

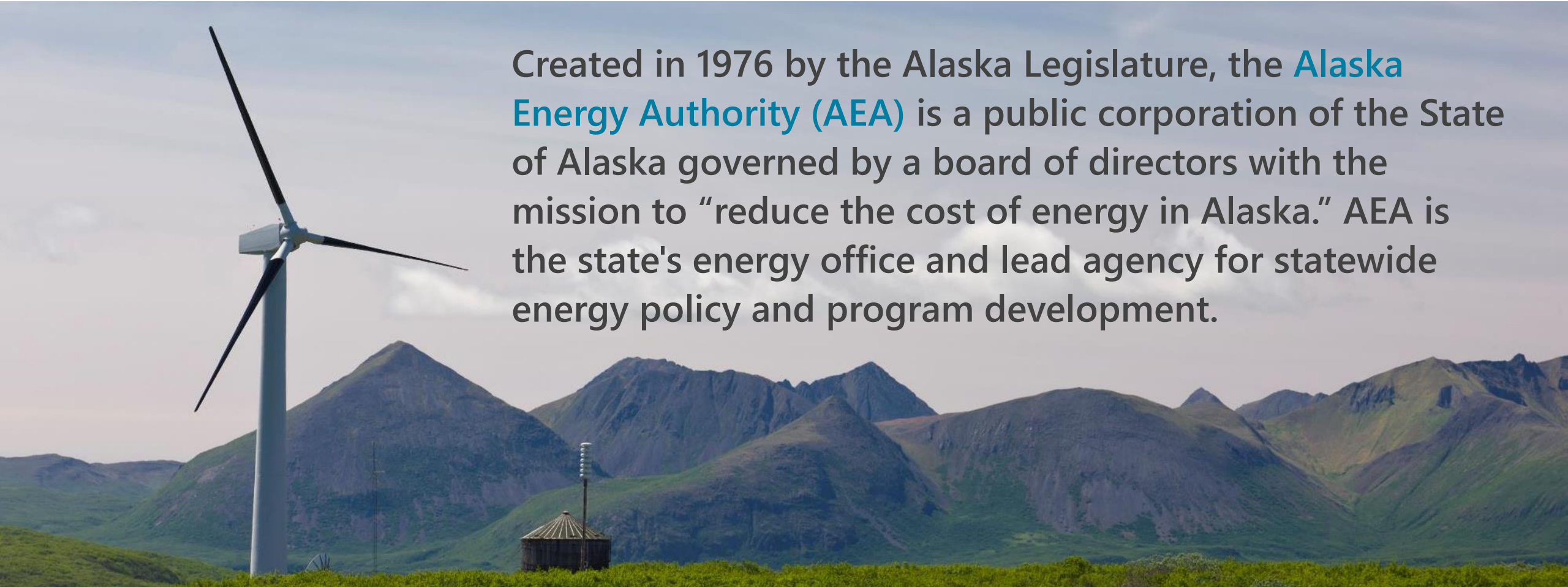
ALASKA ENERGY AUTHORITY

Curtis W. Thayer
Executive Director

House Finance DCCED Subcommittee
March 18, 2021



WHO WE ARE

A photograph of a white wind turbine on a grassy hill. In the background, there are several jagged, rocky mountains under a cloudy sky. A small, dark, conical structure is visible on the hill in front of the mountains.

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.

WHAT WE DO



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



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



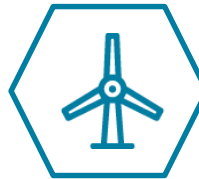
Rural Energy – AEA constructs bulk fuel tank farms, diesel powerhouses, and electrical distribution grids in rural villages. AEA supports the operation of these facilities through circuit rider and emergency response programs.



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

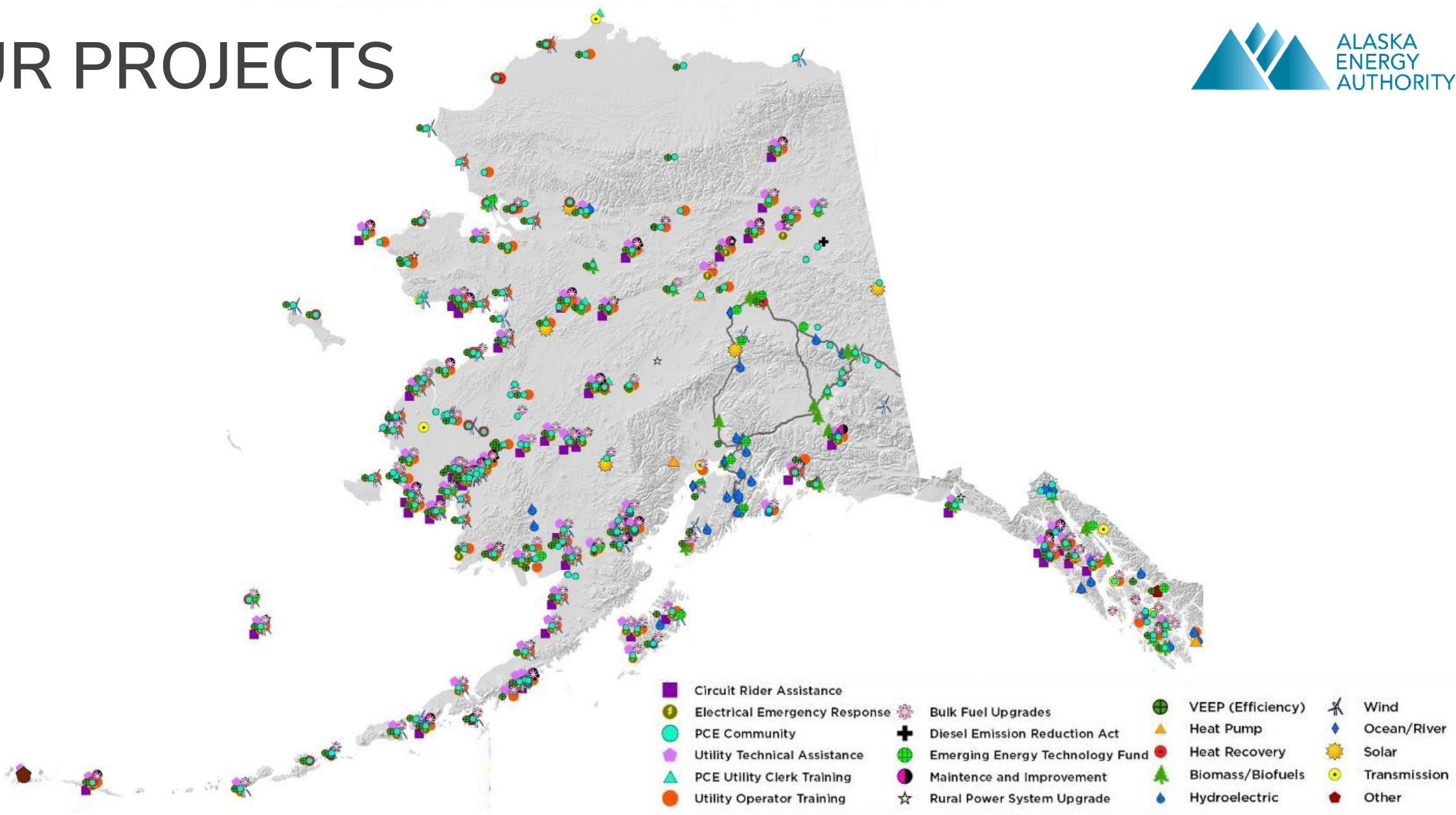


Grants and Loans – AEA provides loans to local utilities, local governments, and independent power producers for the construction or upgrade of power generation and other energy facilities.



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.

OUR PROJECTS



POWER COST EQUALIZATION



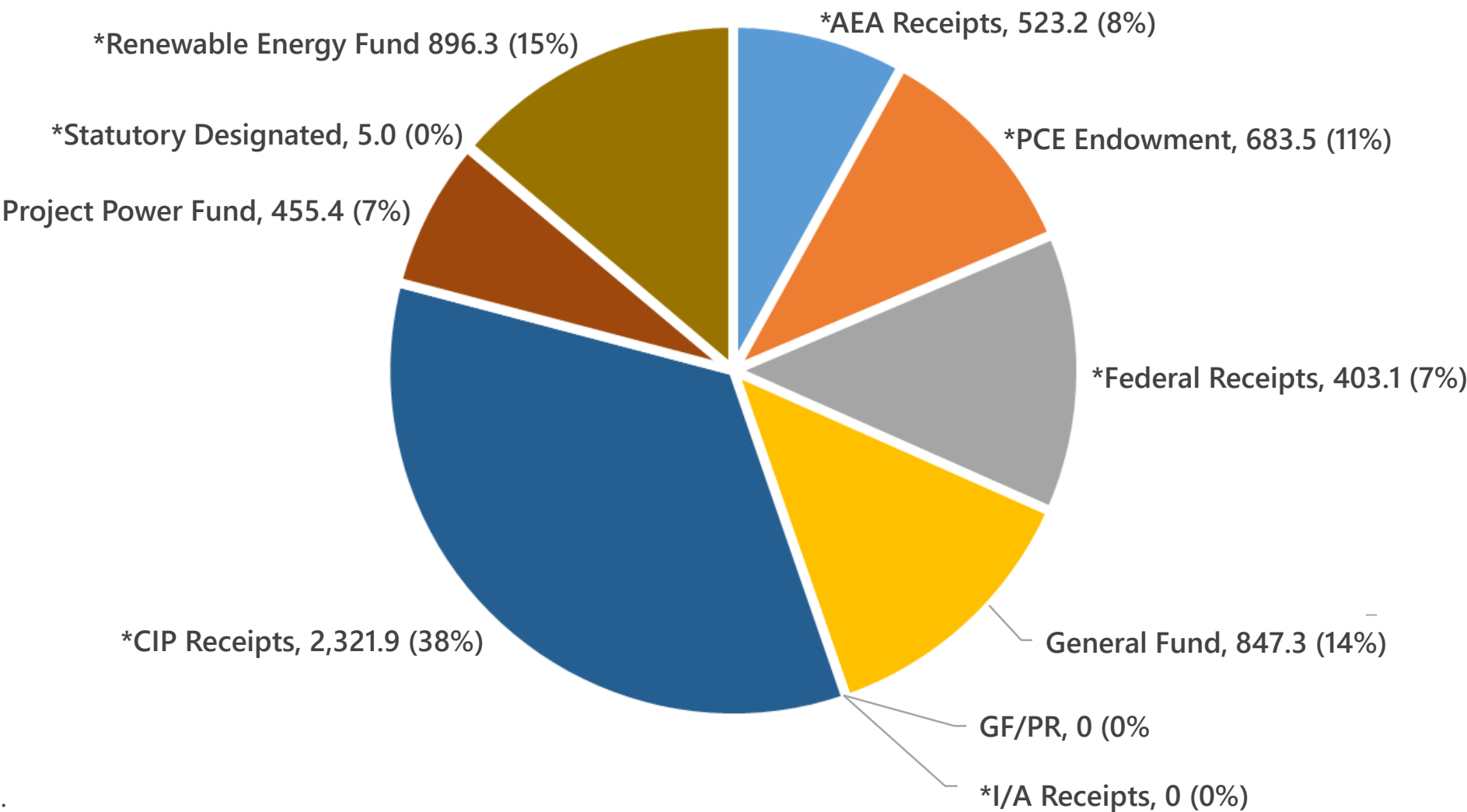
- Power Cost Equalization (PCE) provides electric power to rural residential customers and community facilities at costs similar those in Anchorage, Fairbanks, and Juneau
- 194-eligible communities see the benefits of PCE credits
- In Fiscal Year 2020, \$29.6 million was disbursed
- PCE Endowment Fund created capitalized in Fiscal Year 2001 — now ~\$1.1 billion

PCE ENDOWMENT HISTORY (THOUSANDS)

	<u>FY2016</u>	<u>FY2017</u>	<u>FY2018</u>	<u>FY2019</u>	<u>FY2020</u>
Beginning Investment Fund Balance	\$ 969,389	946,939	1,023,566	1,073,378	1,072,825
Inflows:					
Annual investment earnings	8,912	112,331	76,602	74,142	48,303
Capital fund transfers in	—	—	—	—	—
Total inflows	8,912	112,331	76,602	74,142	48,303
Outflows:					
Transfers to AEA for PCE payments (1)	(30,622)	(34,956)	(25,595)	(29,719)	(27,000)
Transfers and appropriations to Other Funds	—	—	—	(44,000)	(14,867)
Program administration – AEA	(255)	(243)	(624)	(444)	(575)
Administrative fee – Regulatory Commission	(100)	(112)	(113)	(102)	(108)
Management fee – Department of Revenue	(385)	(393)	(458)	(430)	(421)
Total outflows	(31,362)	(35,704)	(26,790)	(74,695)	(42,971)
Ending investment fund balance	\$ 946,939	1,023,566	1,073,378	1,072,825	1,078,157

(1) Transfers to AEA for PCE Endowment grant payments at June 30, 2020 were \$27,000,000. Subsequent transfers were \$2,600,000 based on estimated PCE costs paid in FY21.

FY2020 UGF ACTUALS EXCLUDING PCE GRANTS



*Restricted funds.

FY2022 OPERATING BUDGET (THOUSANDS)

FY2022 OPERATING BUDGET (ALL COMPONENTS)	FY2021 Authorized	FY2022 Governor's Proposed	Variance
Expenditure Categories:			
Travel	134.8	134.8	–
Services (includes personal services paid to AIDEA)	8,548.2	8,548.2	–
Commodities	56.0	56.0	–
Capital Outlay/Equipment	15.0	15.0	–
Grants	29,600.0	32,100.0	2,500.0
Totals	38,345.0	40,854.0	2,500.0
Funding Sources:			
Unrestricted GF (undesignated)	847.3	–	(847.3)
Power Project Fund (designated)	995.5	995.5	–
Renewable Energy (designated)	1,400.0	1,400.0	–
PCE Endowment (designated)	30,236.8	33,584.1	3,347.3
GF Program Receipts (designated)	50.0	50.0	–
Subtotal (Designated & Undesignated GF)	3,3529.6	36,029.6	2,500.0
CIP Receipts	2,567.8	2,567.8	–
Federal Receipts	1,202.0	1,202.0	–
AEA Receipts	780.7	780.7	–
I/A Receipts	123.9	123.9	–
Statutory Designated Program Receipts	150.0	150.0	–
Totals	38,354.0	40,854.0	2,500.0

FY2022 CAPITAL BUDGET (THOUSANDS)

PROJECT NAME	STATE FUNDING REQUEST	FEDERAL RECEIPT AUTHORITY	TOTAL	FUND CODE	BRIEF SUMMARY
Alaska Cargo and Cold Storage	—	21,000.0	21,000.0	1002 - Fed	The Alaska Energy Authority and Alaska Cargo and Cold Storage are partnering to construct a cargo storage and warehouse facility at the Ted Stevens Anchorage International Airport. This will develop a state-of-the art facility that is exceptionally energy efficient by maximizing available renewable and energy efficient technologies. <i>Funding Sources: United States Department of Energy (federal)</i>
Alternative Energy and Energy Efficiency Programs	—	5,000.0	5,000.0	1002 - Fed	Alternative Energy and Energy Efficiency Programs provide critical support for communities interested in developing renewable energy and efficiency projects. This program provides a foundation of support that is critical to the proper development of renewable energy technologies in Alaska. <i>Funding Sources: Denali Commission (federal); United States Department of Energy (federal); and United States Department of Agriculture (federal)</i>
Bulk Fuel Upgrades (State dollars are matching funds)	5,500.0	7,500.0	13,000.0	1002 - Fed Receipts / 1169 PCE Endowment	Bulk fuel tank farm upgrades. Replaces aging tanks that may be leaking. Adds capacity to meet community needs. Meets code compliance standards improving life, health, and safety of community. <i>Funding Sources: Denali Commission (federal) & PCE Endowment Fund</i>
Rural Power Systems Upgrades (State dollars are matching funds)	5,000.0	12,500.0	17,500.0	1002 - Fed Receipts / 1169 PCE Endowment	Electric utility systems are part of the basic infrastructure of rural communities. New power systems are designed to meet accepted utility standards for safety, reliability, and environmental protections. <i>Funding Sources: Denali Commission (federal) & PCE Endowment Fund</i>
TOTALS	10,500.0	46,000.0	56,500.0		

FY2021 SUPPLEMENTAL CAPITAL BUDGET

PROJECT NAME	STATE FUNDING REQUEST	FEDERAL RECEIPT AUTHORITY	TOTAL	FUND CODE	BRIEF SUMMARY
Electrical Emergency Response	200.0	—	200.0	1004 - General Fund	Critical to rural communities - provides technical support when an electrical utility has lost, or will lose the ability to generate or transmit power. AS42.45.900 <i>Funding Source: UGF</i>

RURAL POWER SYSTEM UPGRADES



CAPITAL
REQUEST:

STATE: \$5 MILLION
FEDERAL RECEIPT AUTHORITY:
\$12.5 MILLION (MATCH REQUIRED)

- ~197 communities eligible for Rural Power System Upgrade (RPSU)
- 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

BULK FUEL UPGRADES

- ~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



CAPITAL
REQUEST:

STATE: \$5.5 MILLION
FEDERAL RECEIPT AUTHORITY:
\$7.5 MILLION (MATCH REQUIRED)

ALASKA CARGO AND COLD STORAGE



- AEA was awarded \$21 million USDOT BUILD grant to participate in the construction of a ~715,000-square-foot \$220 million state-of-the-art air 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
- The project will enhance ANC's shipping infrastructure, improve Alaska's supply chain security, and create jobs for Alaskans — 2,075 construction jobs and 120 full-time jobs

RENEWABLE ENERGY FUND



- Renewable Energy Fund (REF) helps Alaskans reduce and stabilize the cost of energy
- \$268 million invested in REF by the State
- 99 operational projects, 27 in development
- Round 13 recommendation submitted to Legislature January 2021
- REF program will sunset on June 30, 2023
- Approximately \$6.5 million available for Round 13

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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akenergyauthority.org



ADDENDUM



DENALI COMMISSION



- Partners since inception and continuing over the last 23 years
- Active awards – \$33.3 million (as of 2/7/21)
- Anticipated additional federal funding with State match

TRAINING AND TECHNICAL SUPPORT



January 1 through December 31, 2020

Circuit Rider, Operator Training, and Site Visits

Figure after the community represents number of contacts and site visits.

- Akhiok(2)
- Akiachak(3)
- Akiak(1)
- Alakanuk(1)
- Ambler(1)
- Atmautluak(3)
- Auke Bay(1)
- Birch Creek(4)
- Central(2)
- Chefnak(2)
- Chenega Bay(1)
- Chignik Bay(2)
- Chignik Lake(5)
- Chitina(1)
- Circle(4)
- Clarks Point(1)
- Diomedes(1)
- Edna Bay(2)
- Elfin Cove(2)
- False Pass(2)
- Fort Yukon(2)
- Golovin(1)
- Iliamna(4)
- Kalskag(1)
- King Cove(2)
- Kipnuk(1)
- Kwethluk(2)
- Larsen Bay(2)
- Napaskiak(2)
- Nikolai(2)
- Nunapitchuk(3)
- Ouzinkie(2)
- Pedro Bay(3)
- Pelican(2)
- Perryville(1)
- Pilot Station(1)
- Port Heiden(1)
- Ruby(1)
- Seward AVTEC(3)
- Takotna(1)
- Tenakee Springs(2)
- Tuluksak(7)
- Twin Hills(1)
- Unalakleet (2)
- Venetie(2)

TRAINING AND TECHNICAL SUPPORT



January 1 through December 31, 2020

Circuit Rider Real-Time Remote Assistance

Number after the community indicates number of distinct responses for assistance; 85 communities 452 total responses.

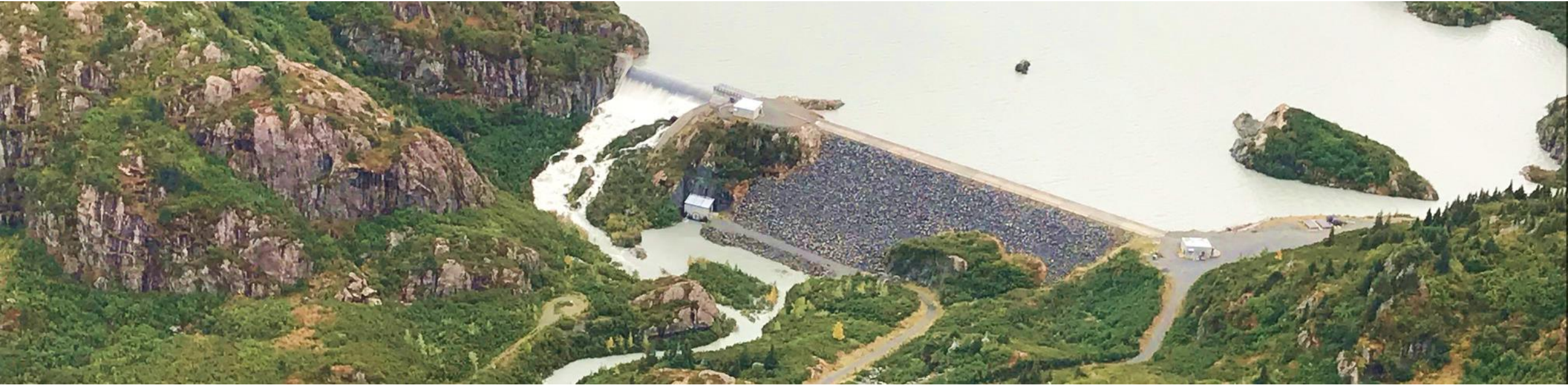
▪ Adak(1)	▪ Buckland(4)	▪ Emmonak(1)	▪ Kokhanok(3)	▪ Nikolia(5)	▪ Tazimina(3)
▪ Akhiok(2)	▪ Central(5)	▪ Fairbanks UAF(1)	▪ Kongiganak(3)	▪ Nunam Iqua(2)	▪ Tenakee
▪ Akiachak(8)	▪ Chenega Bay(5)	▪ Fairbanks TCC(2)	▪ Koyuk(1)	▪ Ouzinkie(18)	▪ Springs(3)
▪ Akiak(16)	▪ Chignik Bay(7)	▪ False Pass(3)	▪ Koyukuk(1)	▪ Pedro Bay(7)	▪ Tuluksak(28)
▪ Anc ANTHC(4)	▪ Chignik	▪ Fort Yukon(3)	▪ Kwethluk(17)	▪ Pelican(22)	▪ Tuluksak
▪ Anc DCRA(1)	▪ Lagoon(5)	▪ Galena(1)	▪ Kwigillingok(9)	▪ Perryville(1)	▪ School(1)
▪ Anc FEMA(2)	▪ Chignik Lake(5)	▪ Gambell(1)	▪ Larsen Bay(5)	▪ Pilot Point(1)	▪ Tuntutuliak(1)
▪ Anc PMC(1)	▪ Chitina(9)	▪ Hoonah(4)	▪ Levelock(7)	▪ Platinum(1)	▪ Ugashik(1)
▪ Anc SEOC(2)	▪ Chefnak(3)	▪ Hughes(4)	▪ Manokotak(1)	▪ Point Hope(1)	▪ Venetie(1)
▪ Angoon(5)	▪ Circle(6)	▪ Igiugig(6)	▪ McGrath(5)	▪ Port Heiden(10)	▪ Wales(1)
▪ Arctic Village(1)	▪ Clarks Point(42)	▪ Juneau IPEC(1)	▪ McGrath MKEC(1)	▪ Rampart(1)	
▪ Atmautluak(11)	▪ Crooked Creek(4)	▪ Kake(10)	▪ Mertarvik(11)	▪ Ruby(7)	
▪ Atka(3)	▪ Deering(1)	▪ Karluk(2)	▪ Napakiak(5)	▪ Saint George(3)	
▪ Beaver (4)	▪ Diomede(10)	▪ King Cove(2)	▪ Napaskiak(1)	▪ Stevens Village(5)	
▪ Bethel Calista(2)	▪ Egegik(7)	▪ Kipnuk(8)	▪ Newhalen(1)	▪ Takotna(3)	
▪ Birch Creek(1)	▪ Elfin Cove(6)	▪ Kobuk(1)	▪ Newtok(3)	▪ Tatitlek(8)	

POWER PROJECT FUND



- Dedicated to power projects, the Project Power Fund (PPF) is available to for qualified borrowers
- PPF is critical as grant funding is eliminated
- Requires review for technical and fiscal viability
- \$31 million in outstanding loans
- \$10.7 million uncommitted cash balance available for lending
- 8 applications pending for a total of \$10.4 million
- Low interest rates to encourage innovative power project applications

BRADLEY LAKE HYDROELECTRIC PROJECT



- Benefits 500,000+ 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
- Over \$20 million in savings per year to Railbelt utilities Bradley Lake versus natural gas

WEST FORK UPPER BATTLE CREEK DIVERSION



- Project cost \$47 million, will add ~10% energy
- Substantial completion on July 22, 2020
- 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
- More energy at lower cost can be produced and delivered to ratepayers

SSQ TRANSMISSION LINE

- 39.3 miles of 115-kV transmission line delivers Bradley Lake hydroelectric generated power
- AEA's recent 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 power
- Schedule begins with preliminary design with 6 months, 24 to 36 month estimate to finalize construction



ALASKA INTERTIE



- 170 mile-long transmission line from Willow to Healy
- Allows Golden Valley Electric Association (GVEA) to connect to and benefit from lower cost power
- Improves reliability within Railbelt system
- Operated by AEA and Railbelt utilities
- Between 2008 and 2018, the Intertie provided an average annual cost savings of \$40 million to GVEA customers