



Alaska Energy Authority Overview



Reducing the Cost of Energy

- Investing in Alaska's Energy Infrastructure
- Diversifying Alaska's Energy Portfolio
- Energy Planning and Policy
- Technical and Community Assistance



Infrastructure and Large Projects

Bradley Lake Hydro

- State capital contribution 50%
- Produces about 10% of Railbelt electricity
- AEA-owned asset
- Low-cost energy producer
- 120 megawatts, 4.5 cents/kWh

Alaska Intertie

- AEA-owned with no outstanding debt
- Operated by AEA and Railbelt utilities

Susitna-Watana Hydro

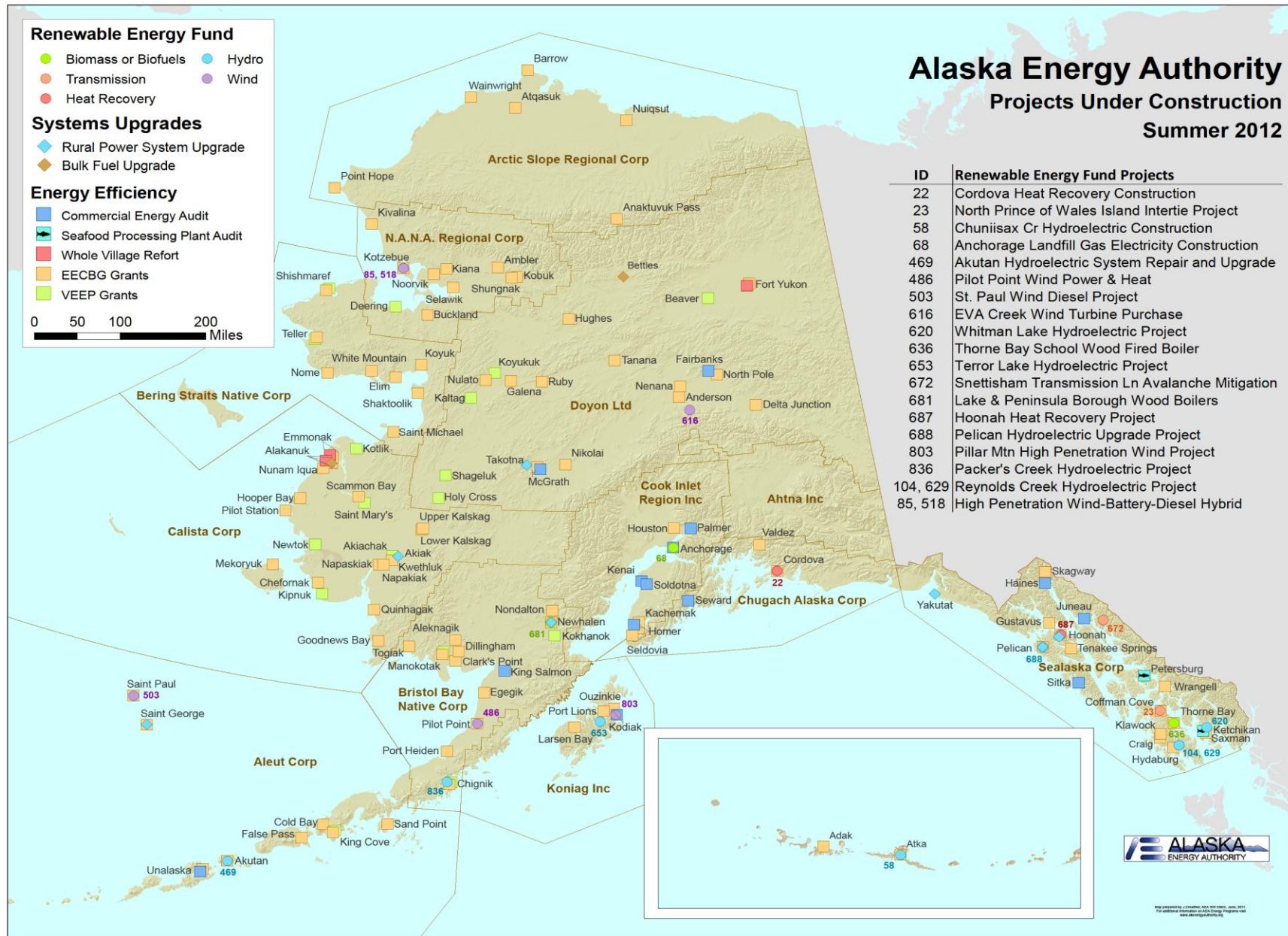
- Will provide about 50% Railbelt electricity
- SB 42 authorized AEA to pursue licensing
- Long-term, stable rates



Bradley Lake Hydroelectric Project



Alaska Intertie



AEA Programs

Renewable Energy Fund

- State Goal: 50% renewable electricity by 2025
- HB 152 (2008) authorized AEA to manage program, reauthorized in 2012
- 217 projects approved totaling \$202.5 million
- More than 60 projects currently under construction
- Round 6 recommendations
- By 2016, 12.3 million gallons of diesel and natural gas equivalent will be displaced annually. Results: \$45 million in annual savings



Ruby: Hydrokinetic



Altaeros Energies Helium Balloon Wind Turbine

Emerging Energy Technology Fund

- SB 220 (2010) created fund
- Through Denali Commission matching grant, \$8.9 million available
- First round, 16 project selected for funding (2012)
- Projects must be commercially viable within 5 years

AEA Programs

Energy Statistics

- Summary and analysis of electricity generation and use across Alaska

Efficiency and Conservation

- State Goal: improve efficiency 15% by 2020
- AEA's focus is on commercial buildings, rural public buildings, industrial facilities and electrical efficiency
- Statewide outreach and education
- Support for multi-stakeholder group, Alaska Energy Efficiency Partnership AKEnergyEfficiency.org
- Coordination between State agencies
- Alaska Commercial Energy Audit Program
- Village Energy Efficiency Program



Community Concept: Nightmute

Bringing Together Many Partners

- Partnerships: AEA, Alaska Village Electric Cooperative (AVEC), Association of Village Council Presidents (AVCP)-Housing, Nightmute, Denali Commission, RuralCAP and Alaska Building Science Network
- Comprehensive assessment of the community's energy needs
- Successes:
 - Lighting and weatherization upgrades in 13 community buildings and 4 teacher housing units
 - 59 % energy savings
 - Average building went from 2 to 4 Star energy rating
 - Average building fuel consumption went from 961 gallons/year to 423 gallons/year



Nightmute: Post Office

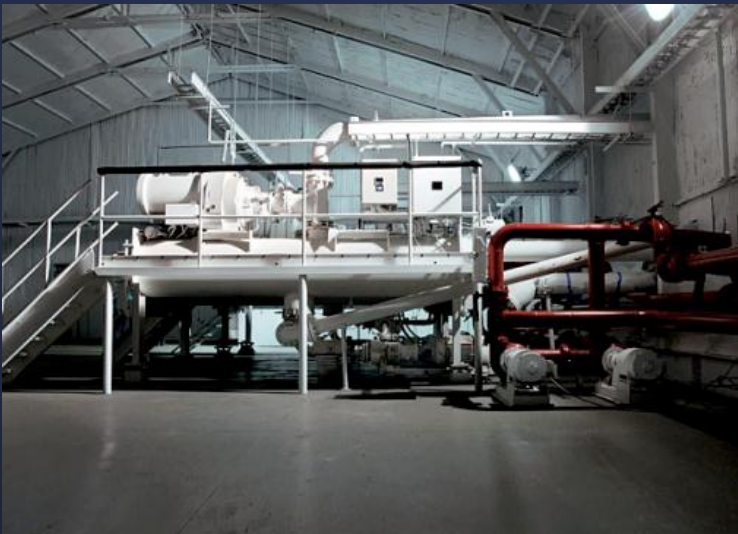
AEA Programs

Power Project Fund

- Loans to upgrade or develop small-scale electric power facilities
- Includes bulk fuel storage, transmission and distribution, waste energy, energy conservation, energy efficiency and alternative energy facilities and equipment
- State assistance for a project more than \$5 million requires Legislative approval
- Low interest rates
- \$42 million in Power Project Fund (~half in application process)
- Chena Hot Springs geothermal power plant



Prince of Wales: Run-of-River Hydro



Chena Hot Springs: Geothermal

Rural Energy

Bulk Fuel and Rural Power System Upgrades

- Help utilities improve efficiency, safety and reliability of power systems
- Completed \$304 million in rural bulk fuel and rural power system upgrade projects since 2000, in partnership with Denali Commission
- Thirteen projects under construction next year
- Circuit rider technical assistance in 53 communities (FY 12)

Training and Technical Assistance

- Training for power plant operators, advance power plant, bulk fuel, electric utility manager, Power Cost Equalization
- Energy specialists assisted 40+ communities to advance to project-ready status



Rural Energy

Power Cost Equalization (PCE)

- Provide economic assistance in rural Alaska where electrical rates can be 3 to 4 times higher than in urban Alaska
- Available to community facilities and residential customers
- Regulatory Commission of Alaska (RCA) sets rates, calculations based on use, costs and efficiencies
- Approximately 77,341 people live in the 183 participating communities (FY 11)
- PCE payments at 100% totaling \$39.5 million (FY 12)
- \$788 million PCE Endowment

Supporting Regional Solutions



St. Mary's

Regional Energy Planning

- Energy Pathways led to regional planning
- Address unique challenges while capitalizing on regional resources
- Locally driven and community-vetted blueprint for sustainability
- Objective to provide specific, actionable recommendations
- Includes electric, heat and transportation energy
- Previous Plans: Railbelt Integrated Resources Plan and Southeast Integrated Resources Plan

Supporting Regional Solutions



St. George

Lessons Learned: Building Blocks of Energy

- What keeps the lights on? Is this a safe and efficient source of power?
- Can renewable energy sources be integrated?
- Is there potential for economic development?

Supporting Regional Solutions

Five-Step Process to Developing a Plan

1. Preliminary planning and stakeholders identification
2. Resource inventory assessment/data analysis
3. Develop and review draft energy plan alternatives
4. Solicit comments on draft
5. Final document





Chikuminik Lake Headwaters



Akiak Powerhouse

Supporting Regional Solutions

Calista Region

Uniqueness:

- Large region with largest population, including 56 villages
- High energy and transportation costs

Resources:

- Wind in the coastal areas
- Exploring feasibility of hydropower at Chikuminik Lake
- Community clusters: brings potential for energy interties

Current Regional Plan Contracts



Regional Planning Group

- **Ahtna Region** (Copper Valley Development Association)
- **Aleut Region** (Southwest Alaska Municipal Conference (SWAMC))
- **Bering Straits Region** (Bering Straits Development Council)
- **Bristol Bay Region** (SWAMC)
- **Calista Region** (Nuvista Light and Electric Cooperative)
- **NANA Region** (Northwest Arctic Borough Economic Development Commission)
- **Doyon Region** (Direct grant to Tanana Chiefs Conference from the Denali Commission)
- Working with Chugach, Kodiak and Arctic Slope Regions

Supporting Regional Solutions

Ahtna Region

Uniqueness:

- 17 communities on the road system
- Federal land ownership
- Large seasonal load growth
- Village corporations merged with Ahtna Regional Corporation to form one land owner

Resources:

- Biomass
- Hydropower
- Interties and transmission



Chitina

Energy Policy Development and Coordination

- Deputy Director for Statewide Energy Policy Development
- Coordination of energy plans on statewide level
- Coordinate multi-agency efforts
- Serve as lead on Alaska's energy policy development
- Individual project analysis and vetting
- Transmission planning
- Working with AIDEA on LNG trucking

AEA: Active Energy Projects

Active Energy Projects - January 2012 thru January 2013

Prepared: January 23, 2013

Program Type	No. of Active Projects	Renewable Energy Funds	Other State Funds	Federal Funds	Total Funding
Renewable Energy Programs:					
Biomass	24	7,440,548	1,305,858	1,192,036	9,938,442
Heat Recovery - Other Diesel	10	4,956,664	567,727	271,543	5,795,934
Energy Efficiency & Conservation	20	-	5,029,132	12,053,731	17,082,864
Geothermal	8	9,793,213	76,908	91,184	9,961,305
Hydropower	40	35,382,172	25,210,755	5,128,173	65,721,101
Ocean & River Energy	3	718,175	634,925	8,571	1,361,671
Energy Generation - Transmission	25	21,662,031	70,388,208	2,402,838	94,453,077
Wind Energy	36	39,287,809	11,660,500	2,890,817	53,839,127
Solar Power	1	90,000	-	-	90,000
Emerging Energy Technology	*	-	-	-	-
Bulk Fuel Upgrades	11	-	8,827,551	13,828,679	22,656,230
Rural Power System Upgrades	27	-	25,997,441	26,345,943	52,343,384
Large Energy Development Projects:					
Susitna-Watana Hydro	1	-	76,000,000	-	76,000,000
Fire Island Wind Farm T-Lines	1	-	25,000,000	-	25,000,000
Totals:	207	119,330,612	250,699,007	64,213,516	434,243,135

* 16 projects in process of being awarded. Not active in calendar year 2012

AEA: By the Numbers

FY14 Budget Summary
Prepared: January 13, 2013

Governor's FY14 Budget (in thousands)

OPERATING:	Allocations	Appropriation	General Funds (UGF & DGF)	Other Funds	
Alaska Energy Authority		14,362	5,627	8,735	
AEA Owned Facilities	1,067			1,067	
AEA Rural Energy Operations	6,144		2,188	3,957	
AEA Technical Assistance	577		407	170	
Statewide Project Development, Alternative Energy & Energy Efficiency	6,574		3,032	3,541	

Language Section:

Power Cost Equalization (estimated)		40,351	7,260		
			33,091	Endowment Fund AS 42.45.070(a)	

CAPITAL:	Allocations	Appropriation	General Funds	Other Funds	Federal Funds
AEA Susitna-Watana Hydro		95,200	95,200		
AEA Bradley Lake Transmission Upgrade		13,700	13,700		
AEA Rural Power Systems Upgrade		12,600	9,600		3,000
AEA Renewable Energy Projects Round Six		25,000	25,000		
AEA Bulk Fuel Upgrades		8,500	6,500		2,000
AEA - Alternative Energy & Energy Efficiency Programs		2,000	2,000		
AEA - Energy Plan Implementation		1,000	1,000		
AEA - Electrical Emergencies Program		330	330		
AIDEA - Natural Gas Treatment & Distribution		50,000	50,000		

Language Sections:

Fund Capitalization - Emerging Energy Technology Fund	2,000	GF Appropriation to EETF AS 42.45.375
Fund Transfers - Renewable Energy Fund	25,000	GF Appropriation to REGF AS 42.45.045(a)
Reappropriation - Akiak to Atmautluak for Rural Power System Upgrades	1,750	Reappropriation of GF

AKEnergyAuthority.org

