

# Renewable Energy Fund Round 16 Recommended Projects

Conner Erickson - AEA Director of Planning  
Karen Bell - AEA Manager of Planning

House Energy Committee  
February 13, 2024



SAFE,  
RELIABLE, &  
AFFORDABLE  
ENERGY  
SOLUTIONS



# Renewable Energy Fund (REF) Overview

AEA, in concert with the REF Advisory Committee, has forwarded to the Legislature a capitalization request of \$32 million for Round 16 of the REF. An appropriation of \$32 million would fund all 24 recommended projects. Funding approval for the REF is at a sole discretion of the Legislature and Governor.

## REF Highlights

- Round 15: 18 Projects – \$17M
- Round 14: 27 Projects – \$15M
- Round 13: 11 Projects – \$4.75M



\$317 million in REF appropriations by the State since REF's inception in 2008.



100+ operational projects, 60 are in development.



The REF's sunset date provision was repealed with House Bill 62, signed into law by Governor Dunleavy on May 25, 2023.

# REF: Impact and Evaluation Report 2023 - Key Findings



REF has played a significant role in supporting the development of Alaska's renewable energy sector.

Key findings of the report are:

- Approximately 85 million gallons of diesel and approximately 2.2 million cubic feet of natural gas have been displaced cumulatively through 2022.
- Approximately 1,110,424 gross metric tons of CO<sub>2</sub> and approximately 1,063,548 net metric tons of CO<sub>2</sub> were mitigated cumulatively through 2022.
- Since its inception the REF program has secured over \$317 million in state funds, leveraging over \$300 million in federal and local funds.
- Every dollar deployed through the REF program resulted in \$2.07 in benefits returned to residents and the economy.
- The REF program has created approximately 2,930 new jobs.

Note: AEA commissioned BW Research Partnership, an independent third-party research consultancy, to assess the economic, community, and environmental impacts of the REF program. The report can be accessed on AEA's website, [2023 REF Evaluation Report](#).

# REF Statutory Guidance (AS 42.45.045)

## ELIGIBLE PROJECTS MUST:

- Be a new project not in operation in 2008, and
  - be a hydroelectric facility;
  - direct use of renewable energy resources;
  - a facility that generates electricity from fuel cells that use hydrogen from renewable energy sources or natural gas (subject to additional conditions);
  - or be a facility that generates electricity using renewable energy.
  - natural gas applications must also benefit a community that:
    - Has a population of 10,000 or less, and
    - does not have economically viable renewable energy resources it can develop.

## ELIGIBLE APPLICANTS INCLUDE:

- electric utility holding a certificate of public convenience and necessity (CPCN);
- independent power producer;
- local government;
- or, or other governmental utility, including a tribal council and housing authority.



# REF Funding Limits

## REF Round XVI Grant Funding Limits

Phase	Low Energy Cost Areas*	High Energy Cost Areas**
Total Project Grant Limit	\$2 Million	\$4 Million
Phase I: Reconnaissance Phase II: Feasibility and Conceptual Design	The per <u>project</u> total of Phase I and II is limited to 20% of anticipated construction cost (Phase IV), not to exceed \$2 Million.	
Phase III: Final Design and Permitting	20% of anticipated construction cost (Phase IV), and counting against the total construction grant limit below.	
Phase IV: Construction and Commissioning	\$2 Million per project, including final design and permitting (Phase III) costs, above.	\$4 Million per project, including final design and permitting (Phase III) costs, above.

### Exceptions

**Biofuel projects** Biofuel projects where the applicant does not intend to generate electricity or heat for sale to the public are limited to reconnaissance and feasibility phases only at the limits expressed above. Biofuel is a solid, liquid or gaseous fuel produced from biomass, excluding fossil fuels.

**Geothermal projects** The per-project total of Phase I and II for geothermal projects is limited to 20% of anticipated construction costs (Phase IV), not to exceed \$2 million /\$4 million (low/high cost areas). Any amount above the usual \$2 million cap spent on these two phases combined shall reduce the total Phase III and IV grant limit by the same amount, thereby keeping the same total grant dollar cap as all other projects. This exception recognizes the typically increased cost of the feasibility stage due to test well drilling.

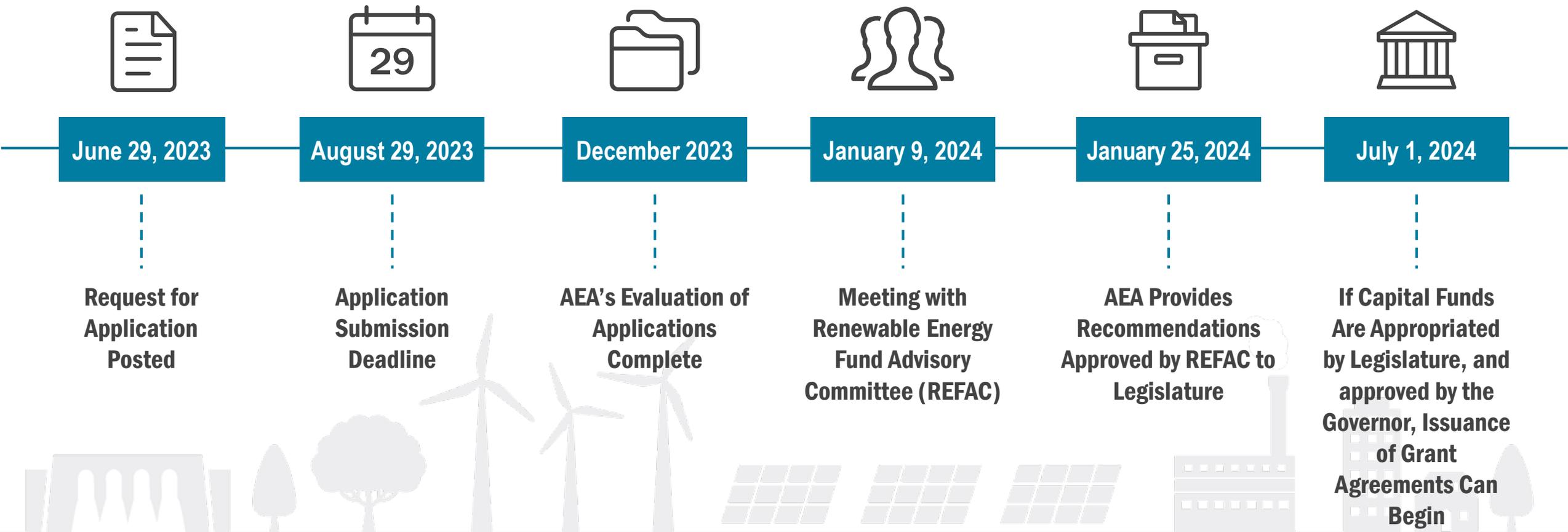
REF Round XVI funding limits are governed by the requested phase(s) in the application and the technology type applied.

### Low vs High Cost Energy Areas:

- **\*Low Energy Cost Areas** are defined as communities connected to the Railbelt electrical grid or with a residential retail electric rate of below \$0.20 per kWh, before Power Cost Equalization (PCE) reimbursement is applied. For heat projects, low energy cost areas are communities with natural gas available as a heating fuel to at least 50% of residences, or availability expected by the time the proposed project is constructed.
- **\*\*High Energy Cost Areas** are defined as communities with a residential retail electric rate of \$0.20 per kWh or higher, before PCE funding is applied. For heat projects, high energy cost areas are communities that do not have natural gas available as a heating fuel.



# REF Rounds 16 Timeline



# REF Evaluation Process: Stage 1 Eligibility and Completeness

The REF evaluation process is comprised of four stages. Stage 1 is an evaluation of the applicant, project eligibility and, completeness of the application, as per 3 AAC 107.635. This portion of the evaluation process is conducted by AEA staff.

- Applicant eligibility is defined as per AS 42.45.045 (l).
  - *"electric utility holding a certificate of public convenience and necessity under AS 42.05, independent power producer, local government, or other governmental utility, including a tribal council and housing authority;"*
- Project eligibility is defined as per AS 42.45.045 (f)-(h) and is provided on the preceding page.
- Project completeness:
  - An application is complete in that the information provided is sufficiently responsive to the RFA to allow AEA to consider the application in the next stage (Stage 2) of the evaluation.
  - The application must provide a detailed description of the phase(s) of project proposed.

STAGE 1 CRITERIA	PASS/FAIL
Applicant eligibility, including formal authorization and ownership, site control, and operation	PASS/FAIL
Project Eligibility	PASS/FAIL
Complete application, including Phase description(s)	PASS/FAIL

Applications that fail to meet the requirements of Stage 1 are rejected by the Authority. Each applicant whose application is rejected is notified of the Authority's decision.



# REF Evaluation Process: Stage 2 Technical and Economic Feasibility

Stage 2 is an evaluation concerning technical and economic feasibility. This portion of the evaluation process is conducted by AEA staff, Alaska Department of Natural Resources, and contracted third-party economists.

The following items are evaluated as part of the Stage 2 evaluation, as required per 3 AAC 107.645:

- Project management, development, and operations;
- Qualifications and experience of project management team, including on-going maintenance and operation;
- Technical feasibility – including but not limited to sustainable current and future availability of renewable resource, site availability and suitability, technical and environmental risks, and reasonableness of proposed energy system; and,
- Economic feasibility and benefits – including but not limited to project benefit-cost ratio, project financing plan, and other public benefits owing to the project.

All Stage 2 criteria are weighted as follows as part of the evaluation process. Applications that score below 40 points in this stage are automatically rejected by the Authority, however, those projects scoring above 40 may also be rejected as under 3 AAC 107.645(b) has the Authority to reject applications that it determines to be not technically and economically feasible, or do not provide sufficient public benefit.

CRITERIA	CRITERIA DESCRIPTION	WEIGHT
1	Project management, development, and operation	25%
2	Qualifications and experience	20%
3	Technical feasibility	20%
4.a	Economic benefit-cost ratio	25%
4.b	Financing plan	5%
4.c	Other public benefit	5%



# REF Evaluation Process: Stage 3 Project Ranking

Stage 3 is an evaluation concerning the ranking of eligible projects. This portion of the evaluation process is conducted by AEA staff in conjunction with solicitation from the Renewable Energy Fund Advisory Committee (REFAC) .

The following items are evaluated as part of the stage three evaluation, as required per 3 AAC 107.655-660:

- Cost of energy
- Applicant matching funds
- Project feasibility (levelized score from stage 2)
- Project readiness
- Public benefits (evaluated through stage 2 benefits)
- Sustainability
- Local Support
- Regional Balance
- Compliance

All Stage 3 criteria are weighted as follows as part of the evaluation process. The Stage 3 scoring is used to determine the ranking score.

CRITERIA	CRITERIA DESCRIPTION	WEIGHT
1	Cost of Energy	30%
2	Matching Funds	15%
3	Project Feasibility (levelized score from Stage 2)	25%
4	Project Readiness	5%
5	Public Benefits	10%
6	Sustainability	10%
7	Local Support	5%
8	Regional Balance	Pass/Fail
9	Compliance	Pass/Fail



# REF Evaluation Process: Stage 4 Ranking and Regional Spreading

Stage 4 is a final ranking of eligible projects, as required per 3 AAC 107.660, which gives “significant weight to providing a statewide balance of grant money, taking into consideration the amount of money available, number and types of projects within each region, regional rank, and statewide rank.”

This portion of the evaluation process is conducted by AEA staff in conjunction with solicitation of advice from the Renewable Energy Fund Advisory Committee (REFAC).

As statutorily required per AS 42.45.045 and set forth in 3 AAC 107.660, the authority is to solicit advice from the REFAC concerning making a final list / ranking of eligible projects.

## REFAC Roles

### **Statutes (AS 42.45.045)**

AEA “in consultation with the advisory committee...develop a methodology for determining the order of projects that may receive assistance....”

AEA “shall, at least once each year, solicit from the advisory committee funding recommendations for all grants.”

### **Regulations (3 AAC 107.660)**

(a) To establish a statewide balance of recommended projects, the authority will provide to the advisory committee established in AS 42.45.045 (i) a statewide and regional ranking of all applications recommended for grants.

(b) In consultation with the advisory committee established in AS 42.45.045 (i), the authority will

(1) make a final prioritized list of all recommended projects, giving significant weight to providing a statewide balance of grant money, and taking into consideration the amount of money that may be available, number and types of projects within each region, regional rank, and statewide rank.



# REFAC Advisory Committee

NAME	TITLE	SECTOR	APPOINTED BY
Clay Koplin	Chief Executive Officer, Cordova Electric Cooperative	Small rural electric utility	Governor
Rose, Chris	Founder / Executive Director, Renewable Energy Alaska Project (REAP)	Business/organization involved in renewable energy	Governor
Iliodor Philemonof III	Government Relations Administrator, Calista Corporation	Representative of an Alaska Native Organization	Governor
Amberg, Alicia	Executive Director, Associated General Contractors of Alaska	Denali Commission	Governor
Janorschke, Bradley	General Manager, Homer Electric Association	Large urban electric utility	Governor
Stedman, Bert	Senator	Senate Member 2	Senate President
Wilson, David	Senator	Senate Member 1	Senate President
Carpenter, Ben	Representative	House Member 2	Speaker of the House
Cronk, Mike	Representative	House Member 1	Speaker of the House



# Proposed REF Capitalization for FY2025 / Round XVI

The State of Alaska FY2025 proposed capital budget allocates \$5 million for REF Round 16 grant funding of recommended projects.

The current list of 24 recommended applications yields a total grant request of \$32,006,012. With the proposed REF budget of \$5 million, there would be insufficient funding to cover the current Round 16 recommendations. Additional funding of \$27.06 million would need to be allocated to fund all of the current Round 16 recommendations or some of the Round 16 recommendations will not be funded.

The table to the right indicates historical REF program funding from the inception of the REF program to the FY2024 appropriation.

\$17M was approved in the FY2024 capital budget for REF Round 15, the largest REF capitalization since FY2014.

Legislative Appropriation	Fiscal Year
\$ 100,001,000	FY2008
\$ 25,000,000	FY2009
\$ 25,000,000	FY2010
\$ 36,620,231	FY2011
\$ 25,870,659	FY2012
\$ 25,000,000	FY2013
\$ 22,843,900	FY2014
\$ 11,512,659	FY2015
\$ -	FY2016
\$ -	FY2017
\$ (3,156,000)	FY2018 - RPSU Reappropriation
\$ 11,000,000	FY2019
\$ -	FY2020
\$ -	FY2021
\$ 4,750,973	FY2022
\$ 15,000,000	FY2023
\$ 17,052,000	FY2024

<b>\$ 316,495,422</b>	<b>Total (excl. operating appropriation)</b>
-----------------------	--



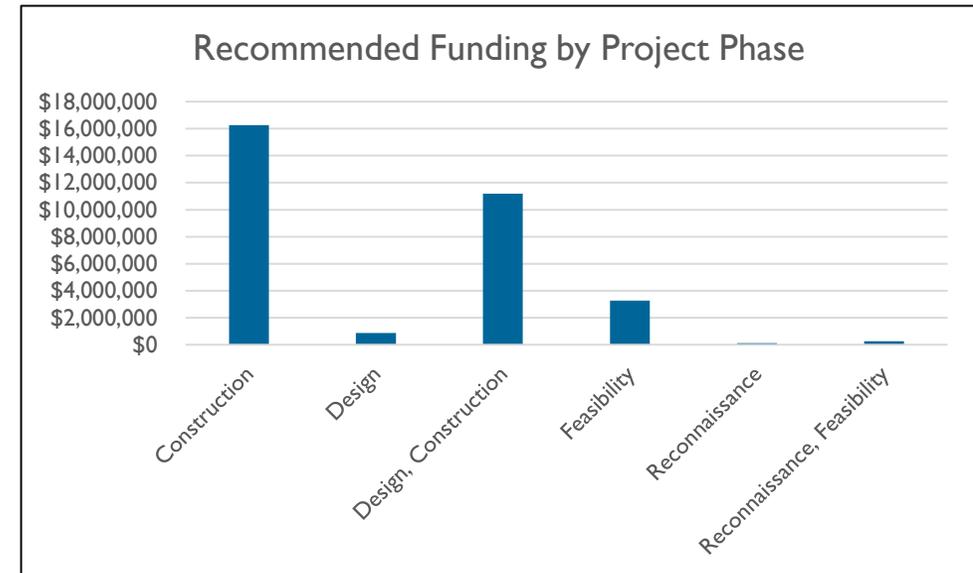
# Round XVI – Recommended Applications Summary

The table to the right indicates the number of applications received by requested phase, along with the corresponding grant request totals. Per the current RFA, there are four phases, listed below in chronological order, for which an applicant may request funding:

- (1) Reconnaissance
- (2) Feasibility and Conceptual Design
- (3) Final Design and Permitting
- (4) Construction

Several applications received in Round 16 requested funding for more than one phase.

Applications by Project Phase	No. of Applications	REF Funds Recommended
Construction	11	\$ 16,268,668
Design	1	\$ 883,012
Design, Construction	8	\$ 11,183,082
Feasibility	2	\$ 3,280,500
Reconnaissance	1	\$ 121,250
Reconnaissance, Feasibility	1	\$ 269,500
<b>Total</b>	<b>24</b>	<b>\$ 32,006,012</b>

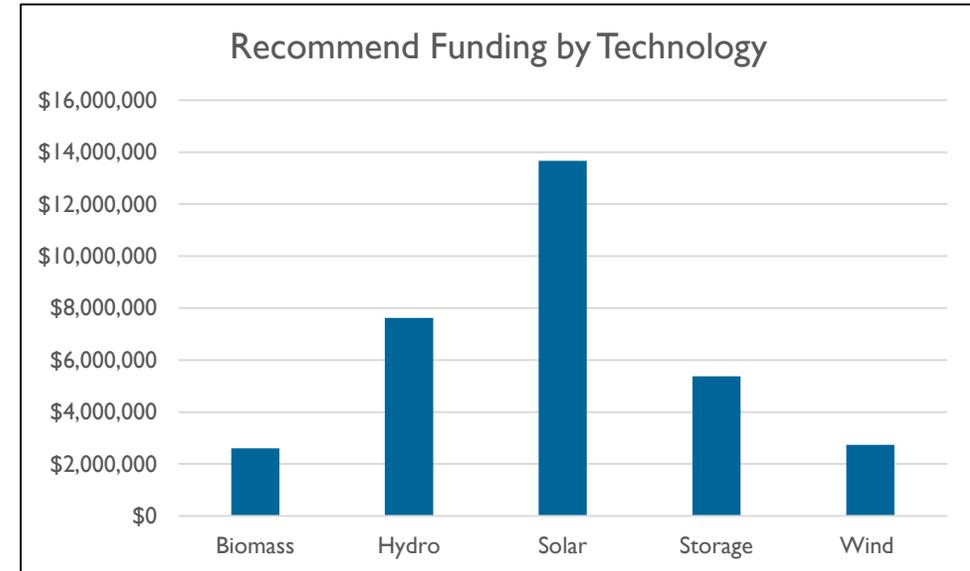
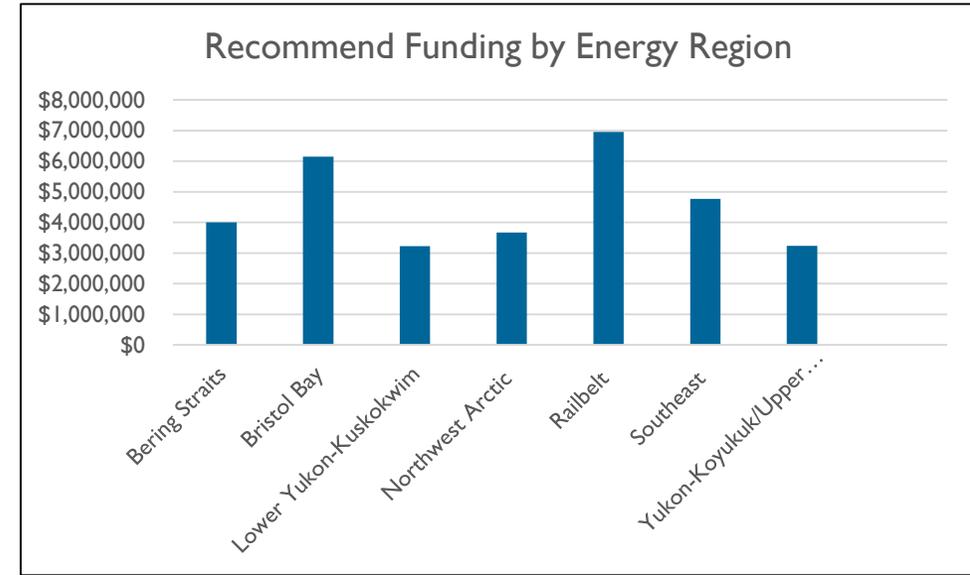


# Round XVI – Recommended Applications Summary

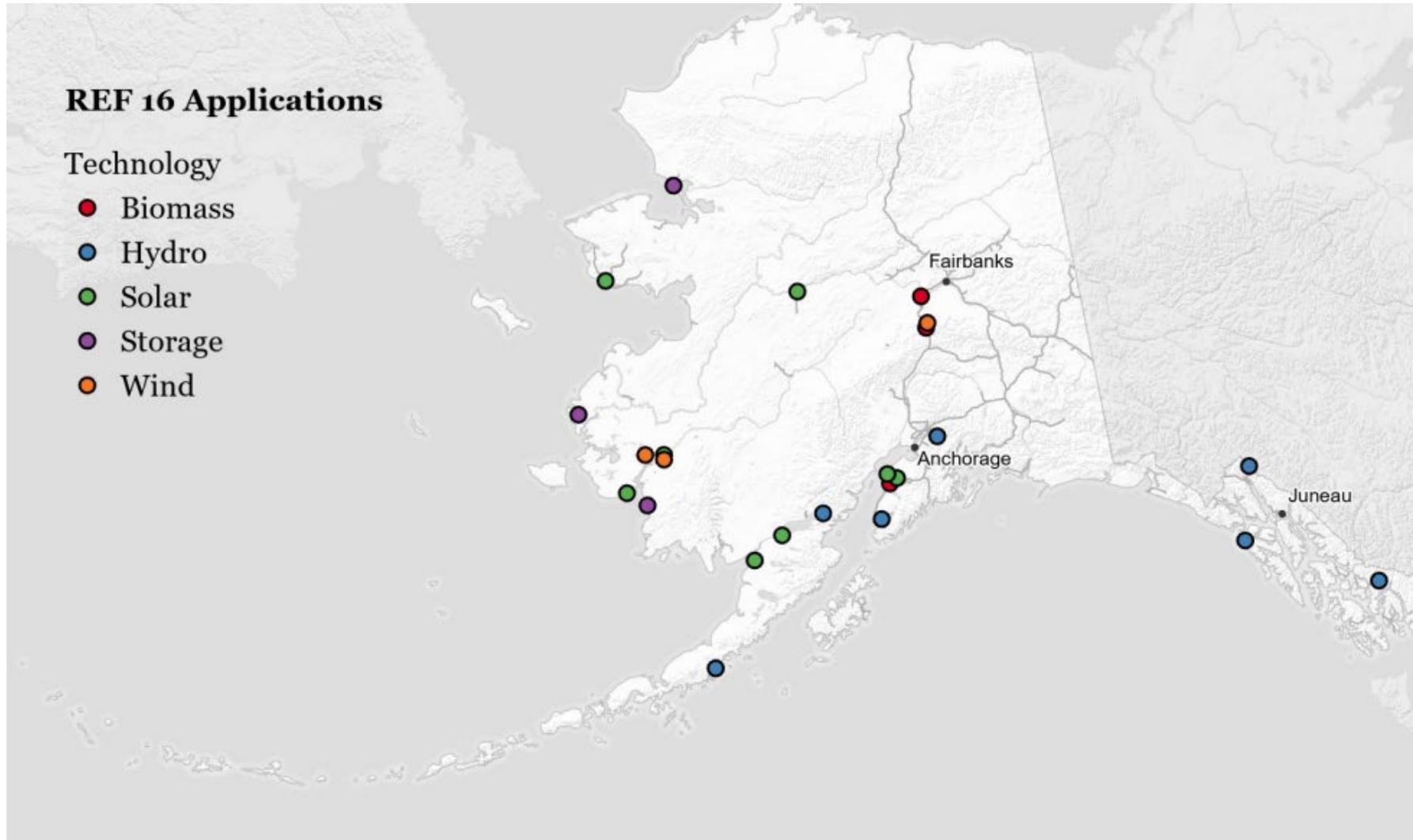
There are 24 recommended applications, totaling a request of \$32 million.

Applications by Energy Region	No. of Applications	REF Funds Recommended
Bering Straits	1	\$ 4,000,000
Bristol Bay	4	\$ 6,144,569
Lower Yukon-Kuskokwim	6	\$ 3,226,092
Northwest Arctic	1	\$ 3,675,000
Railbelt	7	\$ 6,957,514
Southeast	3	\$ 4,771,724
Yukon-Koyukuk Tanana	2	\$ 3,231,113
<b>Total</b>	<b>24</b>	<b>\$ 32,006,012</b>

Applications by Technology	No. of Applications	REF Funds Recommended
Biomass	3	\$ 2,607,514
Hydro	7	\$ 7,615,236
Solar	8	\$ 13,670,456
Storage	4	\$ 5,373,827
Wind	2	\$ 2,738,979
<b>Total</b>	<b>24</b>	<b>\$ 32,006,012</b>



# Round XVI Geographical Distribution of Recommended Applications



# Applications Forwarded to the Legislature for a Decision on Funding

Recommended Projects										Recommendation						
App. #	Applicant	Project Title	Phase	Energy Region	Election District	Technology	Community	Grant Funds Requested	Matching Funds	Stage 3 Score	Benefit / Cost Ratio	HEC	Region Rank	State Rank	Funding Level	Funding Amount
16028	Tanana Chiefs Conference	Ruby Community Solar PV and Battery Storage	Design, Construction	Yukon-Koyukuk/Upper Tanana	36-R	Solar, Storage	Ruby HEA service area	\$2,008,113	\$874,906	90	1.23	\$12,913	1	1	Full w/ Special Provision	\$2,008,113
16005	Solstice Energy LLC	Kenai Peninsula Solar Farm	Design, Construction	Railbelt	various	Solar		\$2,000,000	\$48,027,664	88	1.77	\$7,120	1	2	Full	\$2,000,000
16022	Kotzebue Electric Association	Kotzebue Community Scale Energy Storage and Inertia	Construction	Northwest Arctic	40-T	Storage	Kotzebue	\$4,000,000	\$3,500,000	85	1.73	\$7,920	1	3	Partial	\$3,675,000
16015	Alaska Electric & Energy Coop	AEEC / KPB CPL Landfill Gas CHP Project	Construction	Railbelt	6-C	Biomass	Homer	\$1,115,014	\$875,000	84	1.61	\$7,120	2	4	Full	\$1,115,014
16013	Igiugig Village Council	Igiugig Tribal Utility Solar PV	Design, Construction	Bristol Bay	37-S	Solar	Igiugig	\$1,723,709	\$20,933	77	1.03	\$13,627	1	5	Full	\$1,723,709
16008	City of Pelican, Utilities	Pelican Hydro Relicensing Project, Restoration, Repair	Design, Construction	Southeast	2-A	Hydro	Pelican	\$650,474	\$50,000	76	1.63	\$6,374	1	6	Full	\$650,474
16020	Naknek Electric Association	Naknek Solar PV on Cape Suwarof	Construction	Bristol Bay	37-S	Solar	Naknek	\$3,210,000	\$900,000	74	0.57	\$9,551	2	7	Partial	\$3,137,848
16014	Goat Lake Hydro, Inc.	Goat Lake Storage Expansion Study	Reconnaissance	Southeast	3-B	Hydro	Skagway	\$121,250	\$52,250	71	0	\$6,371	2	8	Full	\$121,250

- \*If appropriated by the Legislature and approved the Governor, this funding would become effective July 1, 2024 for inclusion in the Fiscal Year 2025 budget. Orange line indicates the limit of recommended projects able to be funded with a \$5 million appropriation; funding additional projects will require an increased appropriation to the total recommended funding amount. The Kotzebue Community Scale Energy Storage and Inertia Project would only be funded up to \$991,887.



Please see related summary report for details regarding details of the individual applications available on AEA's website - [REF Round 16 Summary Report](#).

# Applications Forwarded to the Legislature for a Decision on Funding

App. #	Applicant	Project Title	Phase	Recommended Projects				Recommendation								
				Energy Region	Election District	Technology	Community	Grant Funds Requested	Matching Funds	Stage 3 Score	Benefit / Cost Ratio	HEC	Region Rank	State Rank	Funding Level	Funding Amount
16003	Nuvista Light & Electric Coop	Nuvista Kwethluk Wind and Battery Project Completion	Construction	Lower Yukon-Kuskokwim	38-S	Wind, Storage	Kwethluk	\$738,979	\$0	71	0.67	\$7,869	1	9	Full w/ Special Provision	\$738,979
16007	Alaska Village Electric Cooperative	Quinhagak Battery Energy Storage System Project	Construction	Lower Yukon-Kuskokwim	38-S	Storage	Quinhagak	\$443,956	\$707,625	70	0.88	\$6,962	2	10	Full	\$443,956
16018	City of Nenana	Nenana Biomass District Heat System, Final Phase	Construction	Yukon-Koyukuk /Upper Tanana	36-R	Biomass	Nenana	\$1,223,000	\$168,322	69	1.14	\$6,864	2	11	Full	\$1,223,000
16025	Puvurraq Power	Kongiganak 100 kW Solar Energy	Design, Construction	Lower Yukon-Kuskokwim	38-S	Solar	Kongiganak	\$728,603	\$674,330	69	0.6	\$9,427	3	12	Partial	\$720,453
16009	Alaska Renewables	Railbelt Wind Diversification Alaska Renewables	Feasibility	Railbelt	various	Wind, Transmission, Storage	Railbelt	\$2,000,000	\$2,187,000	69	1.22	\$5,458	4	13	Full	\$2,000,000
16001	City of Homer	Homer Energy Recovery Project	Construction	Railbelt	6-C	Hydro	Homer	\$280,000	\$90,000	68	0.01	\$7,120	5	14	Full	\$280,000
16026	Atmautluak Tribal Utilities	Atmautluak ETS Installation, Integration and Commissioning	Construction	Lower Yukon-Kuskokwim	38-S	Wind, Other	Atmautluak	\$286,227	\$188,160	68	0.29	\$8,538	4	15	Full	\$286,227
16021	Southeast Alaska Power Agency	Southeast Alaska Grid Resiliency (SEAGR)	Design, Construction	Southeast	1-A, 2A	Hydro	Ketchikan, Petersburg, Wrangell	\$4,000,000	\$18,592,510	68	0	\$6,730	3	16	Full	\$4,000,000

Please see related summary report for details regarding details of the individual applications available on AEA's website - [REF Round 16 Summary Report](#).



# Applications Forwarded to the Legislature for a Decision on Funding

Recommended Projects													Recommendation			
App. #	Applicant	Project Title	Phase	Energy Region	Election District	Technology	Community	Grant Funds Requested	Matching Funds	Stage 3 Score	Benefit / Cost Ratio	HEC	Region Rank	State Rank	Funding Level	Funding Amount
16006	Alaska Village Electric Coop.	Chevak Battery Energy Storage System Project	Construction	Lower Yukon-Kuskokwim	38-S	Storage	Chevak	\$968,644	\$0	66	0.62	\$6,902	5	17	Full	\$968,644
16023	Pedro Bay Village Council	Knutson Creek Hydro Project	Construction	Bristol Bay	37-S	Hydro	Pedro Bay	\$400,000	\$7,200,000	65	0.08	\$9,390	3	18	Full w/ Special Provision	\$400,000
16016	Akiachak, Ltd	Akiachak Native Community 200 kW Solar Energy Project	Design, Construction	Lower Yukon-Kuskokwim	38-S	Solar	Akiachak	\$1,443,257	\$2,265,809	64	0.33	\$8,870	6	19	Partial w/ Special Provision	\$67,833
16019	Nome Joint Utility System	NJUS Solar Nome Banner Ridge Solar Farm	Construction	Bering Straits	39-T	Solar	Nome	\$4,000,000	\$50,000	60	0.57	\$9,139	1	20	Full	\$4,000,000
16012	Matanuska Electric Association	Hunter Creek Hydroelectric Feasibility Study Project	Feasibility	Railbelt	various	Hydro, Transmission, Storage	MEA service area	\$1,280,500	\$384,500	58	0.67	\$5,920	6	21	Full	\$1,280,500
16010	City of Chignik	Chignik Hydroelectric Power System	Design	Bristol Bay	37-S	Hydro	Chignik	\$883,012	\$44,346	57	1.06	\$7,701	4	22	Full	\$883,012
**16024	Golden Valley Electric	Healy Unit 2 Coal to Biomass Fuel Conversion	Recon, Feasibility	Railbelt	various	Biomass	GVEA service area	\$269,500	\$58,500	70	0	\$8,420	3	23	Full	\$269,500
16004	Utopian Power LLC	Sterling Solar Project	Design, Construction	Railbelt	8-D	Solar	Sterling	\$2,000,000	\$2,000,000	37	0.7	\$7,120	7	24	Partial w/ Special Provision	\$12,500

\*\* Note: On Jan. 9, 2024, the REFAC voted to change the rank for application #16024 from a rank of 11 to a rank of 23 due to potential technical risks associated with fuel supply commitments.



# Thank You

Alaska Energy Authority  
813 W Northern Lights Blvd.  
Anchorage, AK 99503  
Phone: (907) 771-3000  
Fax: (907) 771-3044  
[akenergyauthority.org](http://akenergyauthority.org)



ALASKA  
ENERGY  
AUTHORITY