

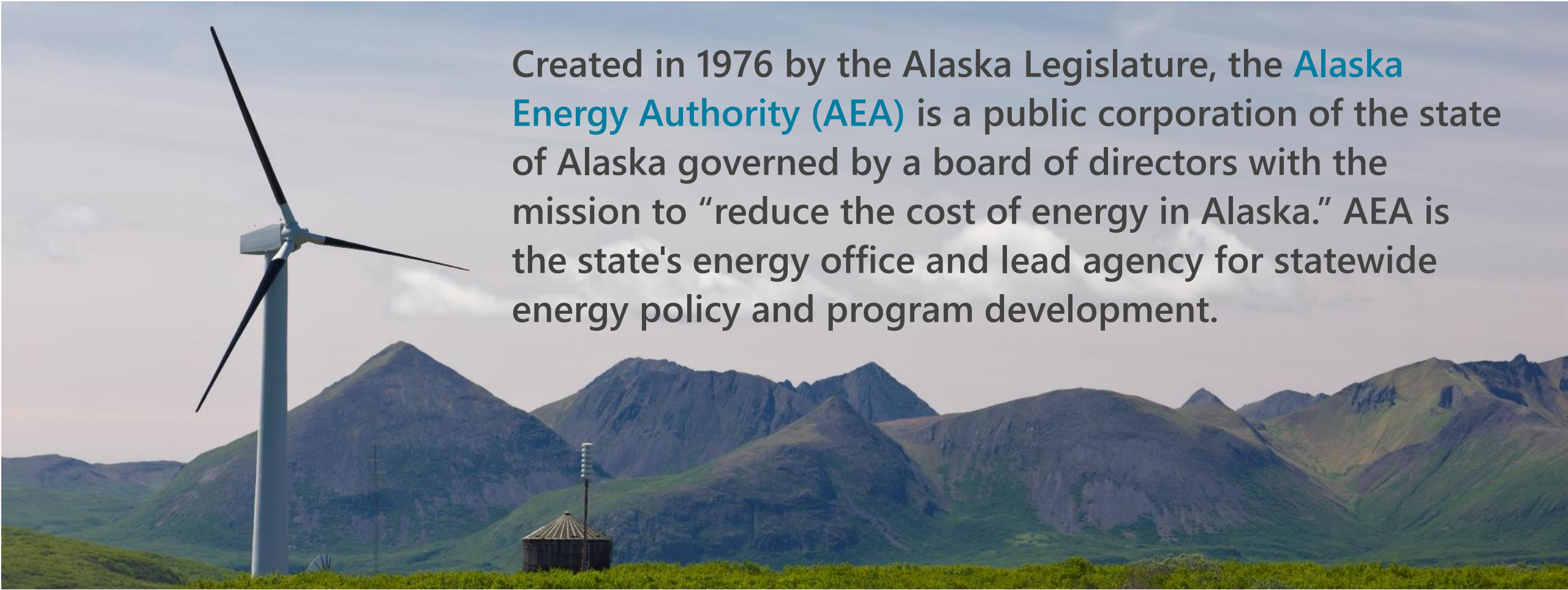
Alaska Energy Authority

Curtis W. Thayer
Executive Director
Alaska Energy Authority

Chugiak-Eagle River
Chamber of Commerce
December 18, 2019



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 turbine.

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



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.



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.



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.

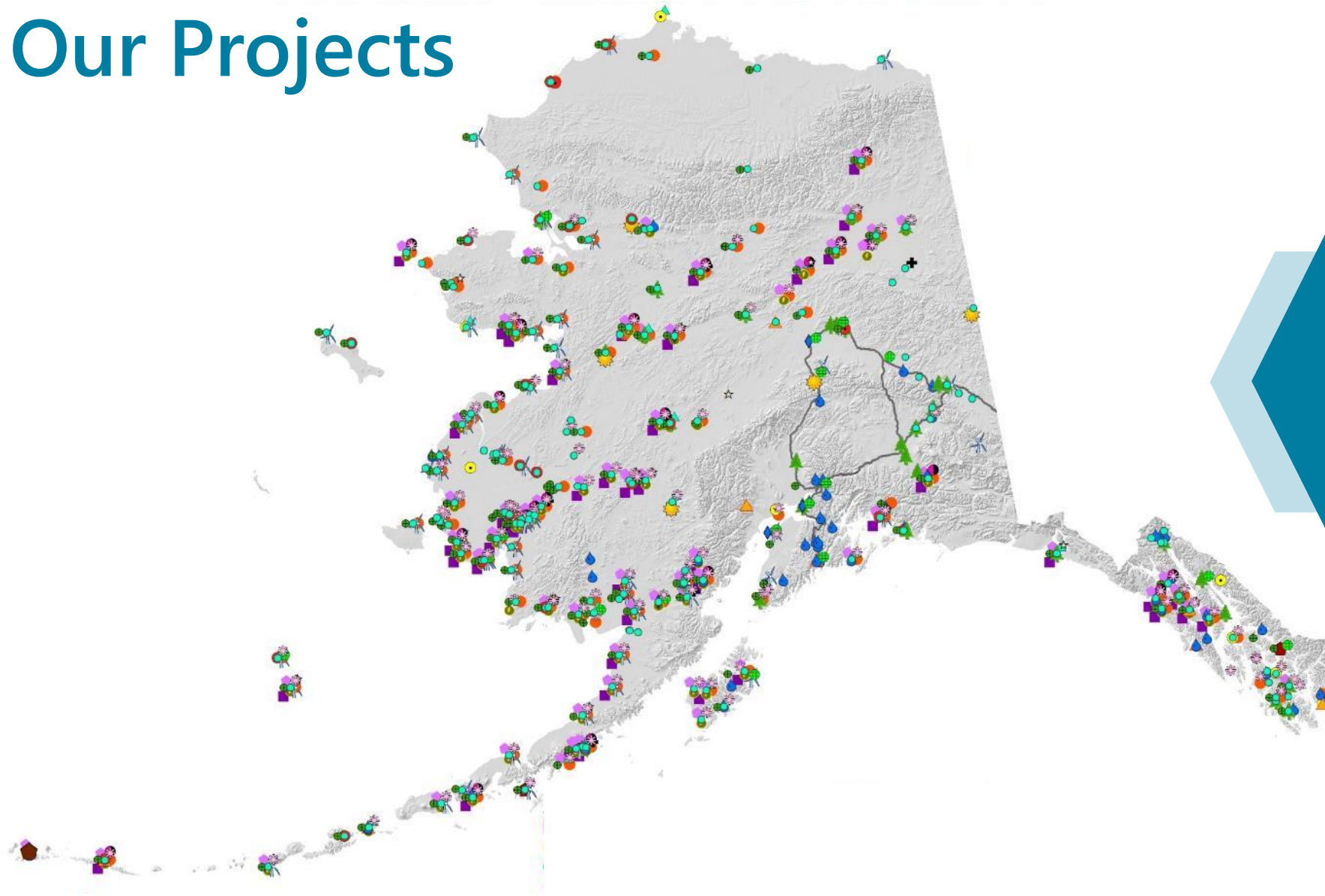


Power Cost Equalization – The Power Cost Equalization Program reduces the cost of electricity in rural Alaska for residential customers and community facilities.



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.

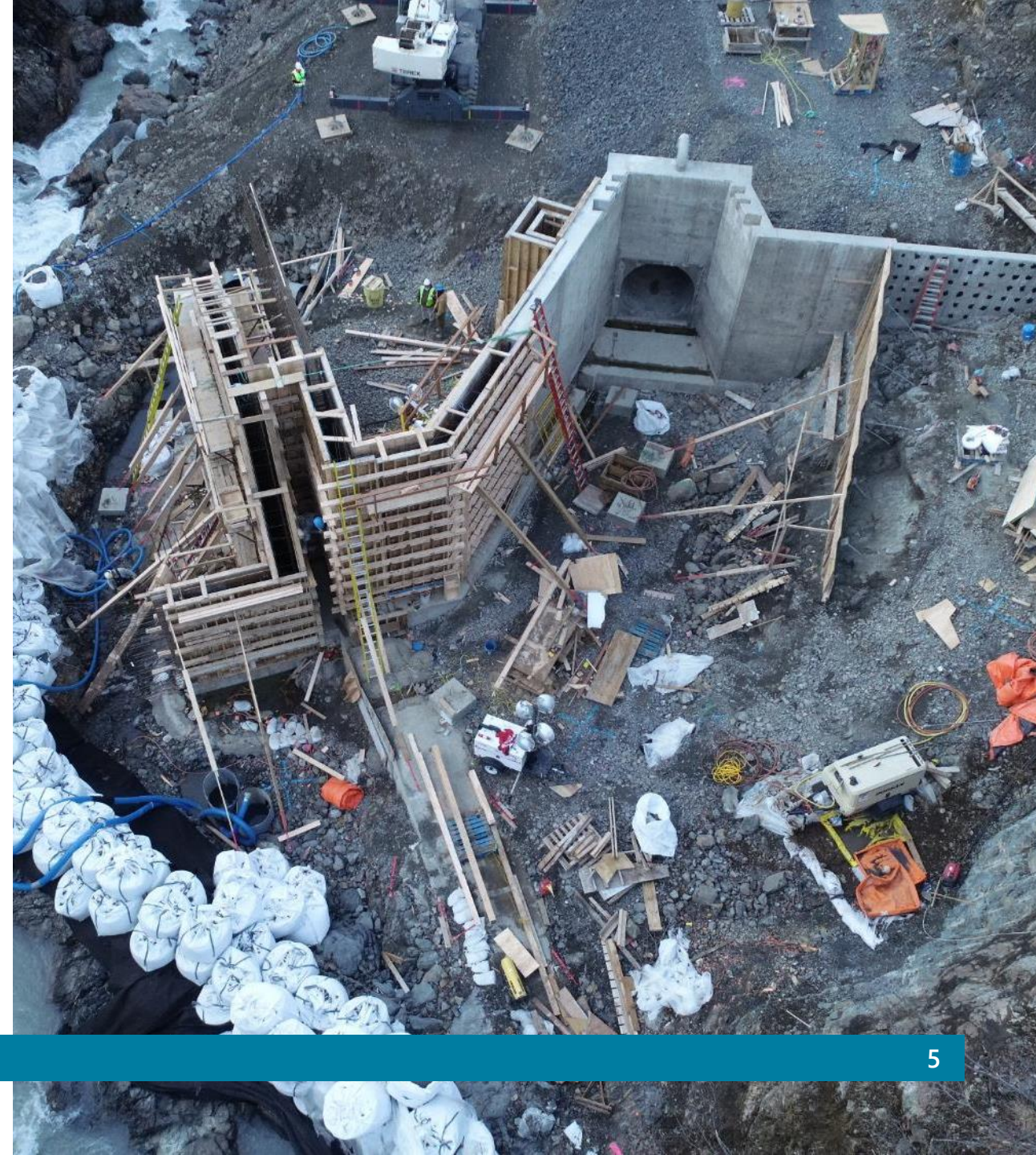
Our Projects



AEA works with its Alaska partners and stakeholders to provide reliable and affordable energy solutions.

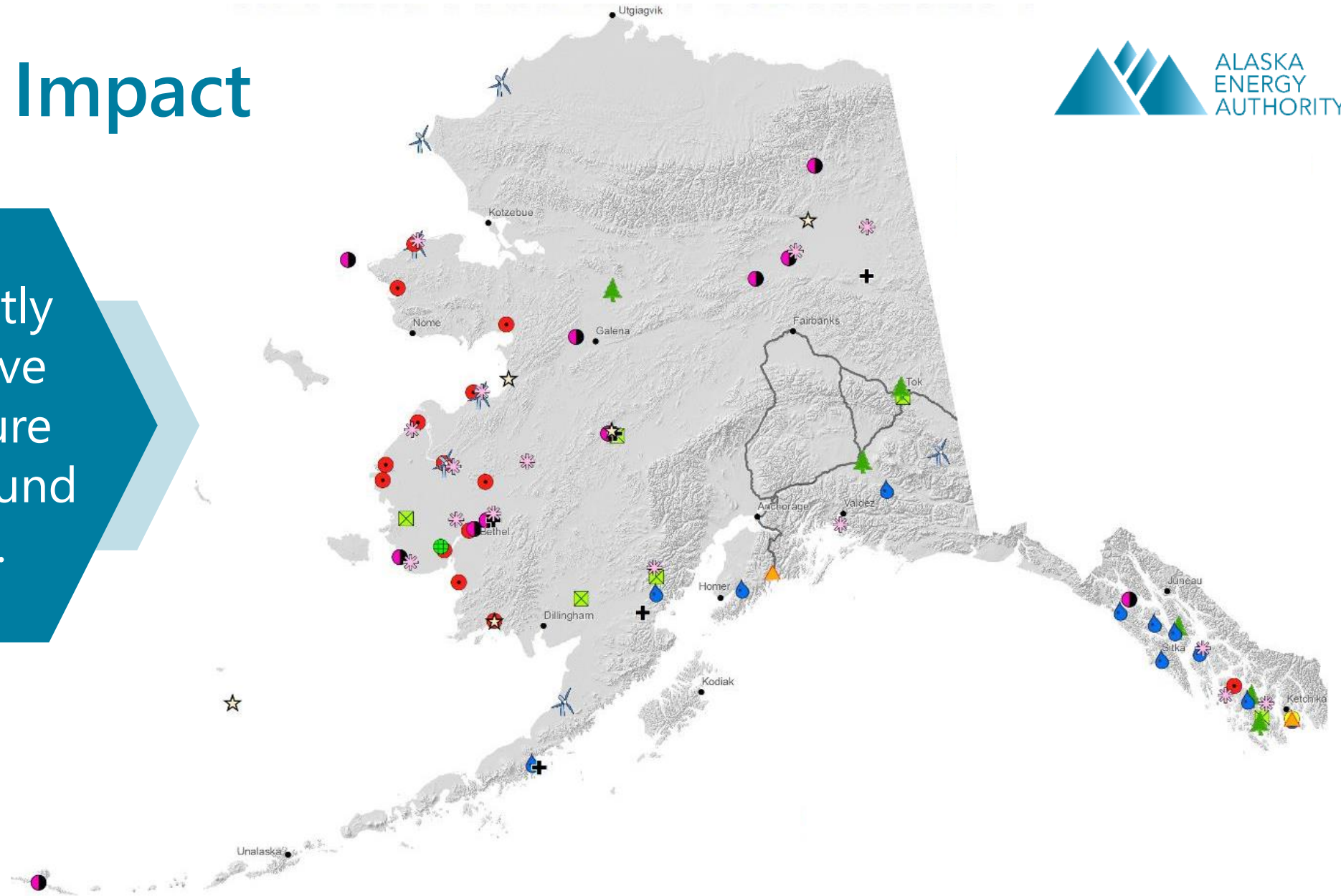
Programs and Projects

- ▶ Bradley Lake Hydroelectric Project
- ▶ Alaska Intertie
- ▶ Bulk Fuel Upgrades
- ▶ Rural Power System Upgrades
- ▶ Rural Utility Assistance
- ▶ Power Cost Equalization
- ▶ Renewable Energy Fund Grants
- ▶ Power Project Fund Loans
- ▶ Alaska C-PACE
- ▶ Alternative Energy
- ▶ Energy Efficiency
- ▶ Energy Project Development



Statewide Impact

AEA currently
has 88 active
infrastructure
projects around
the state.



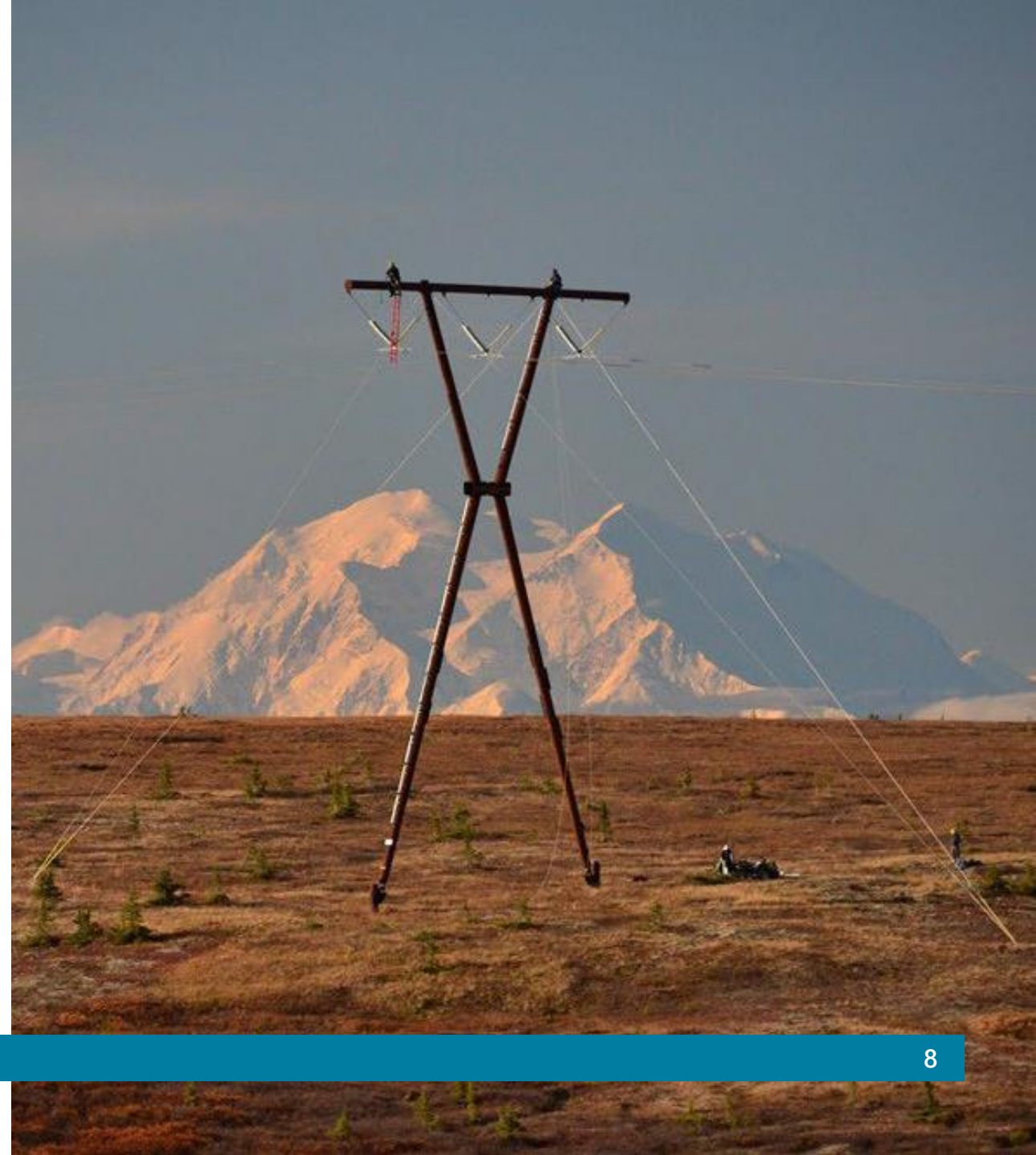
An aerial photograph of the Bradley Lake Hydroelectric Project. The image shows a large concrete dam structure across a river. To the left of the dam is a powerhouse with a white roof. The river flows from the top left, through the dam, and then turns to the right, creating a series of rapids and a waterfall. The surrounding landscape is rugged and forested with green trees and rocky terrain. A road or path is visible on the right side of the dam.

Bradley Lake Hydroelectric Project

- ▶ Produces ~10% of Railbelt electricity, 4.5 cents/kWh
- ▶ Benefits members of:
 - ▷ Golden Valley Electric
 - ▷ Matanuska Electric
 - ▷ Municipal Light & Power
 - ▷ Chugach Electric
 - ▷ Homer Electric
 - ▷ City of Seward
- ▶ Battle Creek Diversion Project: \$47 million, will add ~10% energy

Alaska Intertie

- ▶ 170 miles 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
- ▶ \$40 million savings for GVEA in Fiscal Year 2019



Bulk Fuel Tank Farm Upgrades

- ▶ Code compliant fuel storage facilities
- ▶ Prevention of spills and contamination
- ▶ Reduction of fuel cost by allowing the community to purchase bulk quantities
- ▶ 118 projects completed since 2000



Rural Power System Upgrades

- ▶ Improving power system efficiency, safety, and reliability
- ▶ Building code compliant facilities to provide stable and reliable power
- ▶ ~10% to 20% efficiency improvement in diesel generation
- ▶ 86 projects completed since 2000



Rural Utility Assistance



103

Communities received circuit rider and rural utility worker assistance in Fiscal Year 2018



38

Communities received training in Fiscal Year 2018



6

Communities assisted with electrical emergencies in Fiscal Year 2018

Power Cost Equalization

- ▶ **History** – Established in 1985, the Power Cost Equalization (PCE) Program provides electric power to rural residential customers and community facilities at costs similar those in Anchorage, Fairbanks, and Juneau
- ▶ **PCE Endowment Fund** – Created and capitalized in Fiscal Year 2001, the \$1.1 billion PCE Endowment Fund is managed by the Department of Revenue
- ▶ **Calculation of PCE Rate** – The Regulatory Commission of Alaska determines the effective rate based on rural utility expenses and power sales



PCE Program



194
Communities
Served



\$27 Million
Disbursed
in FY 2018



Supported by
AEA Rural Utility
Assistance



Web Portal
to Increase
Accuracy

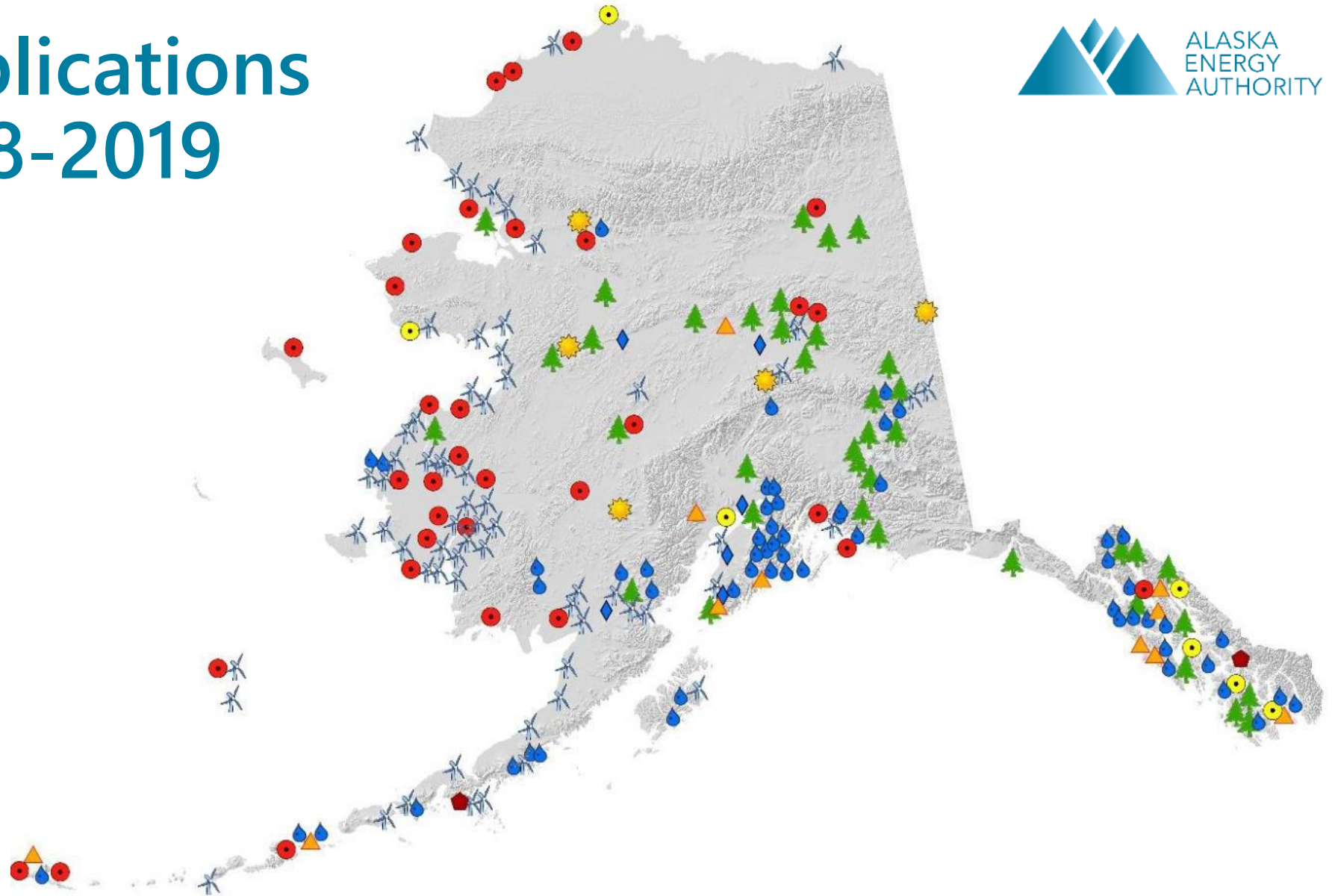
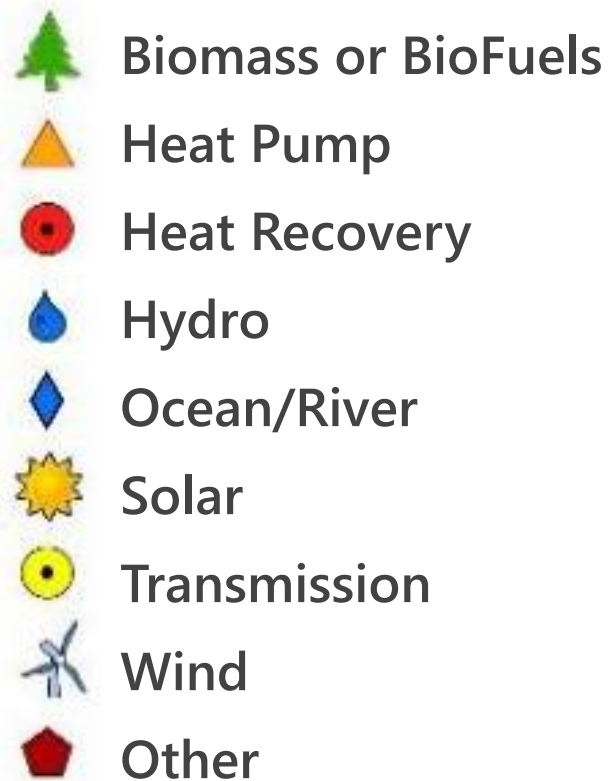


Renewable Energy Fund

- ▶ \$268 million invested in the Renewable Energy Fund (REF) by the State
- ▶ Boosted renewable energy market in Alaska
- ▶ Leveraged hundreds of millions of federal and private dollars
- ▶ 90 operational projects, 30 in development
- ▶ Displacing ~30 million diesel equivalent gallons annually
- ▶ ~\$74 million in fuel savings in 2017

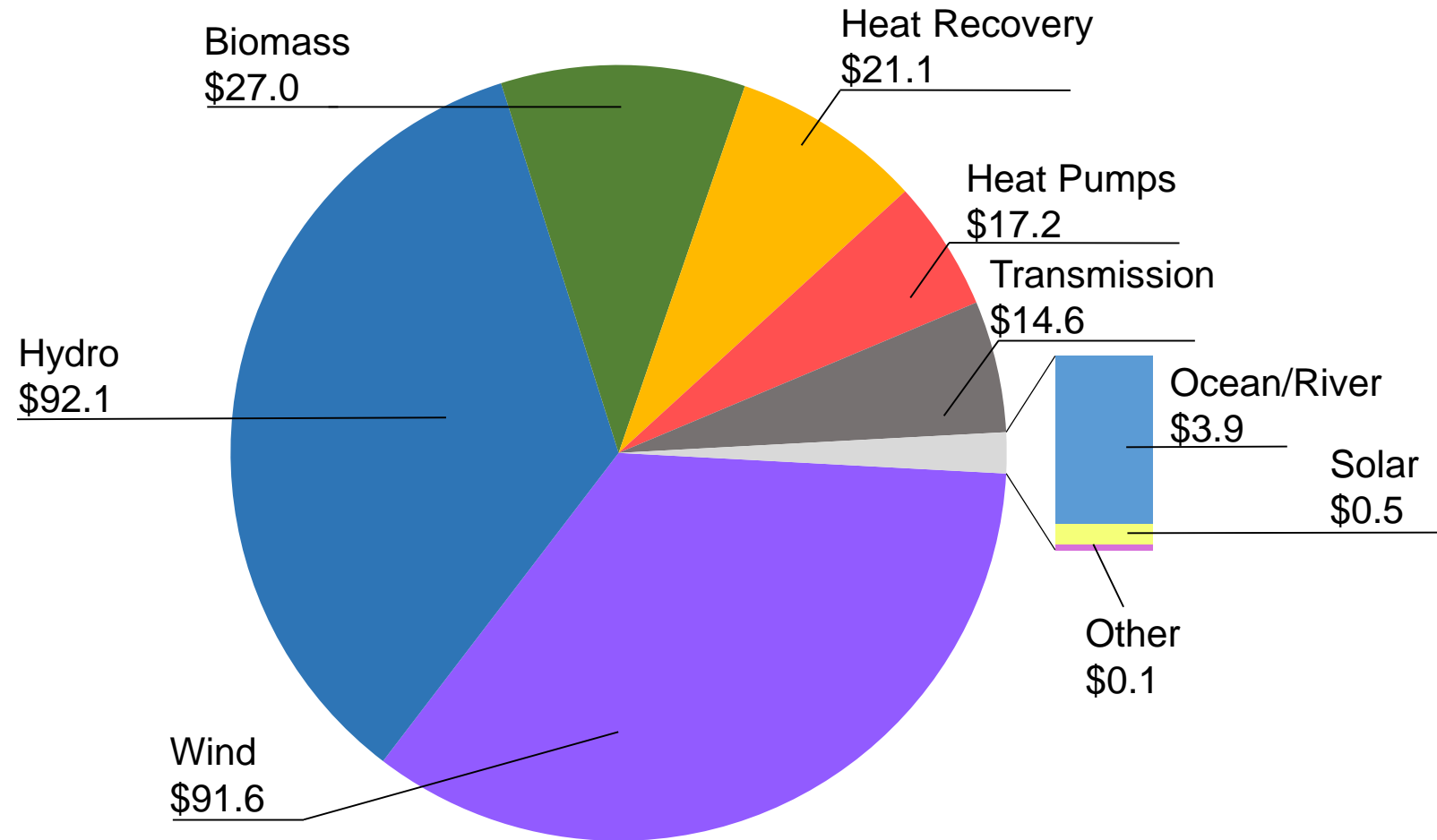


295 REF Applications Funded 2008-2019



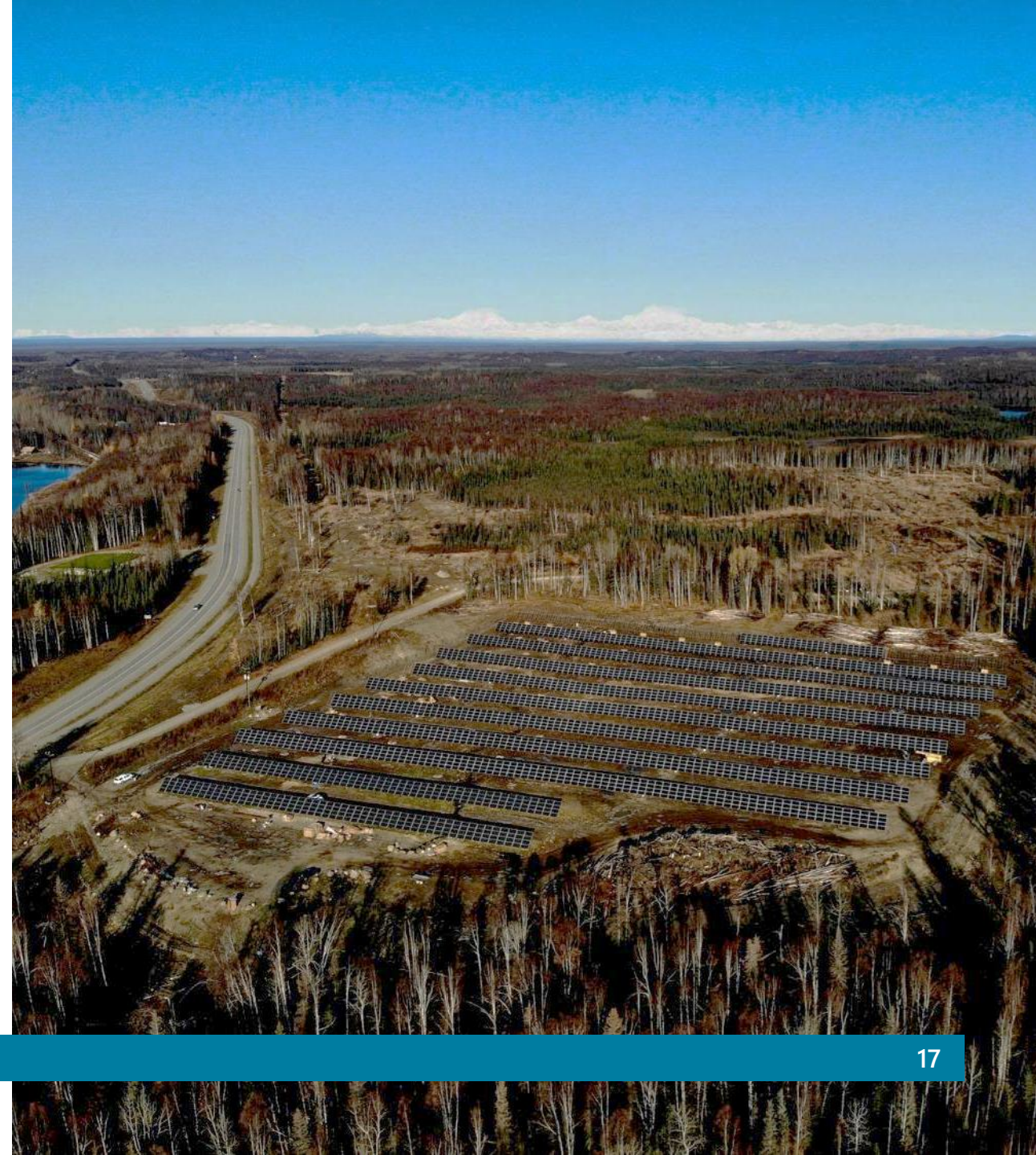
REF Funding by Energy Resource (\$ millions)

Rounds I-IX (2008-2019)



Power Project Fund Loan Program

- ▶ \$27.5 committed or disbursed for 20 loans
- ▶ \$10.7 million uncommitted
- ▶ Flexible loan program
- ▶ Covers all aspects of supply side system
- ▶ Relies on unique, in-house technical expertise for evaluation of loan viability and regulatory compliance
- ▶ Loan applications are vetted for economic and finance viability
- ▶ Critical resource in shift from grant funded to debt financed energy projects





Alaska C-PACE

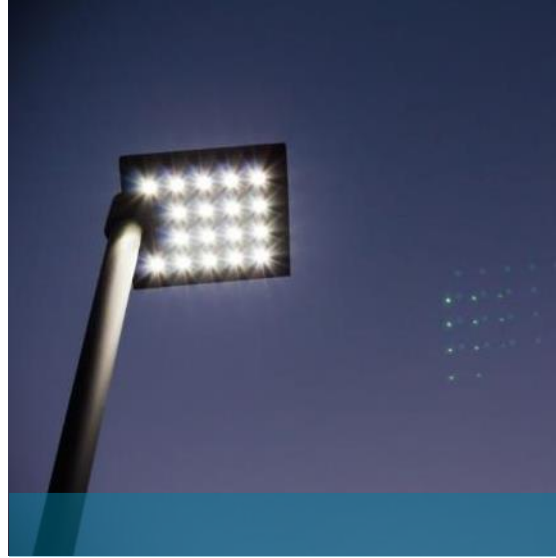
- ▶ Adopted by over 20 states, Commercial Property Assessed Clean Energy (C-PACE) is an effective financing program tool to attract private capital for energy upgrades
- ▶ In 2017, legislation was passed to develop a C-PACE program in Alaska
- ▶ AEA is leading an ad hoc group of stakeholders to initiate programs in municipalities and boroughs statewide
- ▶ Under the C-PACE model, debt associated with doing the improvements is repaid via a line item on local tax assessments

Alternative Energy and Energy Efficiency



Biomass

AEA's biomass program supports the construction of wood-fired boilers using local fuels that provide heat for public facilities.



Energy Efficiency

AEA focuses its energy efficiency programs on commercial buildings, public buildings, industrial facilities, and electrical efficiency.



Hydroelectric

In addition to Bradley Lake, AEA continues to analyze, develop, construct, and fund hydroelectric projects throughout Alaska.



Wind

AEA supports the development and construction of wind projects across Alaska – from the Railbelt Grid to rural villages.

Energy Project Development and Financing

- ▶ Planning, evaluation, and project development assistance
- ▶ Data collection and reporting
- ▶ Financing
- ▶ Critical federal partnerships
(Denali Commission, Department of Energy, USDA Office of Rural Development)



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



ALASKA ENERGY AUTHORITY

813 West Northern Lights Blvd.
Anchorage, Alaska 99503
Phone: (907) 771-3000
Fax: (907) 771-3044
Toll Free 888-300-8534

akenergyauthority.org

For more information, please contact AEA Executive Director Curtis W. Thayer