

# PUMPED HYDRO

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# 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.



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



**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.



# PUMPED HYDRO – STATE PERSPECTIVE

- ▶ State is agnostic toward selecting energy storage technology
- ▶ State does not tip the scale toward a method
- ▶ Utilities will initiate energy storage technology
- ▶ AEA will engage with stakeholders and facilitate discussions or assist with government actions





# PUMPED HYDRO CONSIDERATIONS



- ▶ Cost
  - ▶ High construction cost in Alaska
  - ▶ High operating cost

# PUMPED HYDRO CONSIDERATIONS

- ▶ Renewable requirement





# PUMPED HYDRO CONSIDERATIONS



- ▶ System flexibility

# PUMPED HYDRO CONSIDERATIONS

- ▶ Location
  - ▶ Preferred location near existing transmission and roads
  - ▶ High valley
  - ▶ bedrock chokepoint
  - ▶ Wide low gradient valley floor or lake upstream of dam location
  - ▶ Close to resource to provide power to the pumps







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



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