PUMPED HYDRO

Bryan Carey, P.E. Hydroelectric Manager Alaska Energy Authority

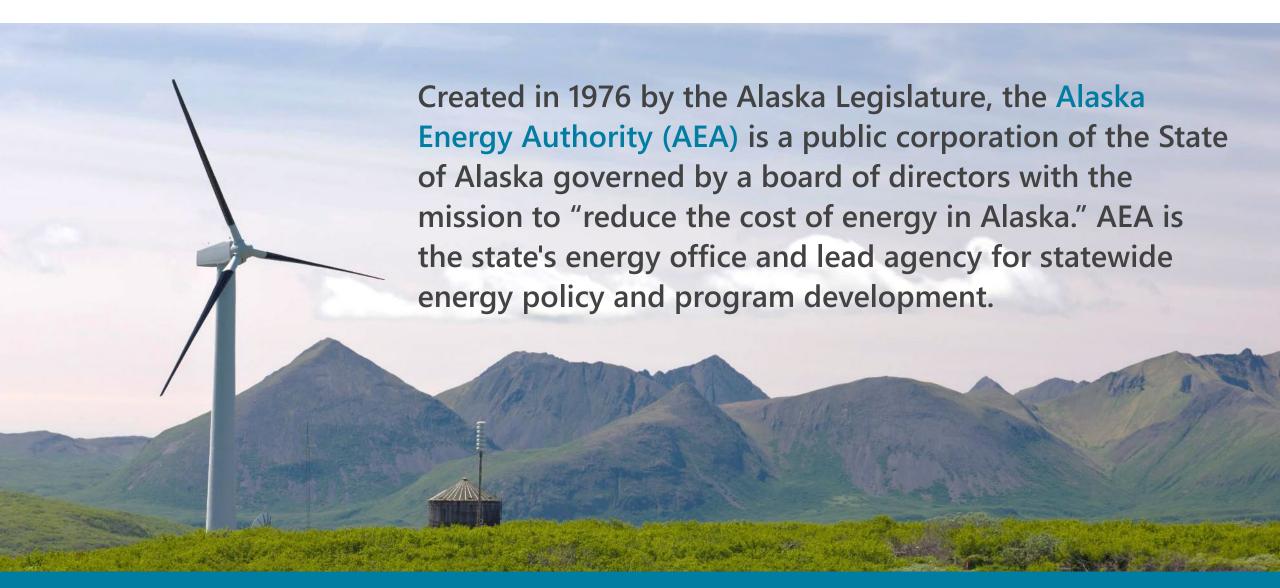
Department of Energy Office of Indian Energy November 12, 2020





WHO WE ARE





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.



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



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.



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.

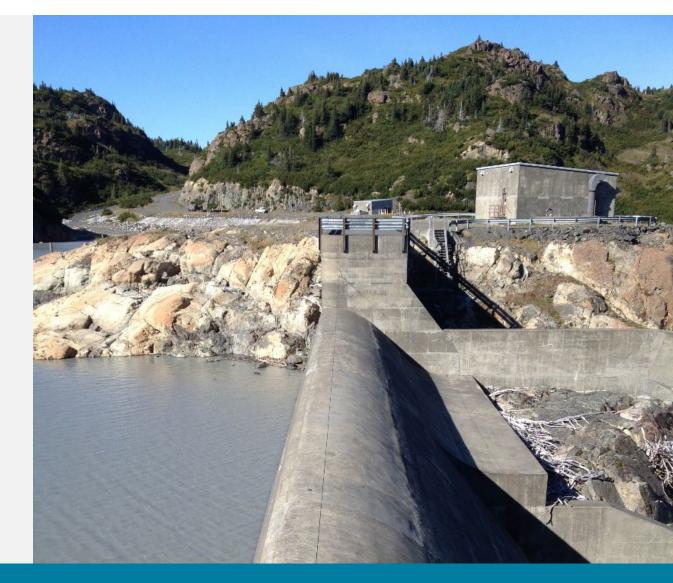


Rural Energy – AEA constructs bulk fuel tank farms, diesel powerhouses, and electrical distribution grids in rural villages. AEA supports the operation of these facilities through circuit rider and emergency response programs.

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







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



Renewable requirement



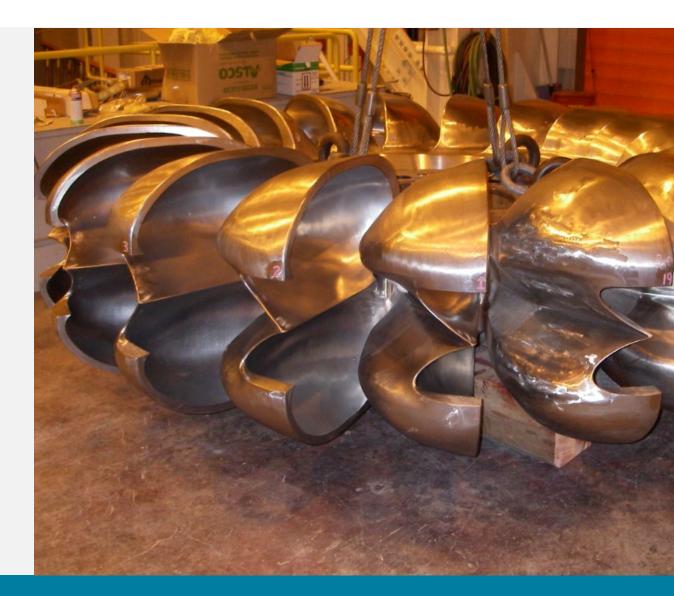




System flexibility



- 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









Alaska Energy Authority 813 W Northern Lights Blvd. Anchorage, AK 99503

Phone: (907) 771-3000 Fax: (907) 771-3044

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