

Alaska Hydropower

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Board of Directors
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SAFE,
RELIABLE, &
AFFORDABLE
ENERGY
SOLUTIONS



Who We Are



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.

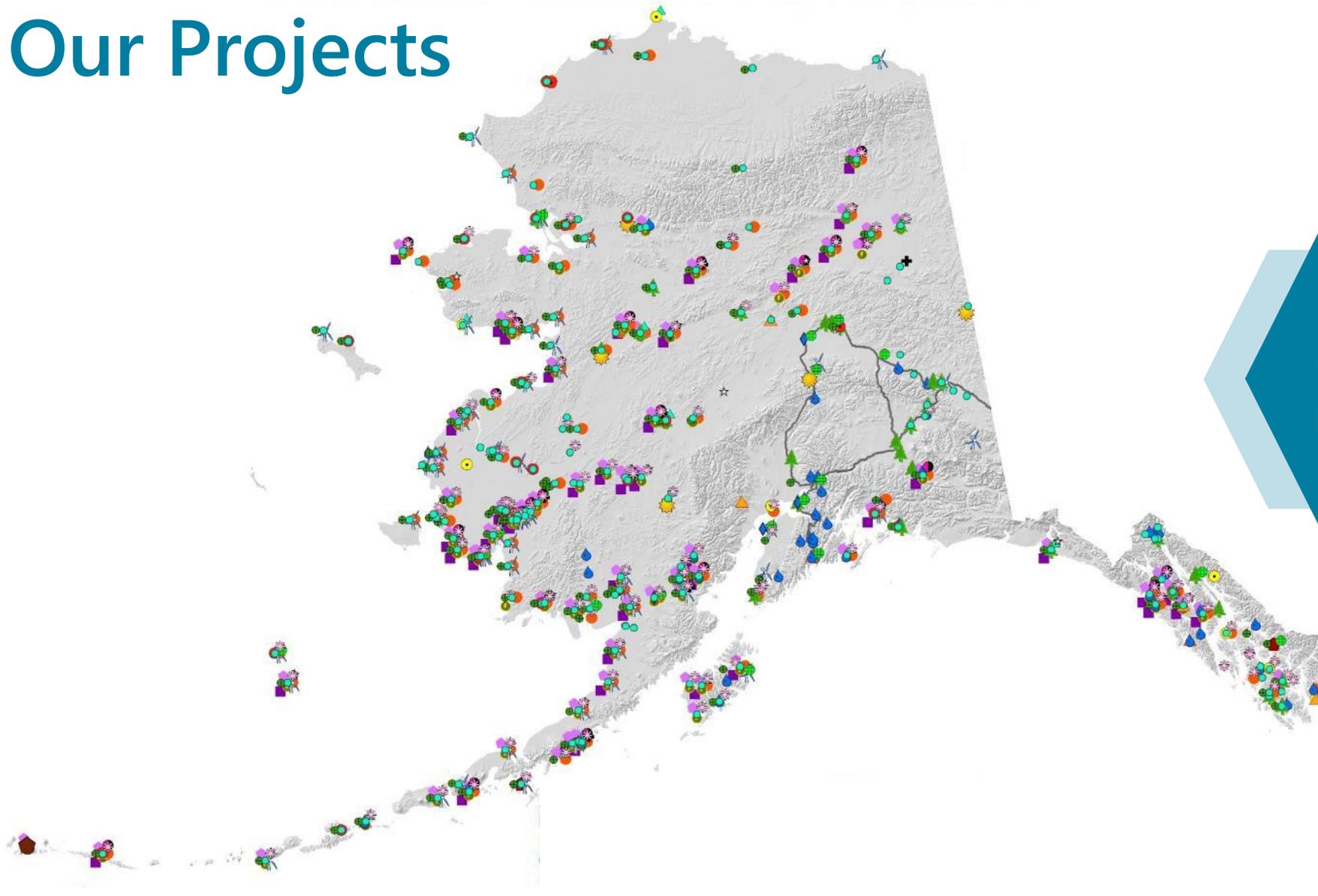


Power Cost Equalization – The Power Cost Equalization Program reduces the cost of electricity in rural Alaska for residential customers and community facilities.



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.

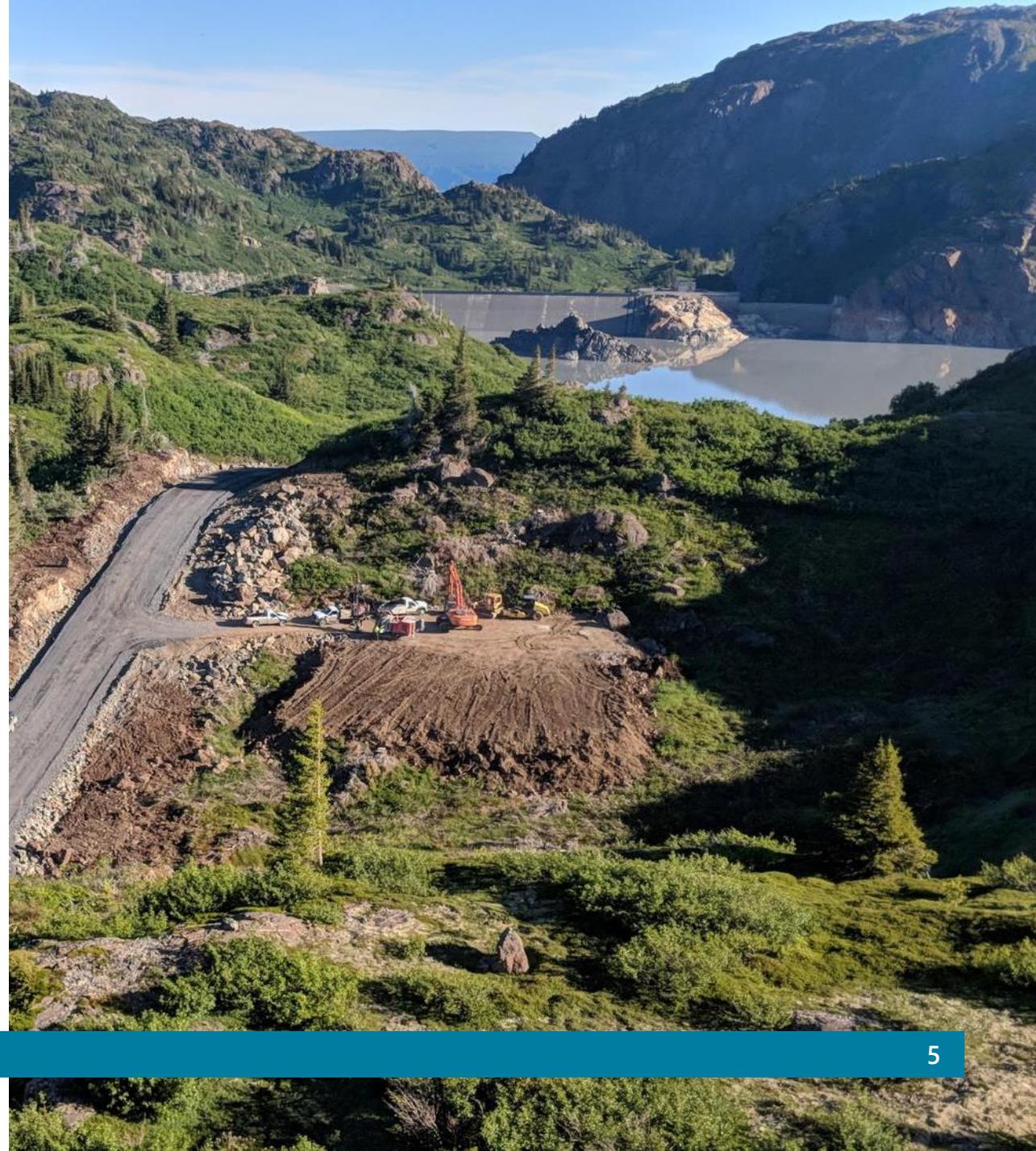
Our Projects



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

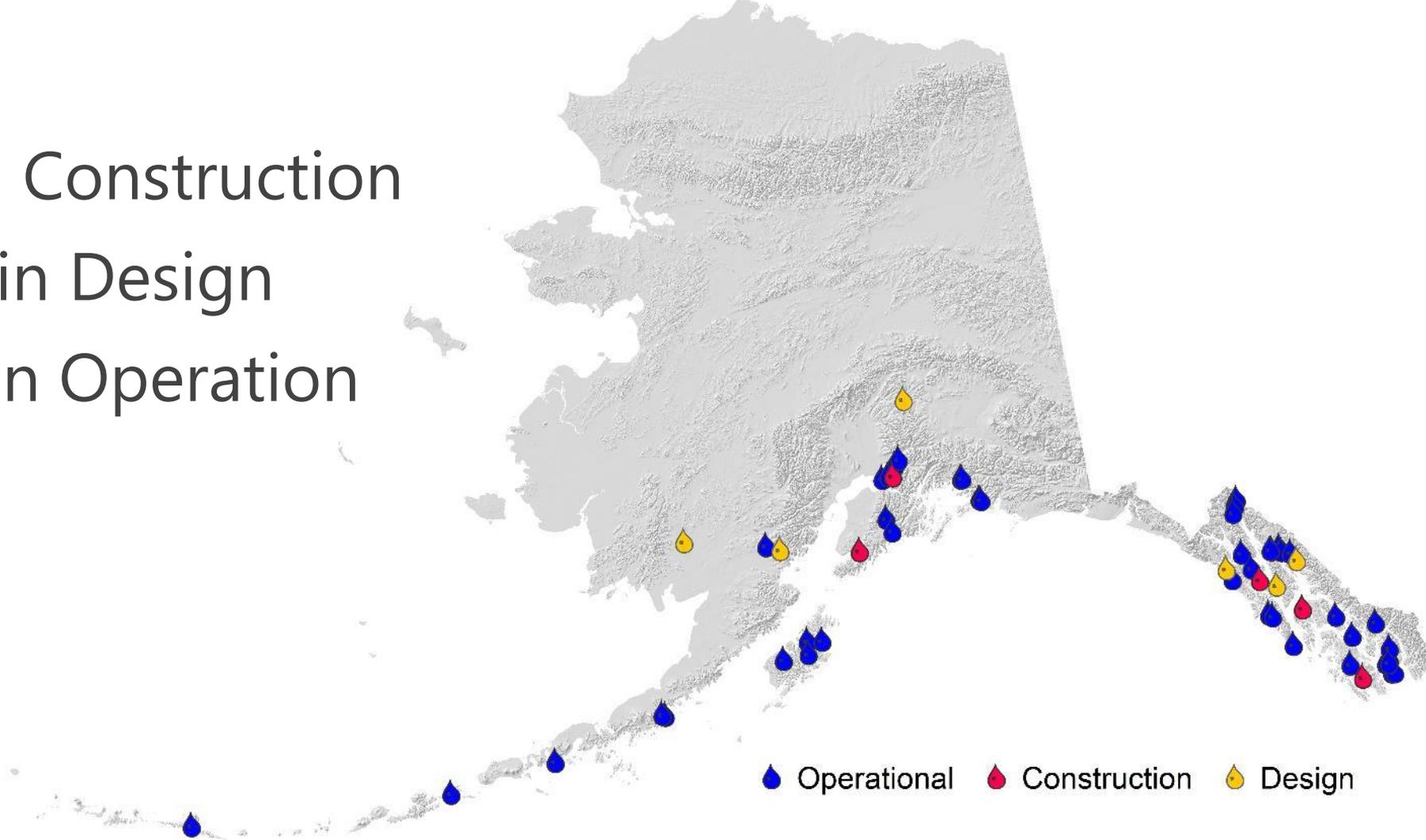
Hydroelectric Programs

- ▶ Owned Projects
- ▶ Renewable Energy Fund Projects
- ▶ Power Project Fund Projects
- ▶ Direct Grant Projects

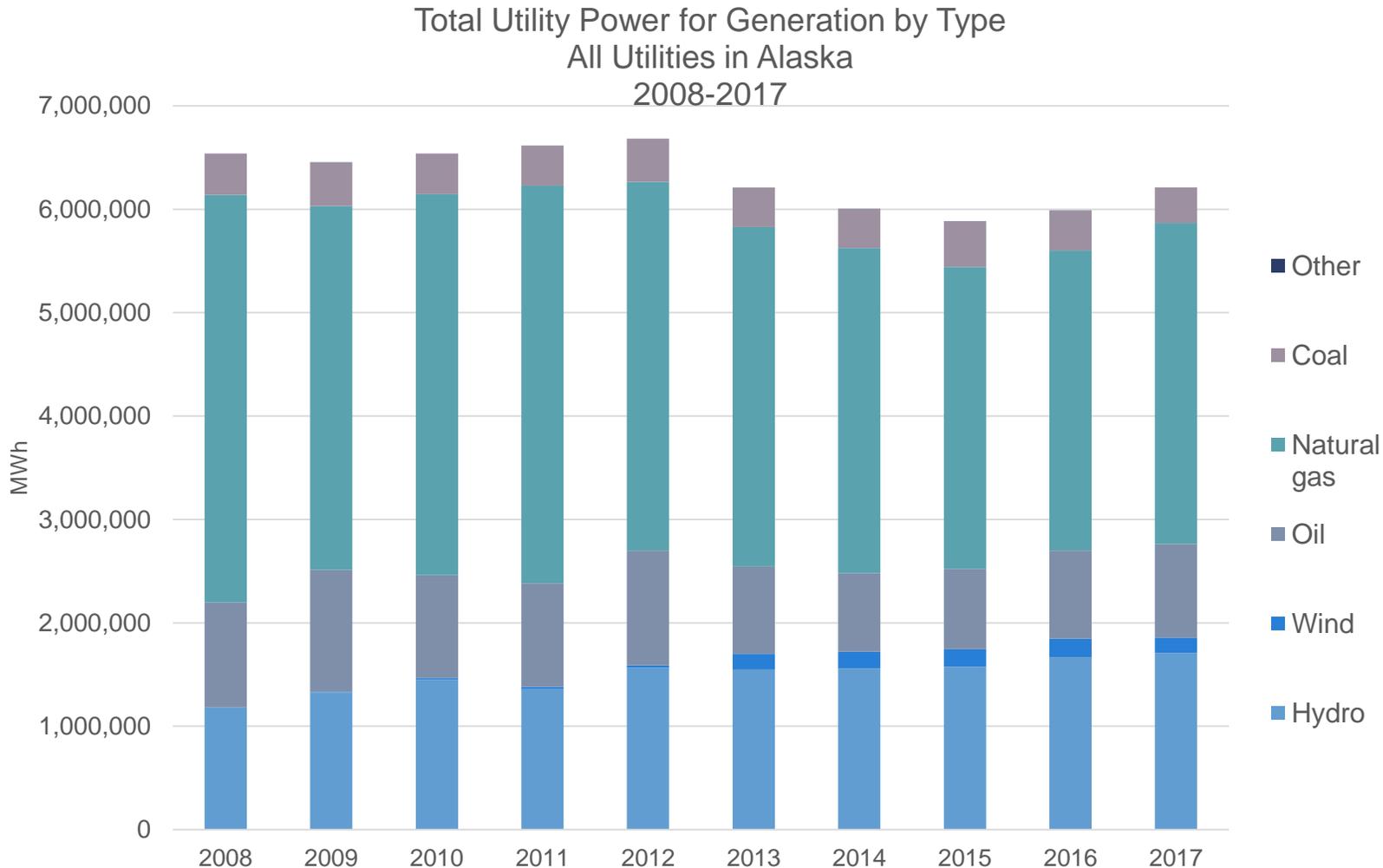


Hydropower Projects in Alaska

- 🔴 5 Projects in Construction
- 🟡 6+ Projects in Design
- 🟦 51 Projects in Operation



Alaska Electric Energy Generation by Type



1 watt =



1 kilowatt =
(1,000 watts)



1 megawatt =
(1,000,000 watts)

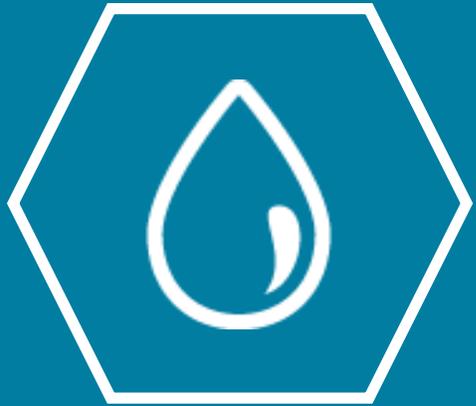


1 gigawatt =
(1,000,000,000 watts)



Important Terms

- ▶ Capacity of a generator is measured in megawatts (MW) or kilowatts (kW) at a single point in time.
- ▶ Project Energy is power over time. Commonly measured as Megawatt -hours (MWh) or kilowatt-hours (kWh).
- ▶ House on the Alaska Railbelt may use 500-600 kWh per month energy.

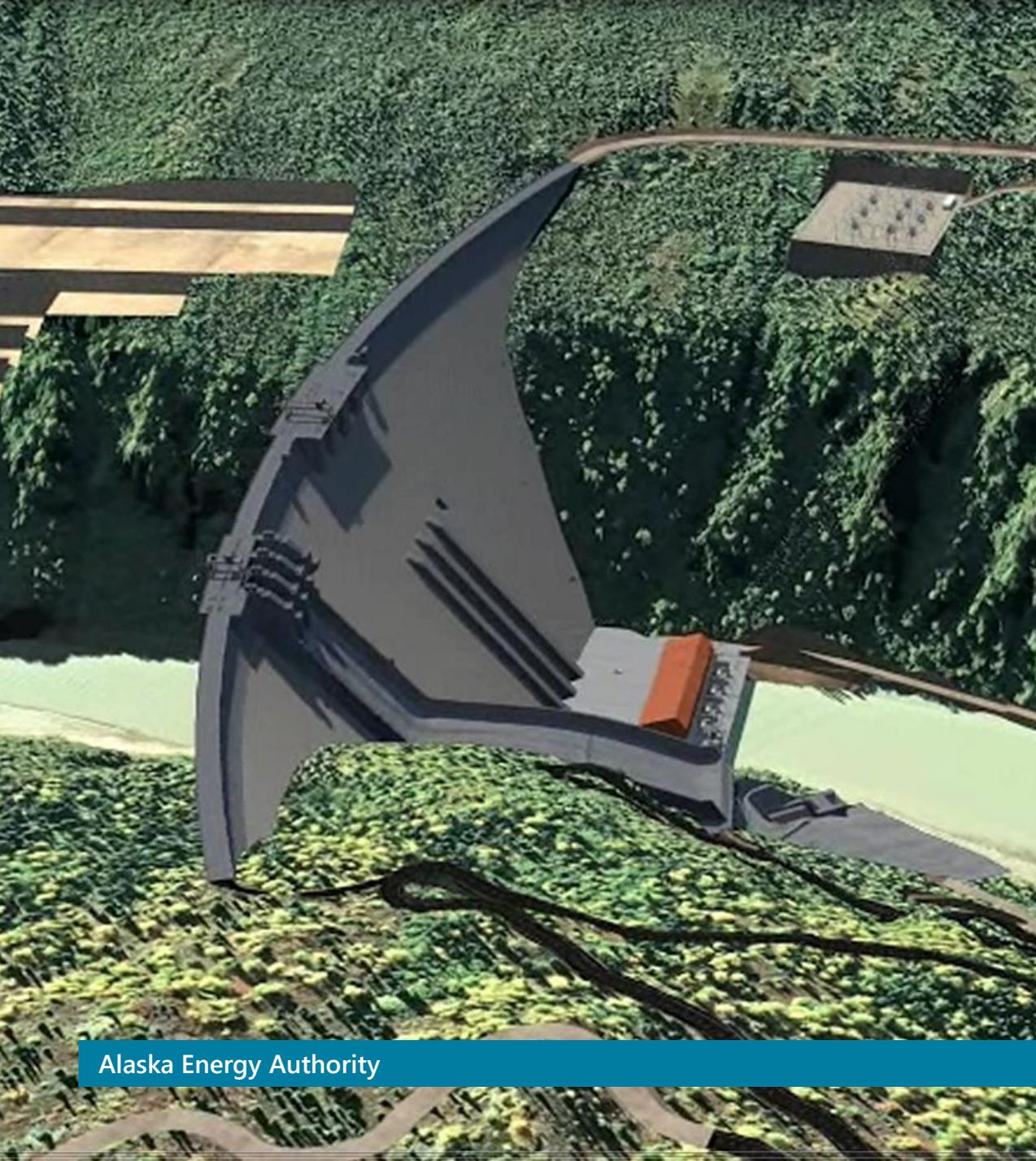


Owned Hydropower Projects



Bradley Lake

- ▶ Located 25 miles northeast of Homer and serves Railbelt
- ▶ Capacity of 120 MW
- ▶ Completed in 1991
- ▶ Funding by State of Alaska and Railbelt utilities
- ▶ Owned by AEA and managed to maximum extent by Railbelt utilities

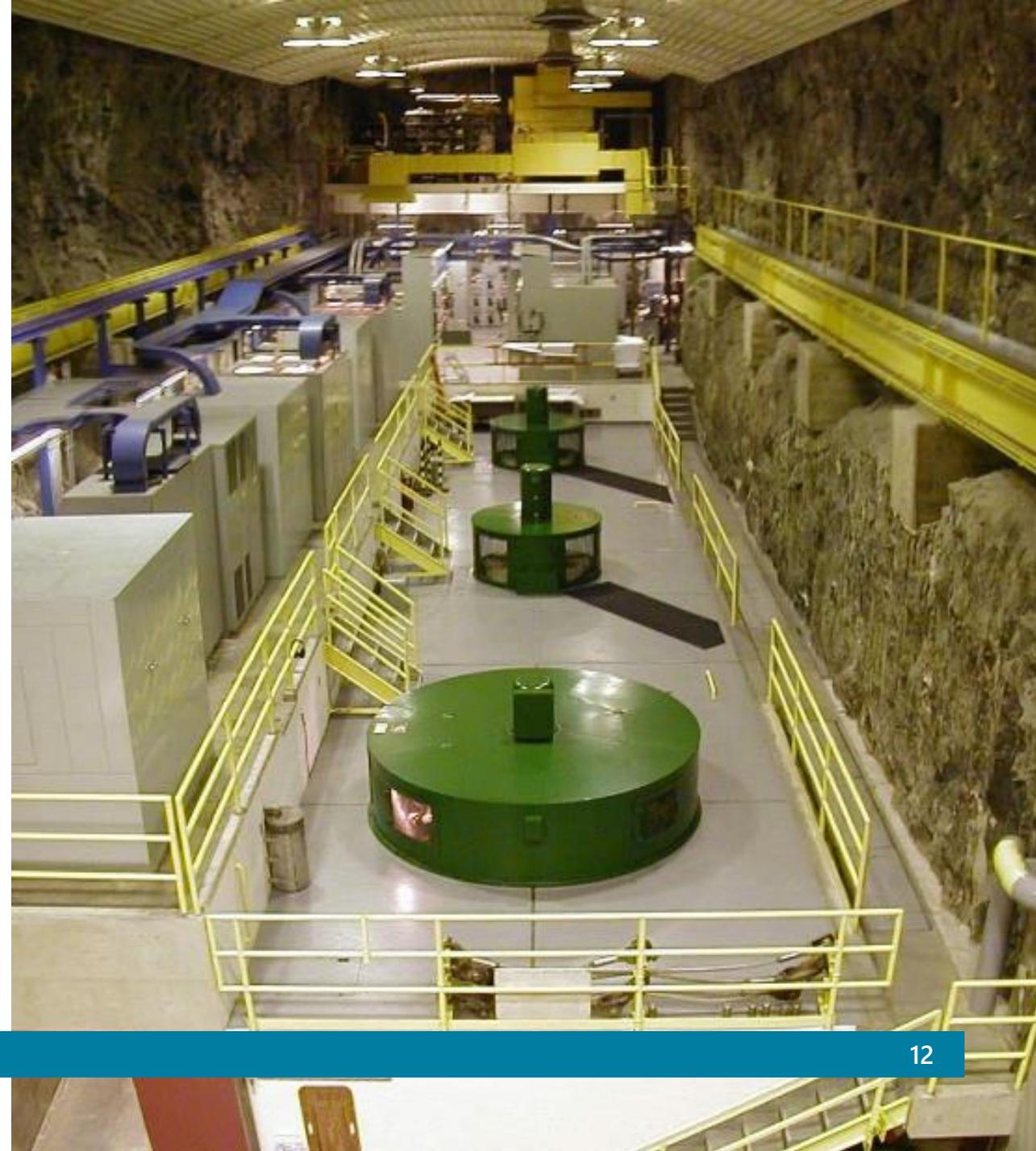


Susitna-Watana

- ▶ Located ~125 miles northeast of Anchorage and serve Railbelt
- ▶ Average capacity 459 MW
Average annual energy 2,800,000 MWh
- ▶ Completion Date: TBD
- ▶ Funding: TBD
- ▶ Owned by: TBD

Snettisham

- ▶ Located 30 miles southeast of Juneau and serves Juneau
- ▶ Capacity of 78 MW
- ▶ Initial completion of 1973
- ▶ Funded by Federal Government
- ▶ Owned by AIDEA, managed by AEA, and operated by Alaska Electric Light & Power





Renewable Energy Fund Projects

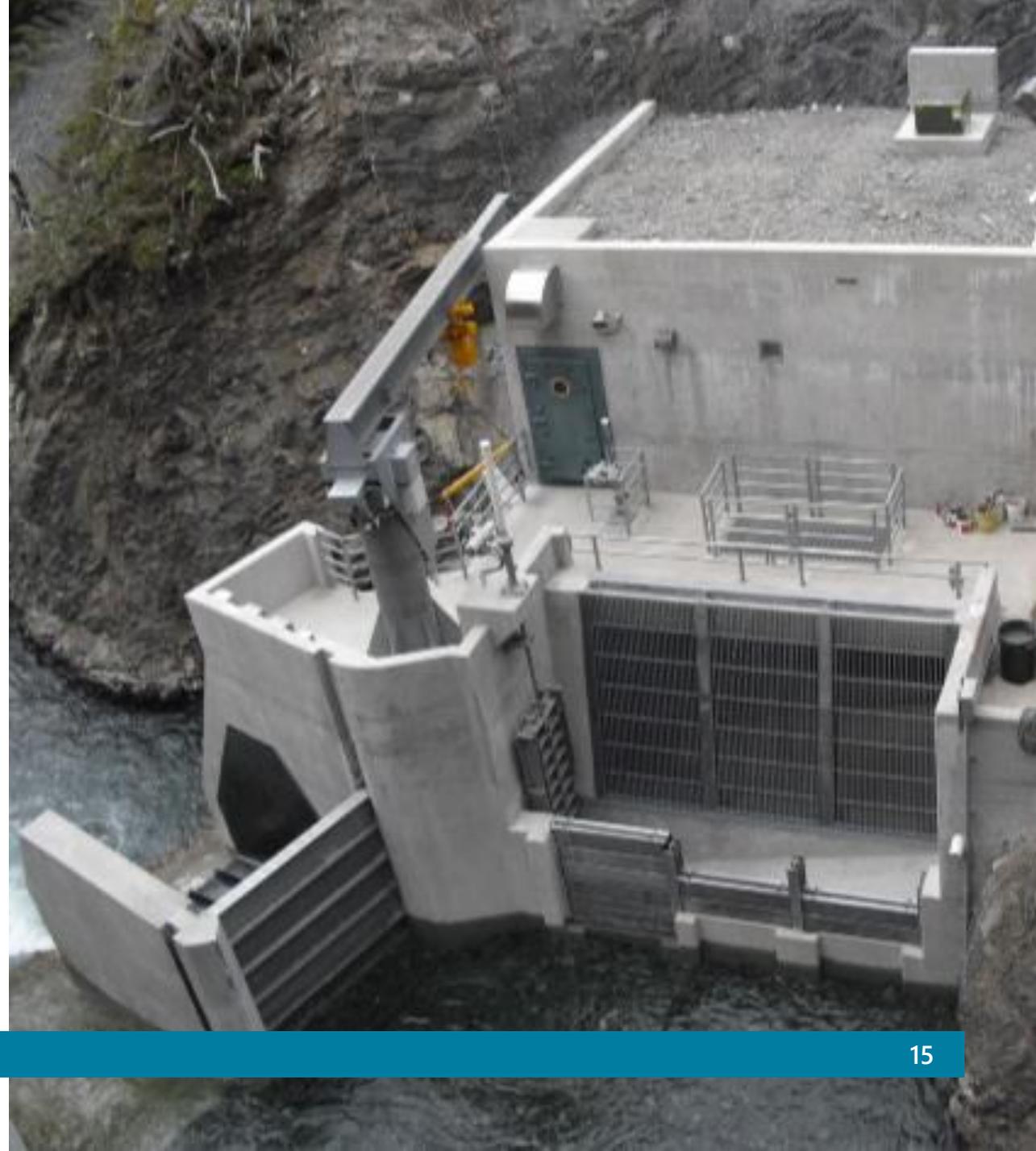
Allison Creek

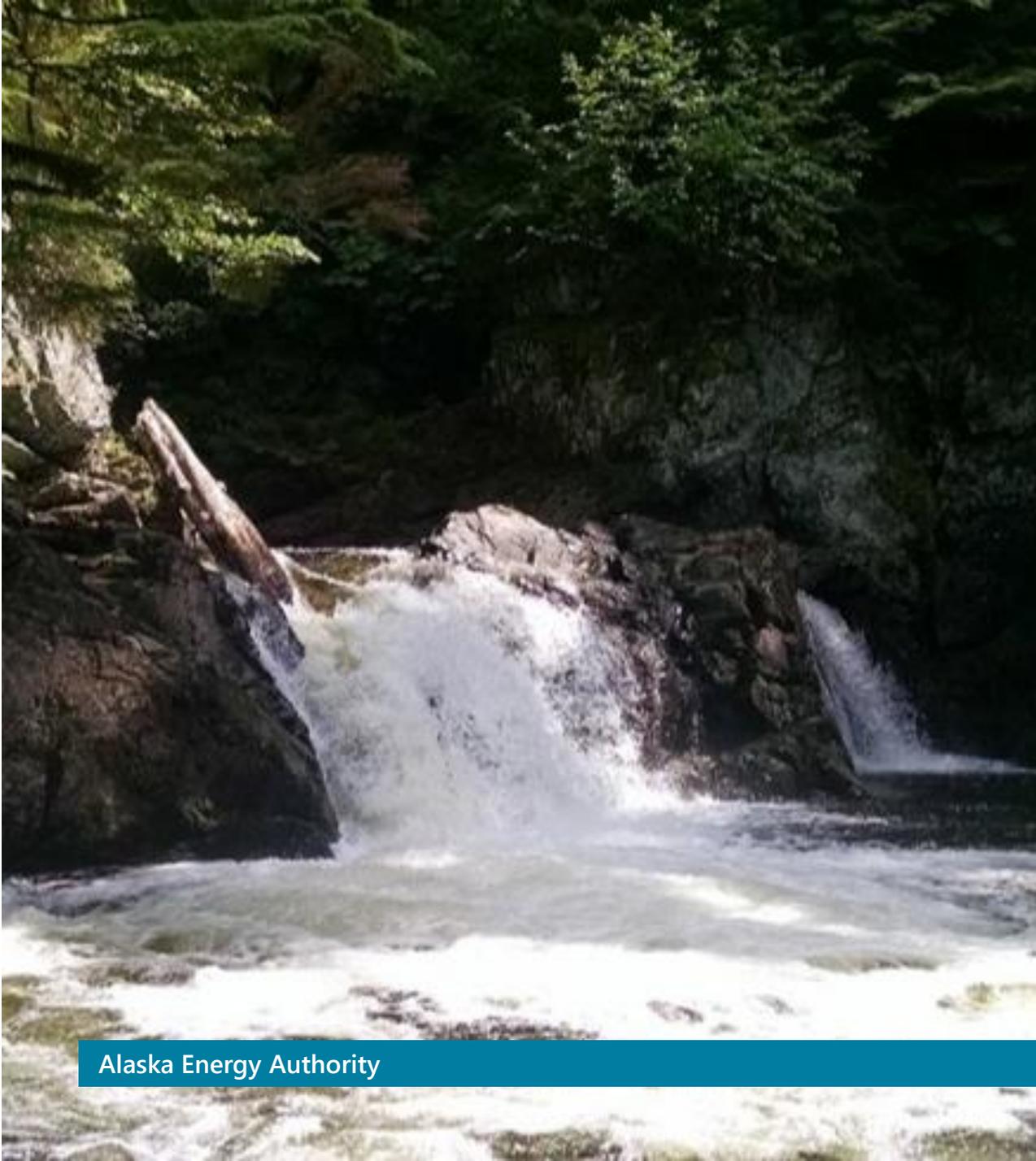
- ▶ Located above Trans-Alaska Pipeline Terminal at Valdez and serves Valdez & Copper River Basin
- ▶ Capacity of 6.5 MW
- ▶ Completion in 2016
- ▶ Funded by State of Alaska Grant and Copper Valley Electric Authority loans.



Humpback Creek

- ▶ Located near Cordova and serves Cordova
- ▶ Capacity of 1.25 MW
- ▶ Completion in 2010
- ▶ Funded by State of Alaska Grants and Cordova Electric loans





Thayer Creek

- ▶ Located 6 miles north of Angoon and serve Angoon
- ▶ Capacity 0.85 MW
- ▶ Completion Date: TBD
- ▶ Funding by AEA, Kootznoowoo Inc. and Inside Passage Electric Cooperative
- ▶ Owned by Kootznoowoo Inc.



West Fork Upper Battle Creek Diversion Project

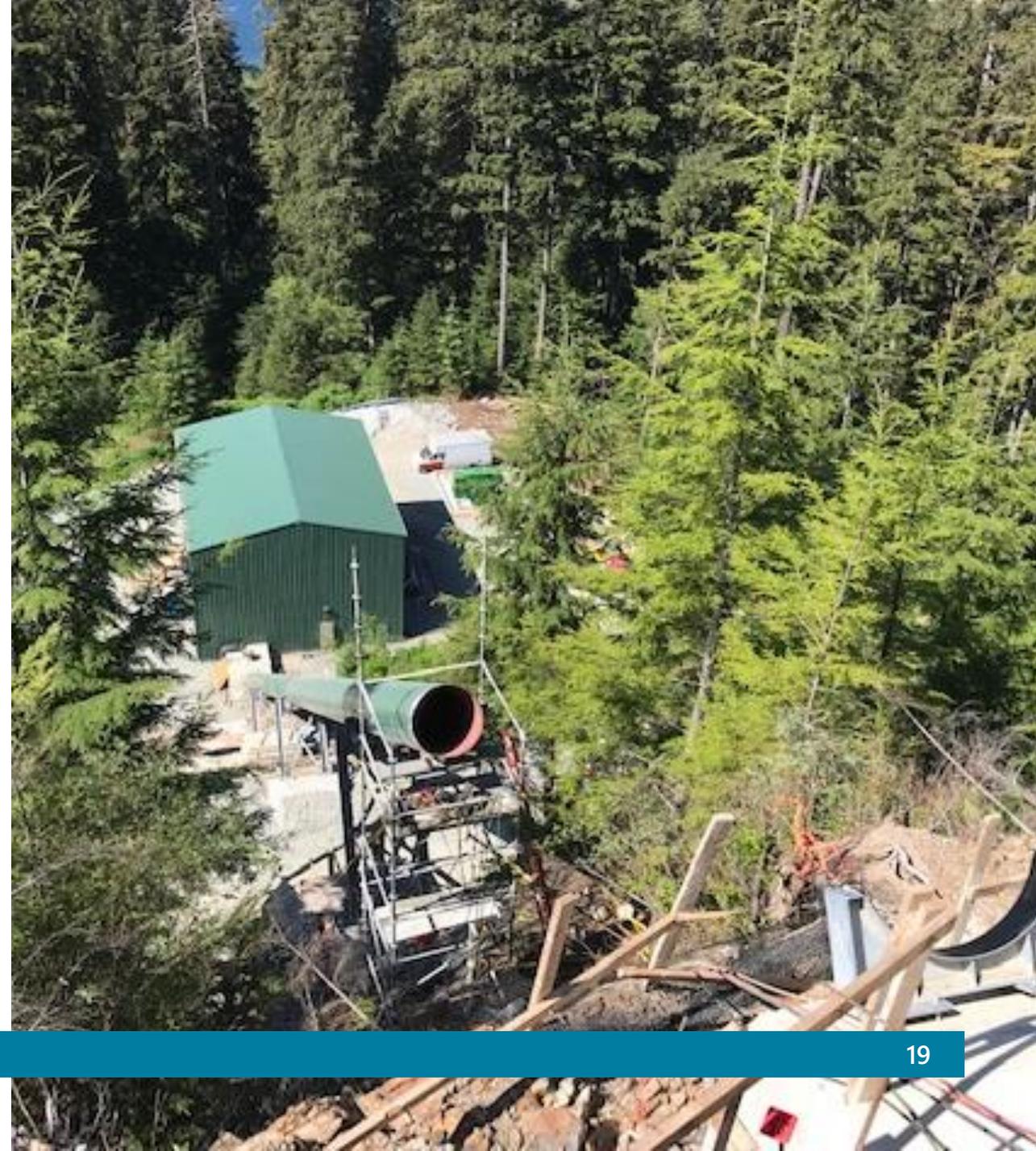
- ▶ Two miles Southwest of Bradley Lake Dam & serves Railbelt
- ▶ Capacity of zero
- ▶ Scheduled completion in 2020
- ▶ Funded by State of Alaska REF grant and utility loans



Power Project Fund Projects

Hiilangaay

- ▶ Located 8 miles East of Hydaburg and serve Prince of Wales Island
- ▶ Capacity 5 MW
- ▶ Completion 2020
- ▶ Funded by AEA, grants, loans and Alaska Power & Telephone
- ▶ Owned by Haida Energy

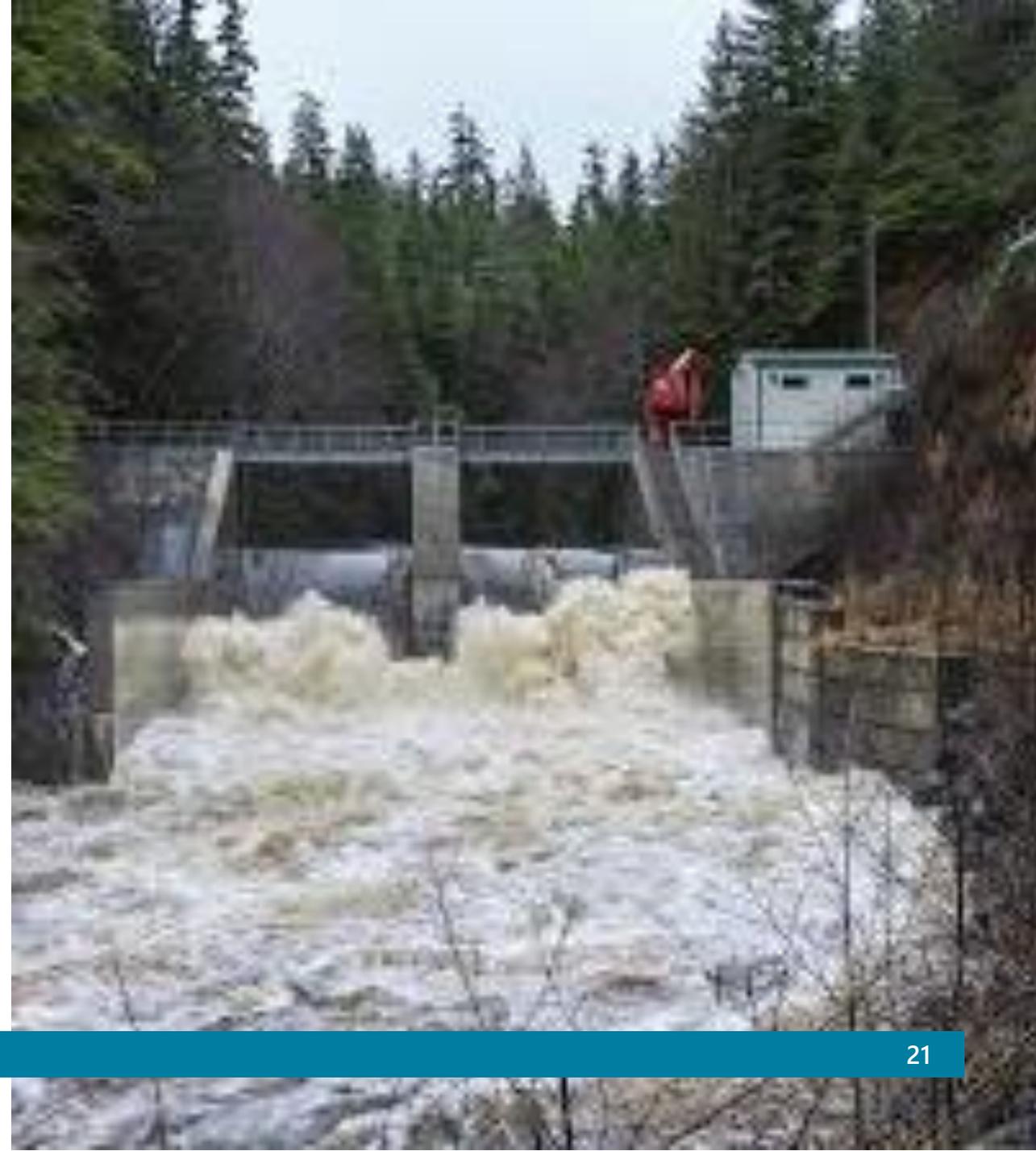




Direct Grant Projects

Gunnuk Creek

- ▶ Located in Kake, Alaska
- ▶ Capacity 0.5 MW
- ▶ Completion 2020
- ▶ Funded by AEA grant and Inside Passage Electric Cooperative financing
- ▶ Owned by Inside Passage Electric Coop



Blue Lake

- ▶ Located in Sitka, Alaska
- ▶ Capacity ~16 MW
- ▶ Completion 2014
- ▶ Funded by AEA grants and City of Sitka
- ▶ Owned by City of Sitka



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



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