ALASKA ENERGY AUTHORITY

AEA UPDATE

Curtis W. Thayer
Executive Director

House Finance Committee
March 20, 2025

ALASKA ENERGY AUTHORITY

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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 (Owned Assets)
- Bradley Lake Hydroelectric Project
- Alaska Intertie
- Sterling to Quartz Creek Transmission Line
- High-Voltage Direct Current Transmission Line

Power Cost Equalization
- $48 Million Program
- 192 Rural Communities
- 91 Electric Utilities
- 80,000+ Alaskans

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, Solar for All, and Home Energy and High Efficiency Rebate Allocations

Grants and Loans
- Renewable Energy Fund
- Power Project Fund

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

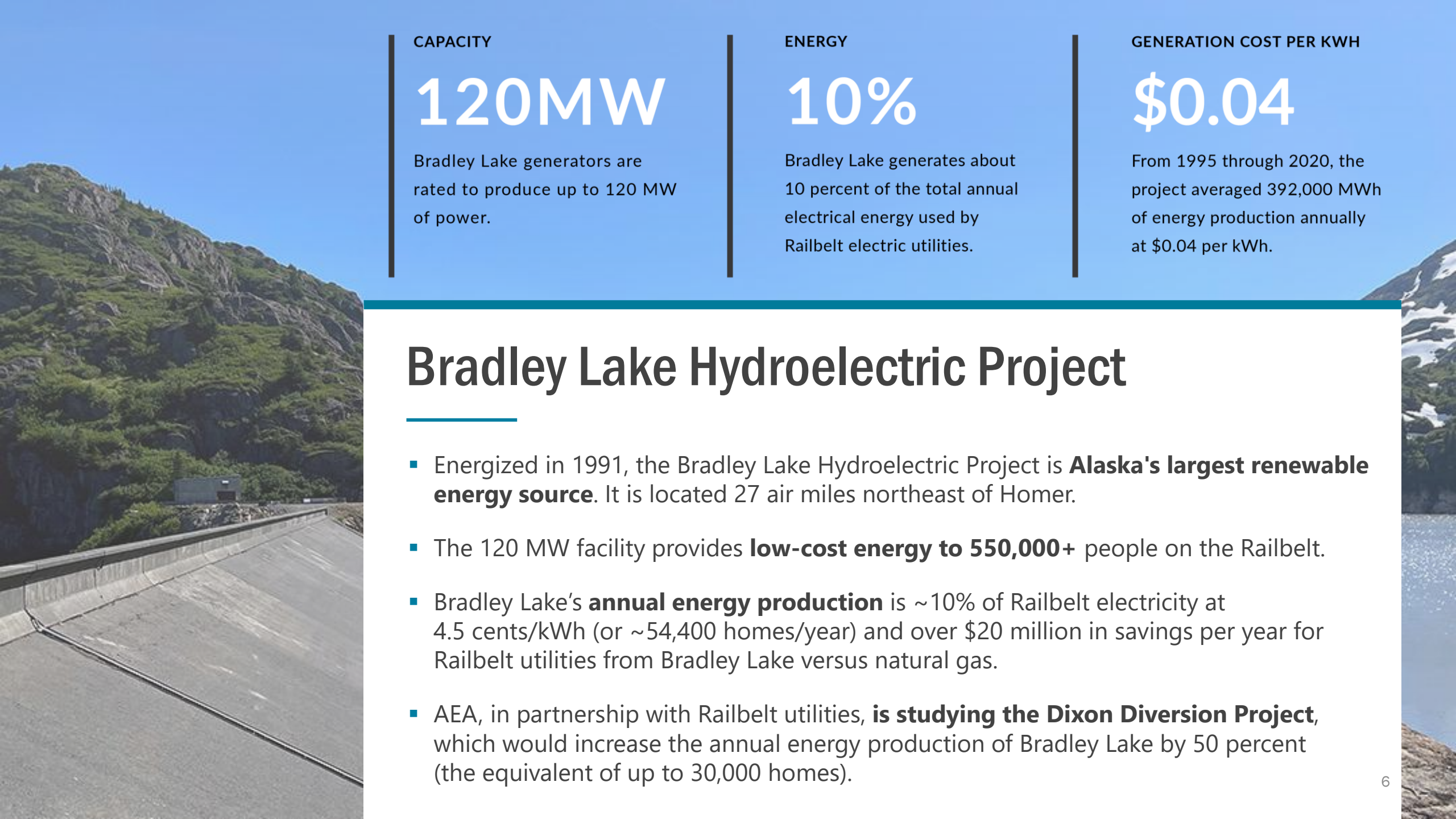
Railbelt Transmission Organization

House Bill 307: Integrated Transmission Systems

House Bill 307 is one of the most important pieces of legislation affecting energy policy for the Railbelt since Alaska statehood.

- The bill also **incentivizes new energy development** by extending tax-exempt statutes to independent power producers.
- This law also fundamentally **changes how AEA operates:**
  - **Established its own distinct board of directors** — better positioning the state's energy office to address Alaska's unique energy challenges and opportunities.
  - Authorized AEA to have its own **direct-hire employees**.
  - Created the **Railbelt Transmission Organization**, as a division of AEA, to establish and administer a non-discriminatory open access transmission tariff that provides for recovery of transmission costs and ancillary services and replaces wholesale charges assessed by each utility with a new mechanism that fairly recovers the costs of operating the backbone transmission system.
- Offers **reduced interest rates for Power Project Fund loans** that are $5 million or more.

OWNED ASSETS



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

- Energized in 1991, the Bradley Lake Hydroelectric Project is **Alaska's largest renewable energy source**. It is located 27 air miles northeast of Homer.
- The 120 MW facility provides **low-cost energy to 550,000+** people 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 for Railbelt utilities from Bradley Lake versus natural gas.
- AEA, in partnership with Railbelt utilities, **is studying the Dixon Diversion Project**, which would increase the annual energy production of Bradley Lake by 50 percent (the equivalent of up to 30,000 homes).

$342 Million

ALASKA ENERGY AUTHORITY

Dixon Diversion Project

AEA is studying the Dixon Diversion Project to optimize the Bradley Lake Hydroelectric Project's energy potential. Like the West Fork Upper Battle Creek Diversion Project, the Dixon Diversion Project 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 (the equivalent of up to 30,000 homes).
- Estimated to offset 1.5 billion cubic feet of natural gas per year in Railbelt power generation (equal to 7.5 percent of Alaska's unmet natural gas demand projected for 2030).
- Estimated completion is 2030.

$413 Million ($62.7 Million Secured; $143.8 Million Still Needed)

Grid Resilience and Innovation Partnerships (GRIP): HVDC Line

AEA secured $206.5 million for GRIP Topic Area 3: Grid Innovation through the U.S. 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 project includes constructing high-voltage direct current (HVDC) submarine cables as a parallel transmission route from the Kenai Peninsula to Anchorage.

The project addresses several challenges facing Alaska's Railbelt regions:

- Provides a **redundant pathway** between the Southern (Kenai Peninsula) and Central (Anchorage and Mat-Su) Regions
- Eliminates the **single-point-of-failure** inherent in the previous system (the system will still be subject to single point of failure between Willow and Healy)
- Allows for **more renewable power** to be added to the grid and distributed across the Railbelt
- **Increases the ability to share power** between the Southern, Central, and Northern Regions of the Railbelt, allowing the most economical power to be used at all times

$90 Million (Under Construction; AEA Bonds Existing)

Sterling to Quartz Creek (SQ) Transmission Lines

In 2020, AEA acquired the SQ Transmission Line, as part of the Bradley Lake Hydroelectric Project.

- **Location –** 39.4 miles of 115 kilovolt (kV) transmission and out of use 69 kV transmission from Sterling to Quartz substation (Kenai Lake).
- **Benefits –** AEA ownership ensures better cost alignment, reduce line losses, increased reliability, and more timely repairs and upgrades.
- **Status –** 69 kV line decommissioned and removed; engineers are designing and are procuring equipment for the upgrade of the existing 115 kV line to 230 kV. Construction has started on first section.
- **Cost –** Estimated cost to upgrade line is $90 million for the SQ transmission line and Sterling to Soldotna transmission line.

$28 Million to Utilities

Battery Energy Storage Systems (BESS) for Grid Stabilization

- **Scope –** The BESS projects consist of an upgrade to the existing BESS system in the North, and also new BESS systems in the Southern, and Central regions of the grid. The Northern BESS is located at Fairbanks, the Southern BESS is located in Kenai, the Central Region BESS will be located at Anchorage. BESS will be needed to fully realize the benefits of a 230 kV bulk power supply system, regulate energy from various generation, and increase resilience.

- **Benefits –** Increase system resilience, transfer capability, more efficient use of system, and lowers impediments to additional renewable generation development.

- **Schedule**
  - Southern (Kenai) – In service
  - Central (Anchorage) – In service
  - Northern (Fairbanks) – Engineering and design

- **Budget –** $28 million in services to dampen oscillation

FEDERALLY-FUNDED PROGRAMS

PROCEEDING

$60 Million (Over Five Years)

Grid Resilience Formula Grant Program IIJA 40101(d)

- Under 40101(d), AEA anticipates receiving **$60 million in federal formula grants** to catalyze grid resilience projects. In August 2023, the **first two years of allocations, $22.2 million**, were awarded to AEA.

- AEA's competitively solicited applications for the initial federal formula allocation in February 2024. AEA selected three projects for sub-awards, totaling $20.9 million. In December 2024, DOE issued final approvals for the sub-award projects. Due to pauses on funding for IIJA programs, the issuance of sub-award agreements have been delayed but are anticipated to be finalized in Q2 2025.

- In August 2024, AEA received $17,627,018 in federal program formula funds for fiscal year 2025, requiring $2.6 million in state matching funds. AEA is working with DOE to determine next steps.

- **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

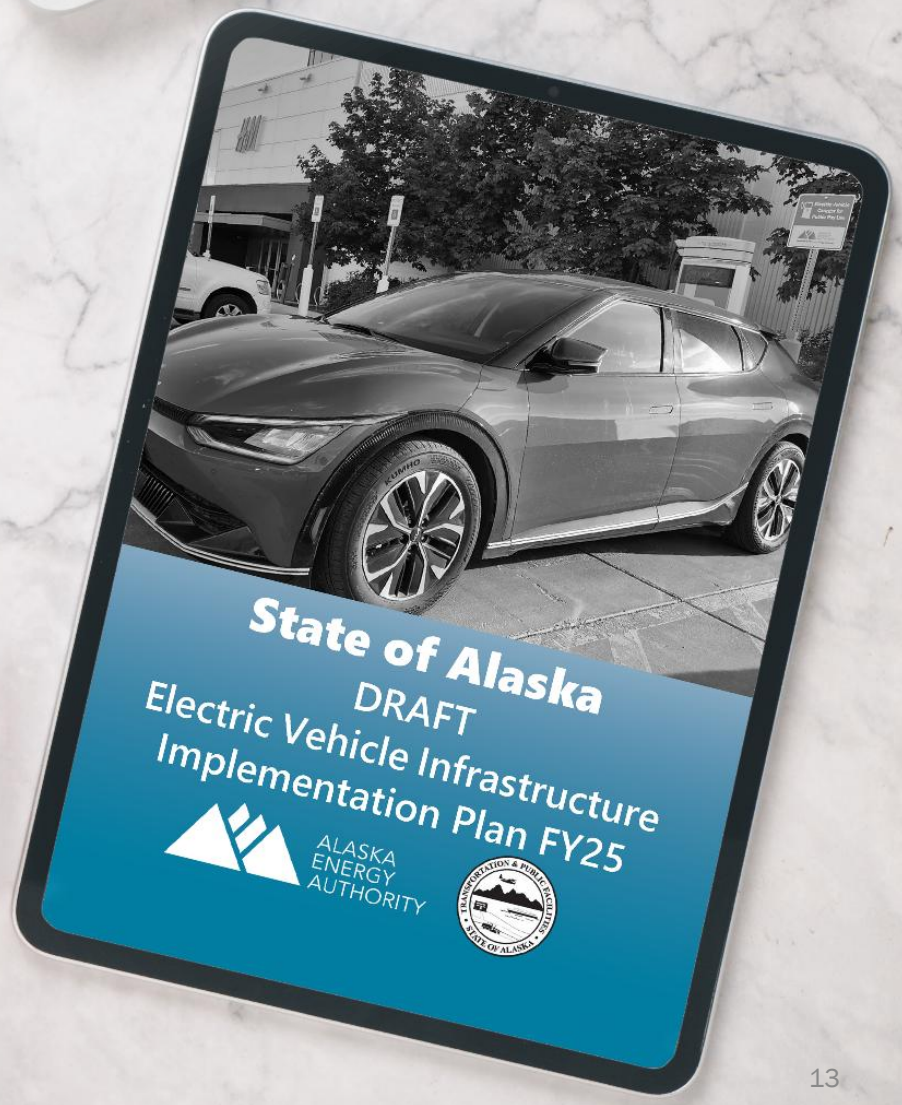
- Formula-based funding requires a **15% state match** and a **33% small utility match**.

SUSPENDED

$52 Million (Over Five Years)

National Electric Vehicle Infrastructure (NEVI) Program

- AEA and the Alaska Department of Transportation & Public Facilities (DOT&PF) continue to deploy the **State of Alaska NEVI Plan.**
- **On November 25, 2024,** AEA and DOT&PF received approval of the fiscal year 2025 plan. This **unlocked $11 million in addition to $30 million** available from previous fiscal years.
- In fall 2023, **the first round of Alaska NEVI awards were announced.** AEA and DOT&PF selected projects in nine communities for a total investment of $8 million. **Private entities will own and operate the new charging stations.**
- **Phase 2** will develop charging infrastructure in more than 30 communities along **Alaska's Highway System** and the **Marine Highway System.**



PROCEEDING

Houston Solar Farm, Houston, Alaska

$62.5 Million (Shared with AHFC)

- **In April 2024, AEA and the Alaska Housing Finance Corporation (AHFC) were selected for a $62.5 million grant from the Environmental Protection Agency's Solar for All program.**
  - AEA is developing community solar in disadvantaged communities.
  - AHFC is developing residential rooftop solar for low-income households.
- **Program benefits:**
  - Energy cost savings,
  - Increased resiliency,
  - Distributed solar energy for low-income and disadvantaged households,
  - Workforce development, and
  - Reduction in greenhouse gas emissions.
- **No match required for this competitive grant.**

PROCEEDING

Home Energy and High Efficiency Rebate Allocations

AEA is collaborating with AHFC 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 multi-family 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: $37.4 million; no State match required.**
- **Funding is estimated to be available between fall/winter 2025.**

Home Electrification and Appliance Rebates

- Rebates for low- and moderate-income households to save energy and money toward energy upgrades made to their primary residence.
- Includes means testing and will provide 50% of the project cost to residents with incomes between 80% to 150%. Rebates of 100% for incomes below 80% of area medium income, with similar tiers for multi-family 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: $37.1 million; no State match required.**
- **Funding is estimated to be available between fall/winter 2025.**

PROCEEDING

$15.7 Million

Black Rapids Training Site (BRTS) Defense Community Infrastructure Pilot Program

AEA partnered with Golden Valley Electric Cooperative (GVEA) was awarded this grant from the Office of Local Defense Community Cooperation under the Defense Community Infrastructure Pilot Program. **Federal Receipt Authority of $15.7 Million received in fiscal year 2024. No State match is required**.

GVEA will use the funds to extend a transmission line 34 miles along the Richardson Highway to BTRS. Currently, BTRS is powered by three diesel generators that are nearing the end of their useful lives. This extension will improve long-term sustainability and reliability for BRTS by tying them into GVEA's power grid.

Federal Funding — Awards and Pending Applications

#	Awarded and Conditional Awards	Alaska Grant $	Match $
1	Energy Efficiency Revolving Loan Capitalization – Proceeding	$4,782.0	$ -
2	State Energy Program Funding – Proceeding	$3,662.0	$ -
3	High Energy Cost Grants (Manokatok) – USDA Rural Utilities Service – Proceeding	$2,000.0	$ -
4	Vehicle Technology Office Competition Federal Fiscal Year 2022 (ARED) – Proceeding	$1,670.0	$418.0
5	Energy Efficiency and Conservation Block Grant – Proceeding	$1,627.0	$ -
6	Training for Residential Energy Contractors (TREC) – Proceeding	$1,294.0	$ -
7	Energy Future Grant – Unknown	$497.0	$ -
	Total Awards = $15,950.0	**$15,532.0**	**$418.0**

RURAL ENERGY


RURAL ENERGY INFRASTRUCTURE

Power Cost Equalization (PCE)

The PCE program was established in 1985 as one of the components of a statewide energy plan.

192
RURAL COMMUNITIES

91
ELECTRIC UTILITIES

81,700
ALASKANS

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.

$48M
FUNDS BUDGETED
In Fiscal Year 2024, AEA disbersed $48 million to rural electric utilities for the benefit of our rural communities.

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.

Capital Request– $2.5 Million
Federal Receipt Authority – $2.5 Million

Rural Power System Upgrades

- AEA's **Rural Power Systems Upgrade program** improves power generation in Alaska villages with less than 2,000 people.
- Approximately **170 communities** are eligible for the program, which replaces outdated, inefficient mechanical systems with new electronically controlled generator sets.
- Due to declining funds, rural **power systems aren't upgraded timely**, and communities are left with aging systems at risk of failure.
- AEA evaluates **several factors** when prioritizing projects for funding — at this time **deferred maintenance is estimated at $300 million**.

Bulk Fuel Upgrades

Capital Request – $2 Million
Federal Receipt Authority – $2 Million

- AEA designs and builds modern, code-compliant bulk fuel facilities through our **Bulk Fuel Upgrade program**.
- In Alaska, there are over **400 bulk fuel facilities** — each sized to support the village.
- Most of the facilities are older than 40 years, **with many exceeding 50 years**, and they average **100,000 gallons** in size.
- However, **aging infrastructure poses several safety risks for rural communities**, e.g. corrosion, erosion, and environmental.
- AEA maintains an inventory and assessment priority need-based list — so far **deferred maintenance is estimated at $1 billion**.

Before

After

Circuit Rider Program

PCE Endowment Fund – $710.0

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Electrical Emergency Assistance

- Akiak
- Chignik

Circuit Rider and Bulk Fuel Itinerant Onsite

Number after entity indicates more than one occurrence. 45 Total Onsite Visits

- Akhiok
- Akiak (2)
- Beaver (2)
- AVTEC Seward (5)
- Chalkyitsik
- Chignik Bay (2)
- Chignik Lagoon
- Chignik Lake (2)
- Chitna (2)
- Circle (2)
- Cold Bay
- False Pass
- Galena
- Golovin (2)
- Hughes
- Igiugig
- Kipnuk (4)
- Levelock
- Manokotak
- Mertarvik
- Napaskiak (4)
- New Stuyahok
- Nikolai
- Nunam Iqua
- Pedro Bay (2)
- Perryville (2)
- Pilot Point (2)
- Pilot Station
- Port Heiden
- Rampart (2)
- Russian Mission
- Scammon Bay (2)
- Teller
- Tenakee Springs
- Tuluksak (2)
- Venetie (2)

Circuit Rider Real-Time Remote Assistance

Number after entity indicates more than one occurrence. 311 Total Responses

- Akhiok (5)
- Akiachak (8)
- Akiak (8)
- Aniak
- Arctic Village (3)
- Atka
- Atmautluak
- Beaver (2)
- Buckland (2)
- Central
- Chalkyitsik (2)
- Chignik Bay (6)
- Chignik Lagoon (3)
- Chignik Lake (2)
- Chitina (7)
- Chuathbaluk
- Circle (7)
- Clarks Point
- Cold Bay
- Crooked Creek
- Diomede (5)
- Egegik (4)
- Elfin Cove (8)
- False Pass (2)
- Fort Yukon
- Galena
- Hoonah (2)
- Hughes (3)
- Igiugig
- Karluk (4)
- Kipnuk (11)
- Kokhanok (3)
- Koliganek
- Kongiganak (2)
- Koyuk (2)
- Koyukuk (5)
- Kwethluk (9)
- Kwigillingok (4)
- Levelock (8)
- Manokotak
- McGrath
- Mertarvik (6)
- Napakiak
- Napaskiak (6)
- Nelson Lagoon (3)
- Newhalen
- Nikolai (7)
- Nikolski
- Nunam Iqua (14)
- Ouzinkie (4)
- Pedro Bay (3)
- Pelican
- Perryville (2)
- Pilot Point (4)
- Port Heiden (14)
- Red Devil
- Ruby (2)
- Saint George
- Sleetmute (2)
- Stevens Village
- Stony River
- Takotna
- Tatitlek (5)
- Tenakee Springs (4)
- Tuluksak (5)
- Unalakleet
- Venetie (9)
- Wainwright

RENEWABLE ENERGY FUND

Capital Request - $6.3 Million

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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.

ROUND 17: 18 REFAC-Recommended Projects Totaling $21.2 Million

STATEWIDE INVESTMENT
294 Grants Awarded
Totaling $327 Million

ACTIVE PROJECTS
100+ Projects in Operation
56 in Development

ROUND 15 AWARDS
18 Projects Awarded
$17 Million Appropriated

ROUND 16 AWARDS
5 Projects Awarded
$10.5 Million Appropriated

REF Round 17 Recommended Projects to Legislature

AEA Rank	Community	Project Name	Applicant Name	Technology	Recommended Funding	Energy Region	Senate District	House District
1	Pelican	Pelican Hydro Relicensing Project, Restoration, Repair	City of Pelican, Pelican Utilities	Hydroelectric	$ 650,474	Southeast	A	2
2	Naknek	Naknek Solar PV on Cape Suwarof	Naknek Electric Association, Inc.	Solar	$ 3,137,848	Bristol Bay	S	37
3	Skagway	Goat Lake Hydro Storage Expansion Study	Goat Lake Hydro, Inc.	Hydroelectric	$ 121,250	Southeast	B	3
4	Kwethluk	Nuvista Kwethluk Wind and Battery Project Completion	Nuvista Light and Electric Cooperative, Inc.	Wind	$ 738,979	Lower Yukon Kuskokwim	S	38
5	Quinhagak	Quinhagak Battery Energy Storage System Project	Alaska Village Electric Cooperative, Inc.	Storage	$ 443,956	Lower Yukon Kuskokwim	S	38
6	Nenana	Nenana Biomass District Heat System, Final Phase	City of Nenana	Biomass	$ 1,223,000	Railbelt	R	36
7	Kongiganak	Kongiganak 100 kW Solar Energy Project	Puvurnaq Power Company	Solar	$ 720,453	Lower Yukon Kuskokwim	S	38
8	Railbelt	Railbelt Wind Diversification Alaska Renewables	Alaska Renewables LLC	Wind	$ 2,000,000	Railbelt	Various	Various
9	Homer	Homer Energy Recovery Project	City of Homer	Hydroelectric	$ 280,000	Railbelt	C	6
10	Atmautluak	Atmautluak ETS Installation, Integration and Commissioning	Atmautluak Tribal Utilities	Storage	$ 286,227	Lower Yukon Kuskokwim	S	38
11	Ketchikan, Petersburg, Wrangell	Southeast Alaska Grid Resiliency (SEAGR)	Southeast Alaska Power Agency (SEAPA)	Hydroelectric	$ 4,000,000	Southeast	A	1 & 2
12	Chevak	Chevak Battery Energy Storage System Project	Alaska Village Electric Cooperative, Inc.	Storage	$ 968,644	Lower Yukon Kuskokwim	S	38
13	Pedro Bay	Knutson Creek Hydro Project Construction	Pedro Bay Village Council	Hydroelectric	$ 400,000	Bristol Bay	S	37
14	Akiachak	Akiachak Native Community 200 kW Solar Energy Project	Akiachak, Ltd	Solar	$ 67,833	Lower Yukon Kuskokwim	S	38
15	Nome	NJUS Solar Nome Banner Ridge Solar Farm	Nome Joint Utility System	Solar	$ 4,000,000	Bering Straits	T	39
16	MEA Service Area	Hunter Creek Hydroelectric Feasibility Study Project	Matanuska Electric Association	Hydroelectric	$ 1,280,500	Railbelt	M	25
17	Chignik	Chignik Hydroelectric Power System	City of Chignik	Hydroelectric	$ 883,012	Bristol Bay	S	37
18	Sterling	Sterling Solar Project	Utopian Power LLC	Solar	$ 12,500	Railbelt	D	8
Total					**$ 21,214,676**			

"*If appropriated by the Legislature and approved the Governor, this funding would become effective July 1, 2025 for inclusion in the budget for Fiscal Year 2026.
**Projects highlighted in blue are those projects to be funded under the REF allocation in the Governor's Fiscal Year 2026 proposed capital budget"

REF Annual Diesel and Natural Gas Displacement

With over 100 operational projects, REF has offset approximately 111 million gallons of diesel and over 3.3 billion cubic-feet of natural gas-fired generation since 2008, reducing costs for local utilities and reducing reliance on Cook Inlet gas supplies. Below is a summary of annual diesel and natural gas displacement by energy region

REF Projects - Nameplate Capacity (MW) & Displacement by Energy Region - Operational Projects			
Energy Region	**Nameplate Capacity Additions (Megawatts)**	**Annual Estimated Diesel Fuel / Fuel Oil Displacement (Gallons)**	**Annual Natural Gas Displacement (Bcf)**
Aleutians	2.2	217,413	-
Bering Straits	3.8	402,331	-
Bristol Bay	1.4	223,977	-
Copper River/Chugach	8.3	720,081	-
Kodiak	20.3	4,751,110	-
Lower Yukon-Kuskokwim	5.4	576,222	-
Non-Specified	0.0	-	-
North Slope	0.0	100,000	-
Northwest Arctic	2.6	657,559	-
Railbelt	33.5	118,604	1.15
Southeast	21.4	4,769,522	-
Yukon-Koyukuk/Upper Tanana	0.03	539,582	-
TOTAL	**98.9**	**13,076,401**	**1.15**

Successful REF Projects (Listed Alphabetically)

No.	Project Name	Technology	Energy Region	Community
1	Allison Creek Hydroelectric Facility**	Hydroelectric	Copper River/Chugach	Copper Valley Electric Assoc. Serving Area
2	Battle Creek Diversion (Bradley Lake)	Hydroelectric	Railbelt	Railbelt
3	Bethel Wind Farm*	Wind	Lower Yukon-Kuskokwim	Bethel, Oscarville
4	Chuniisax Creek Hydroelectric Facility*	Hydroelectric	Aleutians	Atka
5	Dixon Diversion (Bradley Lake)	Hydroelectric	Railbelt	Railbelt
6	Eva Creek Wind Farm**	Wind	Railbelt	Golden Valley Electric Assoc. Serving Area
	Fivemile Hydroelectric Facility*	Hydroelectric	Copper River/Chugach	Chitina
8	Galena Solar Photovoltaics and Battery Storage*	Solar, Storage	Yukon-Koyukuk/Upper Tanana	Galena
9	Hiilangaay Hydroelectric Facility**	Hydroelectric	Southeast	North Prince of Wales Island
10	Huslia Community Scale Solar Photovoltaic and Battery Storage*	Solar, Storage	Yukon-Koyukuk/Upper Tanana	Huslia
11	Kotzebue Wind to Solar Photovoltaics Transition	Solar	Northwest Arctic	Kotzebue
12	Nome Banner Ridge Wind Farm and Transmission	Wind, Transmission	Bering Straits	Nome
13	Northwest Arctic Borough Solar Photovoltaics and Battery Storage Design*	Solar, Storage	Northwest Arctic	Ambler, Kiana, Noorvik, Selawik
14	Old Harbor Hydroelectric Feasibility*	Hydroelectric	Kodiak	Old Harbor
15	Packer's Creek Hydroelectric Facility	Hydroelectric	Bristol Bay	Chignik Lagoon
16	Pillar Mountain Wind Farm	Wind	Kodiak	Kodiak
17	St. Mary's / Mountain Village Intertie*	Transmission	Lower Yukon-Kuskokwim	St. Mary's, Mountain Village
18	Stebbins / St. Michael Wind Feasibility*	Wind	Bering Straits	Stebbins, St. Michael
19	Thayer Creek Hydroelectric Facility*	Hydroelectric	Southeast	Angoon
20	Whitman Lake Hydroelectric Facility**	Hydroelectric	Southeast	Ketchikan

*REF projects that secured significant additional **federal** funding.
REF projects that secured significant additional **state funding.

Thank You

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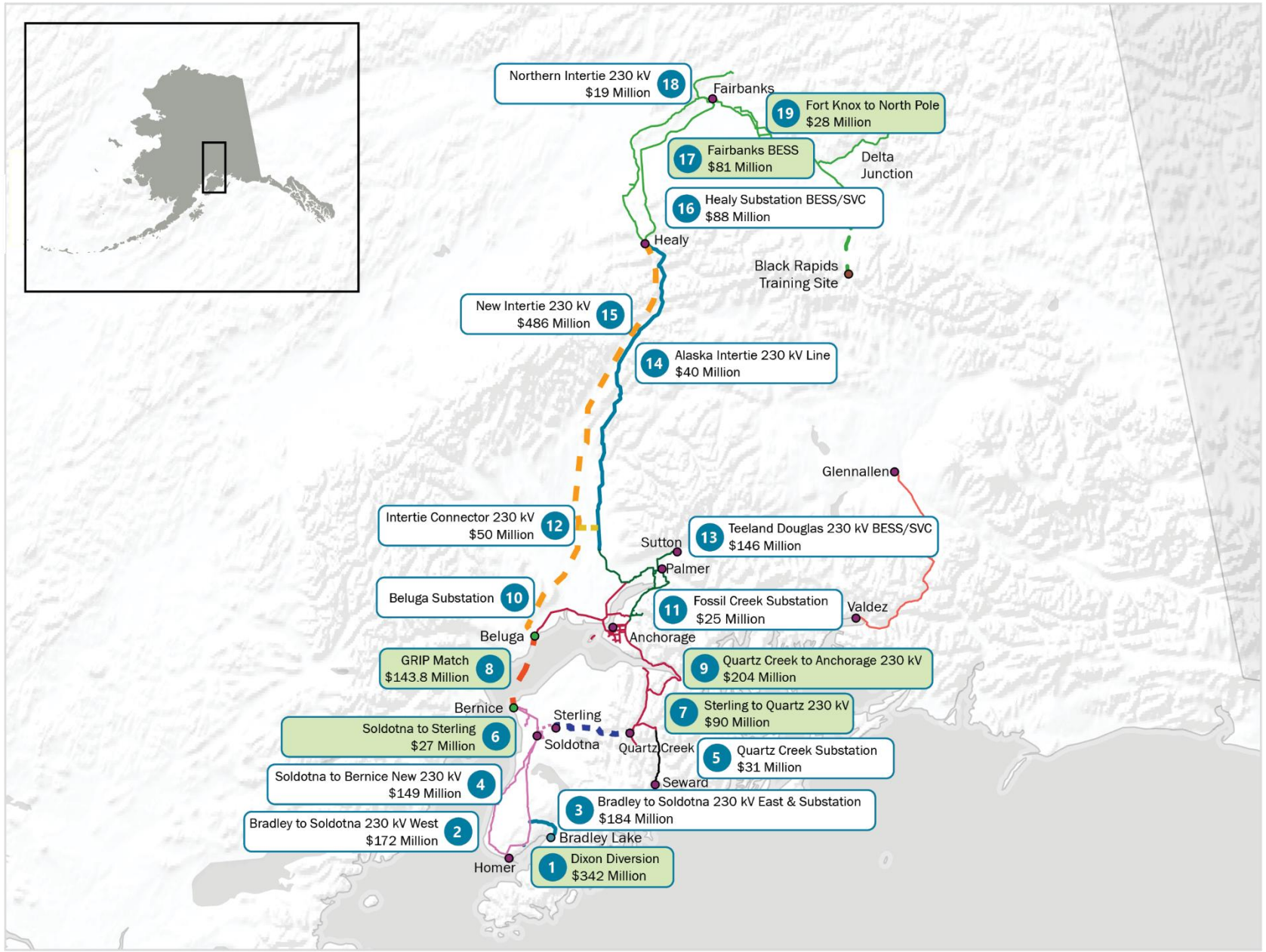
APPENDIX



Railbelt Projects

1. Dixon Diversion: AEA-unfunded (**studies underway**)*
2. Bradley-Soldotna West: HEA-unfunded*
3. Bradley-Soldotna East & Substation: AEA-HEA-unfunded*
4. Soldotna-Bernice: AEA-unfunded**
5. Quartz Creek Substation XMFR: CEA-unfunded*
6. Soldotna-Sterling: AEA-**partially funded***
7. Sterling-Quartz Creek: AEA-**funded, target 2028***
8. GRIP Match: AEA-**partially funded, target 2032****
9. Quartz Creek-Anchorage: CEA-**ongoing, target 2032***
10. Beluga Substation XMFR (2nd line): AEA-unfunded**
11. Fossil Creek Substation XMFR: CEA-MEA-unfunded*
12. Intertie Connector: AEA-unfunded**
13. Teeland-Douglas: MEA-unfunded*
14. Alaska Intertie: AEA-unfunded*
15. New Intertie Beluga-Healy: AEA-unfunded**
16. Healy Substation: AEA-unfunded*
17. Fairbanks BESS: GVEA-**partially funded, target 2027****
18. Northern Intertie: GVEA-unfunded*
19. Fort Knox-North Pole Loop: GVEA-**funded, target 2031***

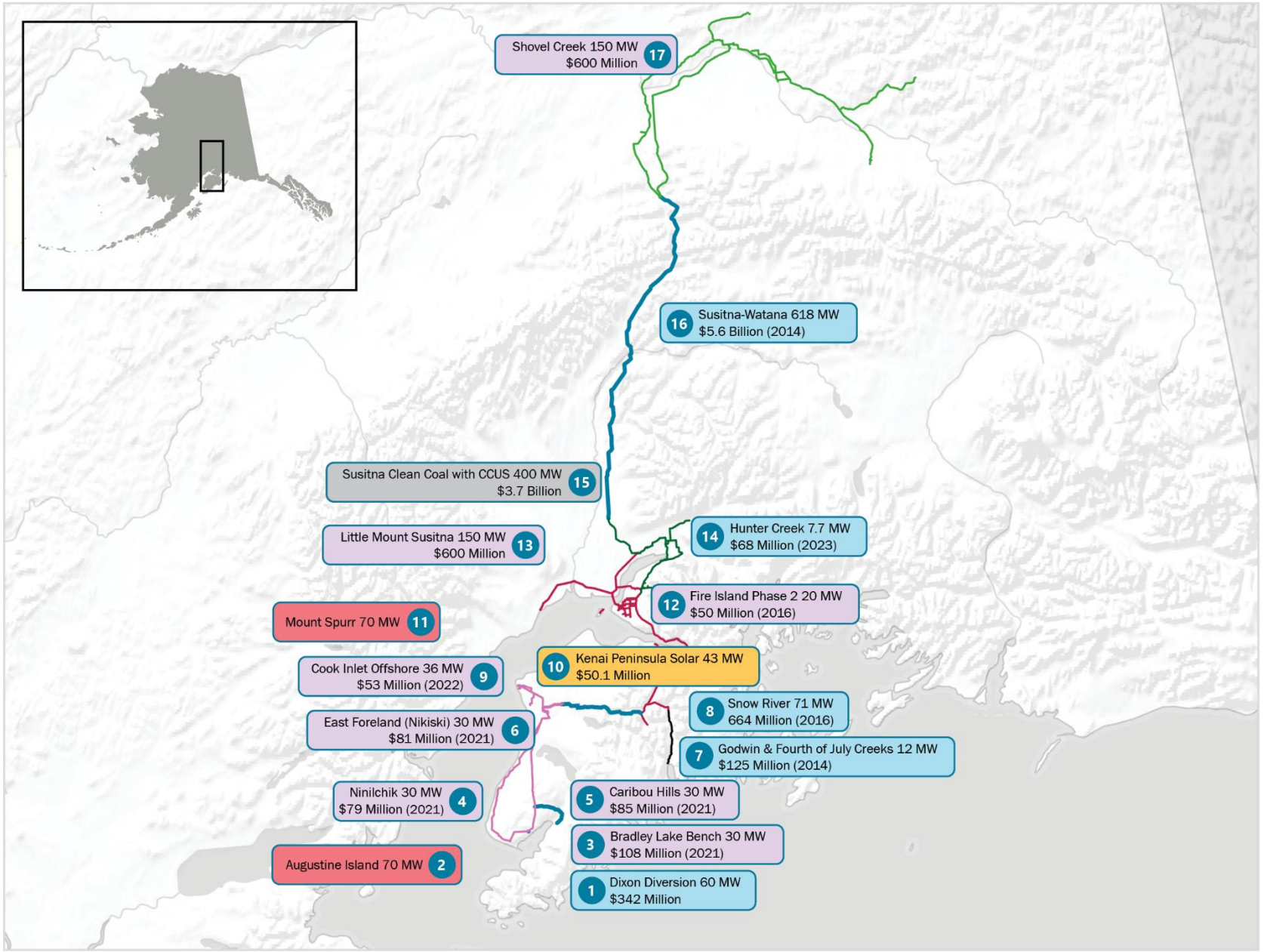
*Expansion or upgrade
**New project

Acronyms

BESS: Battery Energy Storage System
SVC: Static Var Compensator
XMFR: Transformer

Legend

- Alaska Energy Authority
- Chugach Electric Association
- Copper Valley Electric Association
- Golden Valley Electric Association
- Homer Electric Association
- Matanuska Electric Association
- Seward Electric System
- In Progress



Clean Energy Projects

1. Dixon Diversion Hydroelectric
2. Augustine Island Geothermal
3. Bradley Lake Bench Wind Farm
4. Ninilchik Wind Farm
5. Caribou Hills Wind Farm
6. East Foreland (Nikiski) Wind Farm
7. Godwin & Fourth of July Creeks Hydroelectric
8. Snow River Hydroelectric
9. Cook Inlet Offshore Wind
10. Kenai Peninsula Solar
11. Mount Spurr Geothermal
12. Fire Island Wind Phase 2
13. Little Mount Susitna Wind
14. Hunter Creek Hydroelectric
15. Susitna Clean Coal with Carbon Capture, Utilization & Storage
16. Susitna-Watana Hydroelectric
17. Shovel Creek Wind

Legend

- Geothermal
- Hydroelectric
- Storage
- Solar
- Wind
- Clean Coal
- Alaska Energy Authority
- Chugach Electric Association
- Copper Valley Electric Association
- Golden Valley Electric Association
- Homer Electric Association
- Matanuska Electric Association
- Seward Electric System

Rural Power System Upgrade Prioritization List

Of the more than **170 communities** eligible for the power system program, AEA has upgraded more than **one-third of** them over the years. The list of communities below is **limited to 25**, as AEA only has the financial and technical resources to manage a half dozen new projects each year. AEA estimates each power system upgrade to cost between **$5-7 million**. To complete all 25 on the list below, the total is estimated to be **$175 million**.

1. Red Devil
2. Nelson Lagoon
3. Chalkyitsik
4. False Pass
5. Manokotak
6. Tuluksak
7. Atka
8. Birch Creek
9. Hughes
10. Kokhanok
11. Newtok
12. Saint Paul
13. Chignik Bay
14. Levelock
15. Galena
16. Saint George
17. Chignik Lagoon
18. Chuathbaluk
19. Elfin Cove
20. Karluk
21. Pedro Bay
22. Diomede
23. Mertarvik
24. Ruby
25. Stony River

Bulk Fuel Upgrade Prioritization List

Of the state's **400 bulk fuel facilities**, **60%** have been assessed by AEA. Initial data collection to establish a baseline will completed by December 2024. This active list can be re-ranked according to specific area of concern, e.g. **environmental**, **dispenser**, **tank health**. As AEA gathers additional data, the list is re-ranked accordingly. AEA estimates each bulk fuel upgrade to cost between **$10-12 million**. To complete all 25 on the list below, the total is estimated to be **$300 million**.

1. Shageluk*
2. Newtok
3. Eek*
4. Kivalina
5. Kobuk
6. Chefornak*
7. Metlakatla
8. Whale Pass
9. Noatak
10. Wales*
11. Allakaket*
12. Kasaan*
13. Coffman Cove
14. Naukati Bay
15. Nulato
16. Huslia
17. Ambler*
18. Manokotak
19. Goodnews Bay
20. Shungnak*
21. Kwigillingok*
22. Tuluksak*
23. Teller
24. Galena
25. Kongiganak

*AEA active projects or projects in development. Several of these projects were identified in previous inventories and assessments.

Renewable Energy Fund Advisory Committee (REFAC)

The REFAC works in consultation with AEA, offering valuable guidance and policy direction regarding the application and evaluation process, and final funding recommendations for submission to the Alaska State Legislature. The REFAC is comprised of nine members; five of which are appointed by the Governor.

Name	Title	Sector	Appointed By
To Be Determined	To Be Determined	Denali Commission	Governor
Bradley Janorschke	General Manager, Homer Electric Association	Large urban electric utility	Governor
Clay Koplin	Chief Executive Officer, Cordova Electric Cooperative	Small rural electric utility	Governor
Iliodor Philemonof III	Government Relations Administrator, Calista Corporation	Representative of an Alaskan Native Organization	Governor
Chris Rose	Executive Director, Renewable Energy Alaska Project	Business/organization involved in renewable energy	Governor
Sen. Bert Stedman	Senator	Senate Member 1	Senate President
Sen. Jesse Kiehl	Senator	Senate Member 2	Senate President
Rep. Ky Holland	Representative	House Member 1	Speaker of the House
Rep. Donna Mears	Representative	House Member 2	Speaker of the House

REF Evaluation Process: Four Stage Review

Stage 1 – Evaluation of the Applicant

Evaluation of the applicant project eligibility and completeness of the application.

Stage 2 – Evaluation of the Project

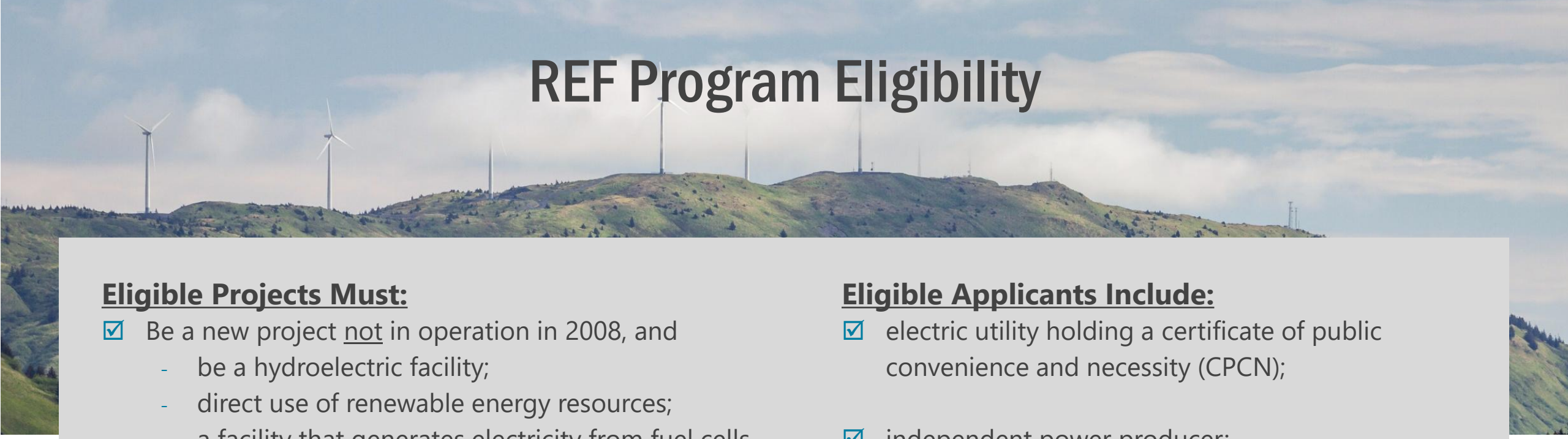
Evaluation of the project's technical and economic feasibility. This stage includes independent reviews by the Department of Natural Resources and contracted third-party economists.

Stage 3 – Initial Project Ranking

Projects are ranked in consideration of multiple criteria, including, but not limited to, community cost of energy, applicant matching funds, project readiness, project sustainability, and public benefit.

Stage 4 – Final Project Ranking

In conjunction with the Renewable Energy Fund Advisory Committee, this stage balances / re-ranks projects, based on factors including the number and type of projects within each region and their Stage 3 regional and state rankings.



REF Program Eligibility

Eligible Projects Must:

☑ Be a new project not in operation in 2008, and
- be a hydroelectric facility;
- direct use of renewable energy resources;
- a facility that generates electricity from fuel cells that use hydrogen from renewable energy sources or natural gas (subject to additional conditions); or
- be a facility that generates electricity using renewable energy.
- Natural gas applications must also benefit a community that:
  - has a population of 10,000 or less, and
  - does not have economically viable renewable energy resources it can develop.

Eligible Applicants Include:

☑ electric utility holding a certificate of public convenience and necessity (CPCN);

☑ independent power producer;

☑ local government; or

☑ other governmental utility, including a tribal council and housing authority.

Proposed REF Capitalization for FY2026/Round 17

ALASKA ENERGY AUTHORITY

- The State of Alaska's proposed FY2026 capital budget allocates $6.3 million for REF Round 17 grant funding of recommended projects, fully funding the top six.
- A total of $21,214,676 is requested for 18 recommended projects. With the proposed REF budget of $6.3 million, there would be insufficient funding to cover all current Round 17 projects as recommended. An additional $14.9 million is needed to fund all Round 17 recommendations.
- The table to the right provides historical REF program funding from program inception through FY2025.
- FY2025 capital budget approved $10.5 million for the top five projects recommended in REF Round 16. As a result, the past three fiscal years' appropriations exceeded $10 million.

Legislative Appropriation		Fiscal Year
$	100,001,000	FY2008
$	25,000,000	FY2009
$	25,000,000	FY2010
$	36,620,231	FY2011
$	25,870,659	FY2012
$	25,000,000	FY2013
$	22,843,900	FY2014
$	11,512,659	FY2015
$	-	FY2016
$	-	FY2017
$	(3,156,000)	FY2018 - RPSU Reappropriation
$	11,000,000	FY2019
$	-	FY2020
$	-	FY2021
$	4,750,973	FY2022
$	15,000,000	FY2023
$	17,052,000	FY2024
$	10,521,836	FY2025
$	**327,017,258**	**TOTAL (excl. operating appropriation)**

Capital Request: $4.4 Million

ALASKA ENERGY AUTHORITY

Whittier Cruise Ship Terminal Port Electrification

- Port electrification is a vital project for Alaska's cruise ship docks, which will receive this funding.
- The purpose of port electrification projects is to support Alaska's clean energy economy and drive the transition towards sustainable and eco-friendly practices within the cruise ship industry while also yielding numerous economic, environmental, and social benefits for Alaska and its communities.
- The state cruise ship head tax and private sector matching contributions will be used to fund this request. In fiscal year 2024 AEA received $5 million for Whittier.