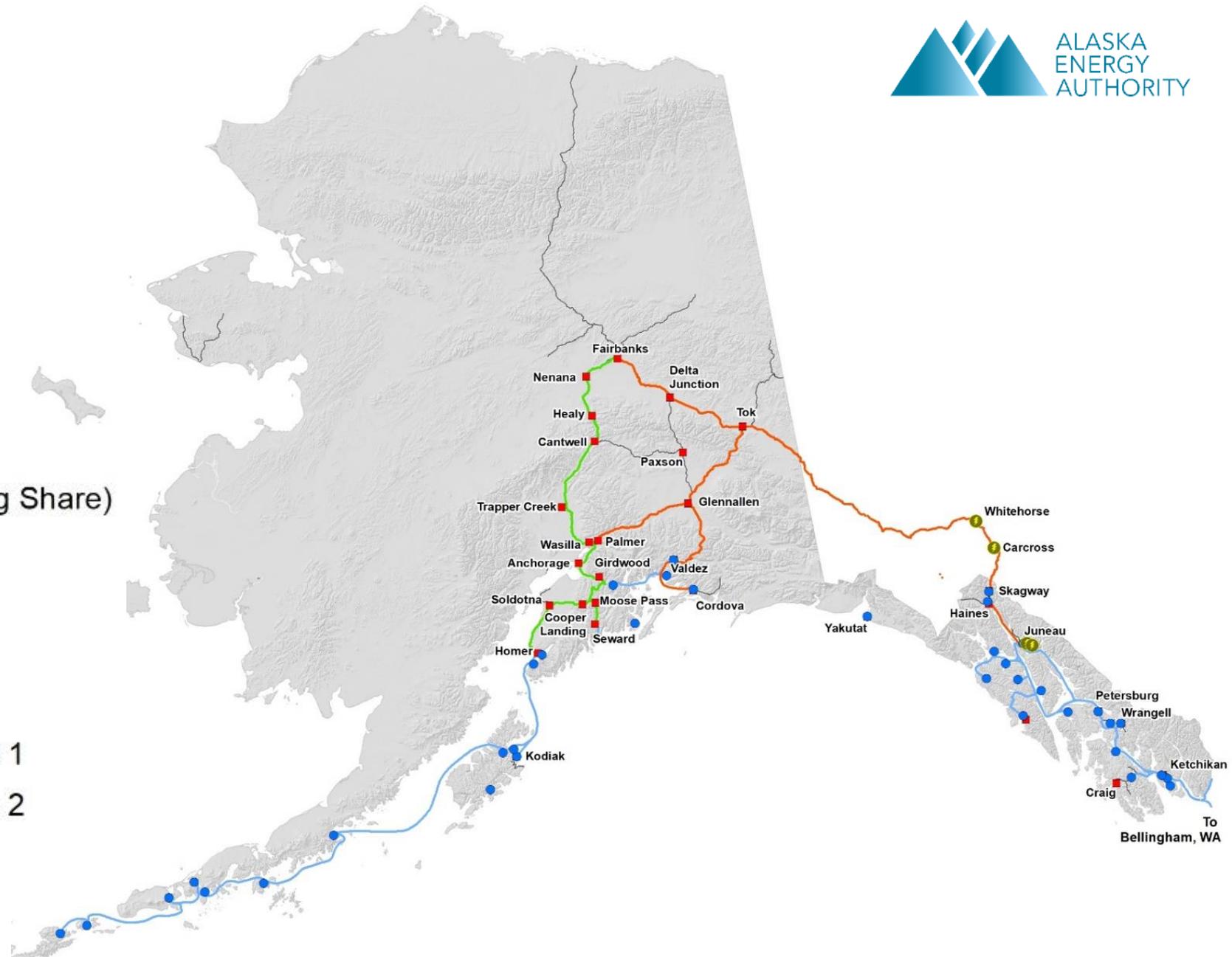
# Planned Electric Vehicle Fast-Charging Locations

- **Homer** – AJ's Old Town Steakhouse & Tavern
- **Soldotna** – Custom Seafood
- **Cooper Landing** – Grizzly Ridge
- **Seward** – Seward Chamber of Commerce
- **Anchorage** – Dimond Center
- **Chugiak** – Three Bears Alaska
- **Trapper Creek** – Three Bears Alaska
- **Cantwell** – Jack River Inn
- **Healy** – Three Bears Alaska



# Electric Vehicle Fast-Charging Corridor

-  Existing DC Fast Charger (via Plug Share)
-  Community
-  Ferry Terminal
-  Marine Highway
-  Highway
-  DC Fast Charging Corridor Phase 1
-  DC Fast Charging Corridor Phase 2



# Alaska Cargo and Cold Storage

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AEA awarded \$21 million USDOT BUILD grant to help construct ~715,000-square-foot \$220 million cargo and cold storage facility at the Ted Stevens Anchorage International Airport (ANC)



AEA will deliver its expertise in renewable energy design and operation to make the building a showpiece in energy-efficiency



Project enhances ANC's shipping infrastructure, improve Alaska's supply chain security, and create jobs for Alaskans — 2,075 construction jobs and 120 full-time jobs



A wide-angle photograph of a rural landscape, featuring rolling hills, a small town with several houses, and a large body of water in the foreground. The entire image is overlaid with a semi-transparent teal color. The text 'RURAL ENERGY' is centered in the middle of the image in a large, white, bold, sans-serif font. A small white horizontal line is positioned below the text, centered under the word 'ENERGY'.

# RURAL ENERGY



# Power Cost Equalization (PCE)

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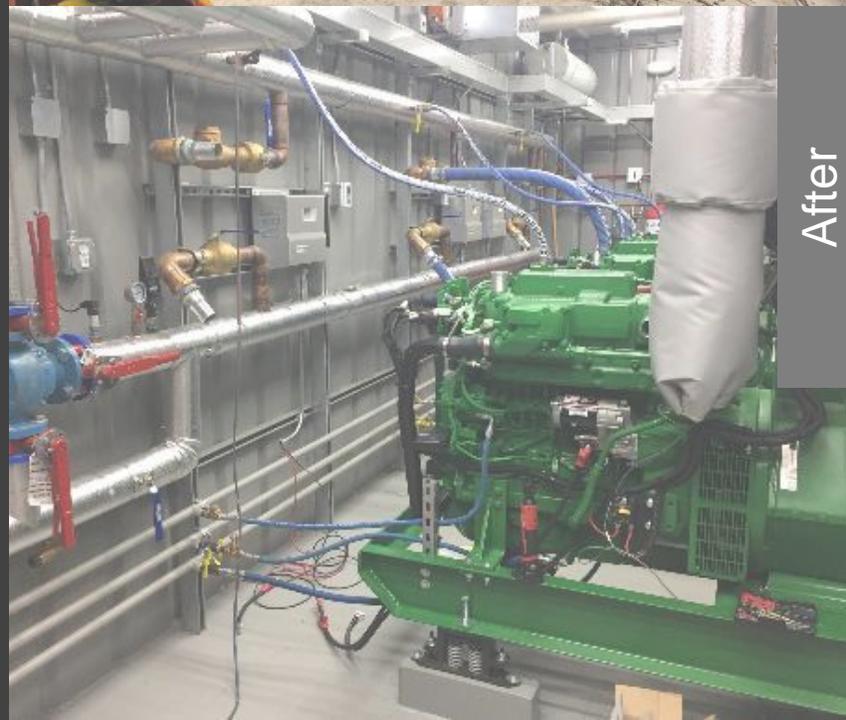
- PCE assists 82,000 Alaskans in 192 rural communities with their high energy costs
- The program's purpose is to equalize power costs to near the average cost of power in Anchorage, Fairbanks, and Juneau
- In Fiscal Year 2020, \$29.6 million was disbursed
- PCE Endowment Fund created capitalized in Fiscal Year 2001 — now valued at ~\$1.1 billion

# Rural Power System Upgrades

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Before



After

- ~197 communities eligible for Rural Power System Upgrade
- Goal — improve power system efficiency, safety, and reliability
- Aging infrastructure and Operation and Maintenance
- Active projects — 7 full and 16 Maintenance and Improvement/Diesel Emissions Reduction Act
- Deferred maintenance \$327 million

- ~400 rural bulk fuel facilities
- Goal — code compliant fuel storage facilities and prevention of spills and contamination
- Aging infrastructure, erosion, and catastrophic failure
- Active projects — 8 full and 18 Maintenance and Improvement; no funding for two years
- Leveraging Coast Guard regulatory efforts to capture BFU assessments to prioritize projects
- Deferred maintenance \$800 million

Before



After



# Bulk Fuel Upgrades

# Renewable Energy Fund (REF)



- REF program helps Alaskans reduce and stabilize the cost of energy
- \$270 million invested in REF by the State
- 99 projects in operation, 27 in development
- Legislature approved all 11 AEA-recommended projects as submitted for Round 13, for a total of \$4.75 million in available grant funds
- REF program sunsets on June 30, 2023

# Power Project Fund

- Available to qualified borrowers
- Critical as grants are eliminated
- Requires review for technical and fiscal viability
- \$26.3 million in outstanding loans
- \$12.2 million uncommitted cash balance available for lending
- Low interest rates encourage innovative applications



AEA provides  
**energy solutions**  
to meet the  
unique needs and  
opportunities of  
Alaska's rural  
and urban  
communities.

## Alaska Energy Authority

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813 W Northern Lights Blvd.  
Anchorage, AK 99503



Main: (907) 771-3000  
Fax: (907) 771-3044



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