

ALASKA ENERGY AUTHORITY

DELIVERING ENERGY SOLUTIONS THAT POWER ALASKA

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Homer Chamber of Commerce
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AEA's Mission & Vision

Our refined mission and vision reflect the direction outlined in AEA's strategic plan and reinforce our commitment to meeting the evolving energy needs of Alaska's communities.

WHO WE ARE, WHAT WE DO

OUR MISSION

Advancing affordable,
reliable energy in Alaska.

WHERE WE'RE HEADED

OUR VISION

A resilient and reliable energy
future for Alaska, enabled by
strong infrastructure, innovation,
and collaboration.

AEA Programs and Services Overview



Owned Assets

- Bradley Lake Hydroelectric Project
- Alaska Intertie
- Sterling to Quartz Creek Transmission Line
- Cook Inlet PowerLink



Power Cost Equalization

- \$48 Million Program
- 193 Rural Communities
- 81 Electric Utilities
- Benefits 81,000+ Alaskans (All figures reflect FY2026)



Rural Energy

- Bulk Fuel Upgrades
- Rural Power System Upgrades
- Circuit Rider Program
- Electrical Emergency Assistance



Renewable Energy and Energy Efficiency

- Renewable projects; biomass, electric vehicles, hydroelectric, solar, and wind
- Federal programs: NEVI and Home Energy and High Efficiency Rebate Allocation



Grants and Loans

- Renewable Energy Fund
- Power Project Fund
- Federal Grants



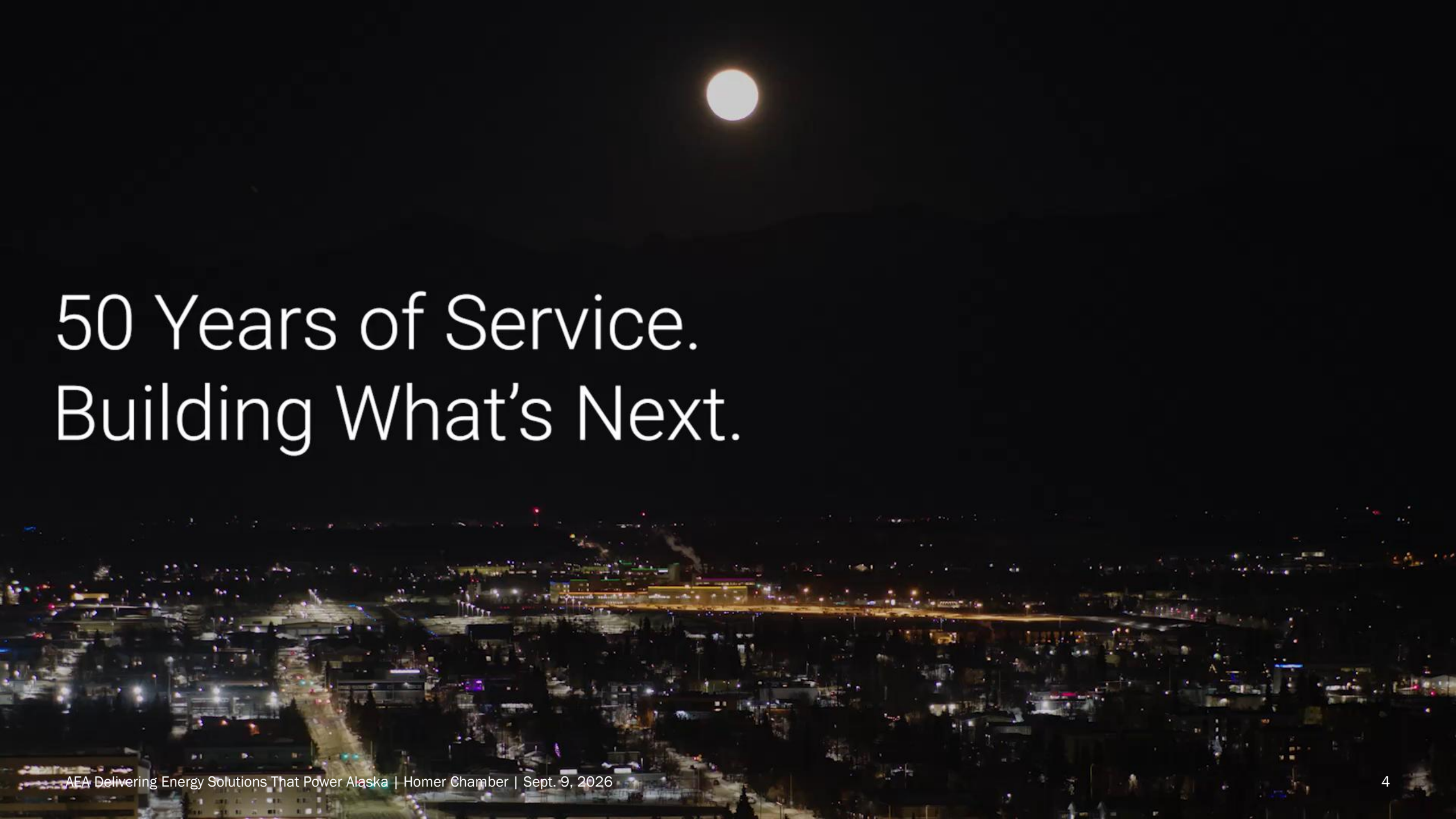
Energy Planning

- Alaska Energy Security Task Force
- State Energy Security Profile
- Electronic Library
- Energy Data Resources
- 40101(d) Grid Resilience



Railbelt Transmission Organization

- AEA, Railbelt Reliability Council, and Utility Governance
- Certificate of Public Convenience and Necessity
- Tariff Under Regulatory Review

An aerial night photograph of a city, likely Homer, Alaska, with a full moon in the dark sky. The city lights are visible, including a large industrial or airport area in the center. The text "50 Years of Service. Building What's Next." is overlaid in white.

50 Years of Service. Building What's Next.

Railbelt Infrastructure and Military Installations

Railbelt system serving 75 percent of Alaskans; linking Homer–Kenai–Anchorage–Mat-Su–Denali–Fairbanks–Delta Junction



⚡ Bradley Lake Expansion Project – \$400 Million*

Expansion of the **120 MW** Bradley Lake Hydroelectric Project that **increases generation capacity by more than 40 percent**. Additional energy is transferred through the Alaska Intertie to utilities serving Interior Alaska—including military installations.

⚡ Cook Inlet PowerLink – \$413 Million (\$206.5M Federal Grant)

Proposed **38-mile** high-voltage direct current subsea transmission cable enabling up to **200 MW** bi-directional flow. Strengthens Southcentral-Interior transfer capacity and provides **critical backup redundancy for Joint Base Elmendorf-Richardson**.

⚡ SSQ Transmission Upgrades – \$178.5 Million

Upgrades to the Sterling-Soldotna-Quartz Creek transmission corridor that increase transmission capacity by **53 percent** through conversion to **230 kV** infrastructure. The project **reduces transmission losses** and **improves voltage performance within the corridor**.

⚡ Susitna-Watana Hydroelectric Project – \$8.7 Billion (2026)*

Proposed **618 MW** hydroelectric project generating up to **2,800 GWh** annually. The project could **offset future Cook Inlet natural gas supply declines** and provide up to **50 percent** of projected Railbelt electricity demand.



Adding Renewable Energy to the Railbelt

Bradley Lake Expansion Project

Expanding Alaska's Largest Hydroelectric Facility

AEA is advancing the Bradley Lake Expansion Project, which includes the **Dixon Diversion** and **Bradley Pool Raise** subprojects. The project would divert water from Dixon Glacier through a **4.6-mile tunnel**, increasing Bradley Lake's annual energy production by more than **40 percent** and reducing reliance on natural gas.



ESTIMATED ANNUAL OUTPUT
180,000 MWh
≈ 30,000 homes powered



NATURAL GAS OFFSET
1.5 Billion cu ft
7.5% of unmet demand (2030)



TARGET COMPLETION
2031
Shovel-ready status



ESTIMATED COST
\$400 Million
Class IV Estimate

SOUTHCENTRAL ALASKA

Bradley Lake Hydroelectric Project

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Expanding Hydropower at Bradley Lake

More renewable energy. Existing infrastructure.

Project Location Map



Dixon Diversion: 4.6-mile tunnel routing water from Dixon Glacier into Bradley Lake.



Adds Renewable Energy

Would add approximately **167,000 megawatt-hours** of renewable generation annually.



Reduces Natural Gas Use

Helps reduce the Railbelt's dependence on natural gas for electricity generation.



Supports Reliability

Builds on Bradley Lake infrastructure that has served the Railbelt since 1991 and continues using the existing powerhouse and transmission system.



Provides Long-Term Price Stability

Hydropower generates electricity without ongoing fuel purchases, reducing exposure to fuel-price volatility.

Cook Inlet PowerLink (CIPLink)

Alaska's First High-Voltage Direct Current (HVDC) Transmission Project

CIPLink is Alaska's **first HVDC transmission project**, connecting the Southern and Central Railbelt through a **38-mile subsea cable** and overland transmission system capable of delivering up to **200 MW of bidirectional power** flow, allowing utilities to move electricity where it is needed and share generation resources across the Railbelt.



CAPACITY

200 MW

Bidirectional Flow



CONNECTIVITY

Railbelt Link

Connects South & Central Regions



TARGET COMPLETION

2032

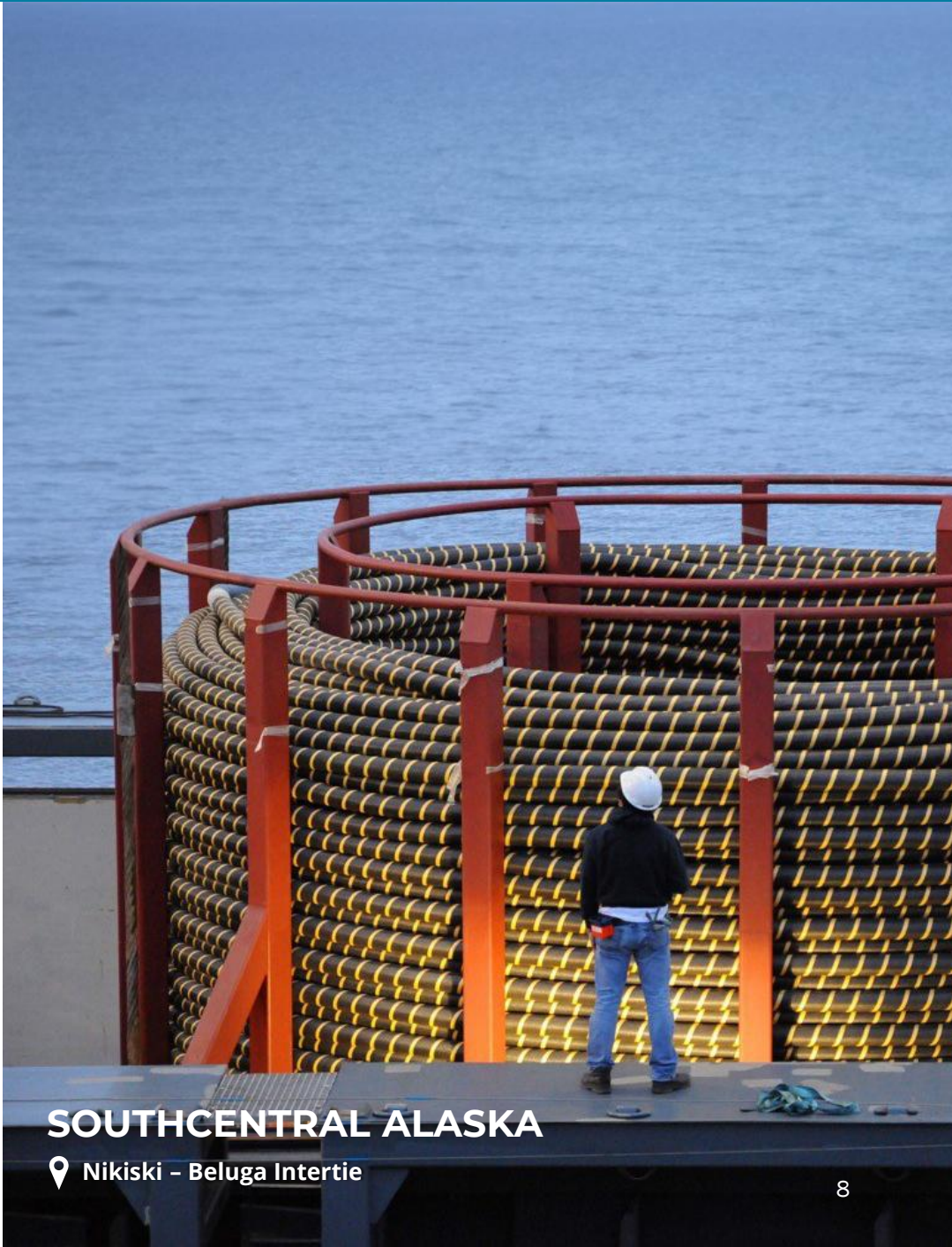
Shovel-ready status



ESTIMATED COST

\$413 Million

Preliminary Engineering Done

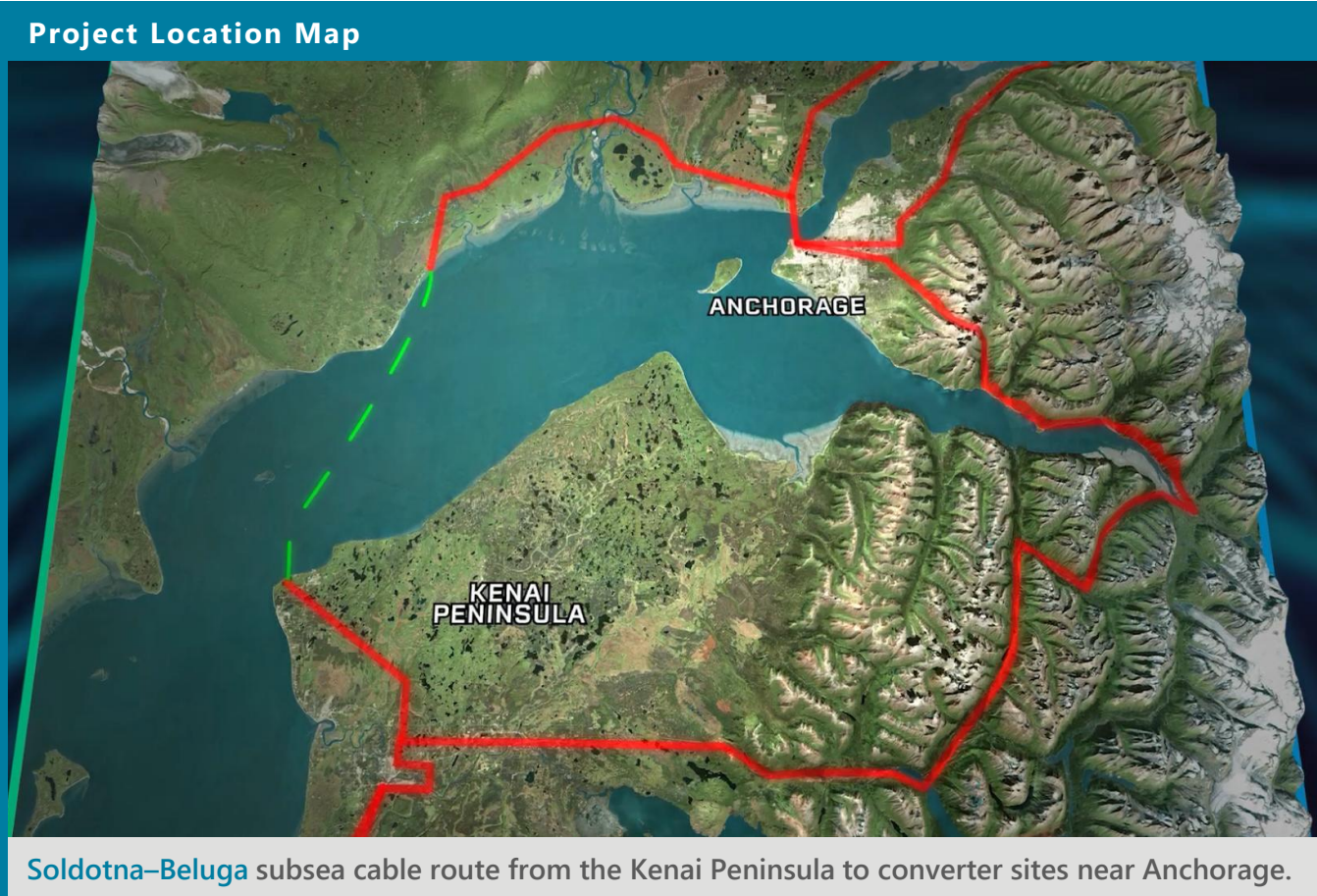


SOUTHCENTRAL ALASKA

Nikiski - Beluga Intertie

Connecting the Southern and Central Railbelt

CIPLink is a long-term investment in a more resilient, flexible, and connected Railbelt electric system.



Grid Reliability

Provides an additional transmission path across Cook Inlet and improves system redundancy during outages and other system disruptions.



Energy Security

Provides greater flexibility to move electricity throughout the Railbelt as Southcentral Alaska faces uncertainty regarding future natural gas supplies and costs.



Resource Access

Allows utilities to share existing generation resources more effectively and supports access to a broader range of future energy resources.



Future Demand

Strengthens the transmission system serving Alaska communities, public infrastructure, military installations, and future electricity demand.

Soldotna-Sterling-Quartz Creek (SSQ) Transmission Line and Substation Project

Upgrading transmission lines from 115 kV to 230 kV increases Railbelt transfer capacity by about 50 percent, significantly improving system reliability and stability.



TRANSFER CAPABILITY

+53%

Potential stability-limited increase



LINE LOSS REDUCTION

-8.4 PTS

Projected full-corridor tie-loss drop



TARGET COMPLETION

2030

Upgrades underway



ESTIMATED COST

\$178.5 Million

Including all costs

KENAI PENINSULA

📍 **SSQ Transmission Line and Substation Project**
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Home Energy and High Efficiency Rebate Allocations

AEA is collaborating with AHFC to deliver more than \$74 million in home energy rebates to Alaskans (pending with DOE)

Program Feature	 Home Owner Managing Energy Savings (HOMES)	 High-Efficiency Electric Home Rebates (HEEHR)
Purpose:	Whole-home energy efficiency retrofits	High-efficiency electric equipment and appliances
Who Can Benefit:	All households (higher incentives for low- and moderate-income households)	Low- and moderate-income households
Eligible Improvements:	Insulation, air sealing, windows, doors, and other efficiency measures	Heat pumps, heat pump water heaters, electrical upgrades, insulation, and related measures
Rebate Structure:	Based on modeled or measured energy savings achieved	Based on installation of qualifying equipment
Maximum Incentive:	Typically \$2,000–\$4,000+ for single-family homes; higher for multifamily projects	Up to \$14,000 per household
Alaska Allocation:	\$37.3 Million	\$37.1 Million

Key Difference

-  **HOMES:** Rewards homeowners for reducing overall energy use.
-  **HEEHR:** Helps households purchase and install efficient electric equipment.

Alaska Advantage

-  Eligible costs may include contractor travel, materials, and project expenses.
-  Additional program flexibility approved specifically for Alaska and Hawaii.

Renewable Energy Fund (REF)



ABOUT THE PROGRAM

Established in 2008 to reduce and stabilize the cost of energy across Alaska.

The Renewable Energy Fund (REF) provides competitive grant funding for renewable energy projects in communities across Alaska. REF supports projects that reduce long-term energy costs, decrease diesel dependence, and improve power reliability.

AEA administers a four-stage review process under Alaska Statute 42.45.045: **eligibility and completeness, technical and economic feasibility, project scoring, and regional spreading.**

ROUND 18 · FY2027

\$14.6 million

9 projects funded by the Governor and Legislature.

CUMULATIVE · SINCE 2008

\$333 million

Total state investment across 18 funding rounds.

PROJECTS IN SERVICE

120 + operational

Plus 58 additional projects in active development.

DIESEL DISPLACED

~120 million gallons

~\$600M avoided at the FY2025 PCE rate (\$4.95/gal).

Federal Program Funds Secured - \$39.8 million
Estimated Final Federal Allocation ~ \$20 Million

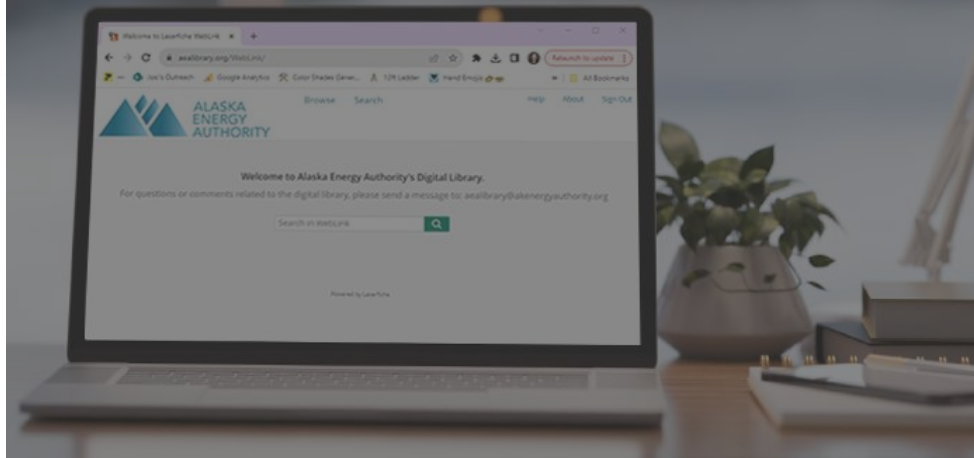
Grid Resilience Formula Grant Program IIJA 40101(d)

Metlakatla, Alaska

- AEA administers Section 40101(d) grid resilience funds through a competitive process. Of the **\$60 million** expected in federal formula grants, **\$39.8 million** has been awarded to date; a final allocation is expected in 2026.
- **Round 2** (second solicitation): **Three projects** were awarded sub-grants totaling **\$17.7 million**—
 - **Two** to strengthen grid resilience across the **Railbelt** and **Southcentral Alaska**, served by **Matanuska Electric Association** and **Golden Valley Electric Association**.
 - **One** to enhance grid resilience in **Southeast Alaska** served by **Southeast Alaska Power Agency**.
- **Round 1** (initial solicitation): **Three projects** were awarded sub-grants totaling **\$20.9 million**—
 - **two** to strengthen the **Railbelt grid** and
 - **one** to support resilience in the **Interior** served by **Golden Valley Electric Association**.
- Eligible resilience measures include:
 - Hardening lines and substations
 - Extreme-weather upgrades
 - Fire-resistant components
 - Microgrids and energy storage
- Funding requires a **15 percent state match** and a **33 percent small-utility match**.

AEA Electronic Library (E-Library)

Provides the public with open, transparent access to over 50 years of Alaska energy data.



Since its launch, AEA's E-library has averaged **over 650 unique visitors per month**. Site visits to the e-library are reported to be trending positively, with an average **10 percent increase** in site visits month over month.



The E-library launched with **7,500 documents**, including program publications, technical reports, research, and feasibility studies. Currently, over **13,000 documents** are searchable.



The E-library is **fully accessible** to the public via the library tab on AEA's website, or directly at <https://www.akenergyauthority.org/library>.

Thank You

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