

Renewable Energy Fund Advisory Committee (REFAC)

Neil McMahon
Program Manager
Energy Planning

REFAC Meeting
December 3, 2019

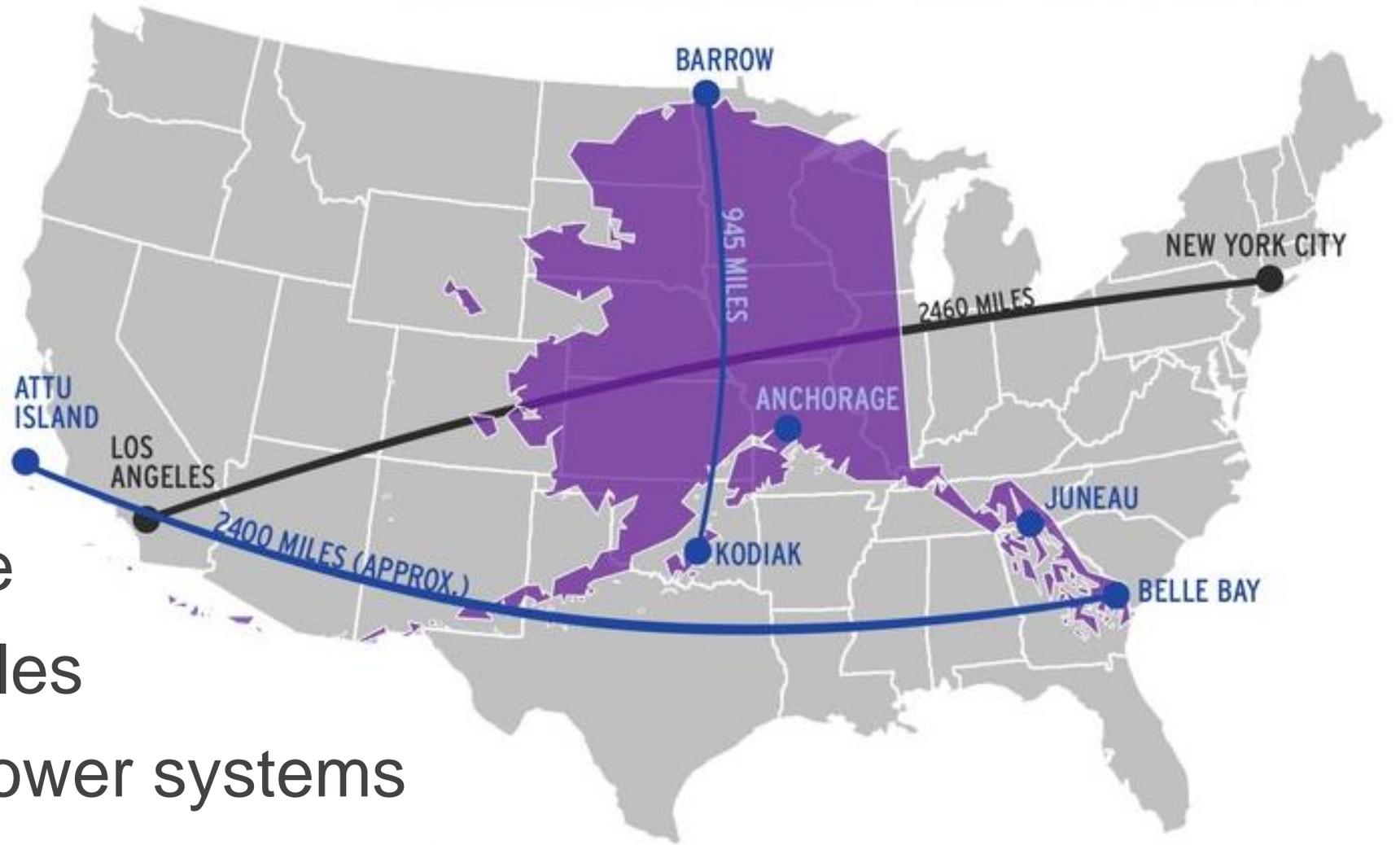


SAFE,
RELIABLE, &
AFFORDABLE
ENERGY
SOLUTIONS

Agenda

1-1:15 p.m.	Welcome and Introductions
1:15-1:20 p.m.	Approve minutes and agenda
1:20-2:10 p.m.	Refreshers <ul style="list-style-type: none">▶ Energy in Alaska▶ REF Evaluation process▶ REFAC Advisory Role▶ REF impact to date
2:10-2:45 p.m.	Informational Items <ul style="list-style-type: none">▶ Fund balance▶ One-page description for potential funders▶ Request for Application schedule▶ Incentivizing Operations and Financial Planning▶ Metering requirements
2:45-3 p.m.	Break
3-3:45 p.m.	Action Items <ul style="list-style-type: none">▶ Change funding limits▶ Prioritize early stage projects▶ Increase local match weighting▶ Incentivize supply- and demand-side efficiency
3:45-4 p.m.	Member comments
4 p.m.	Adjourn

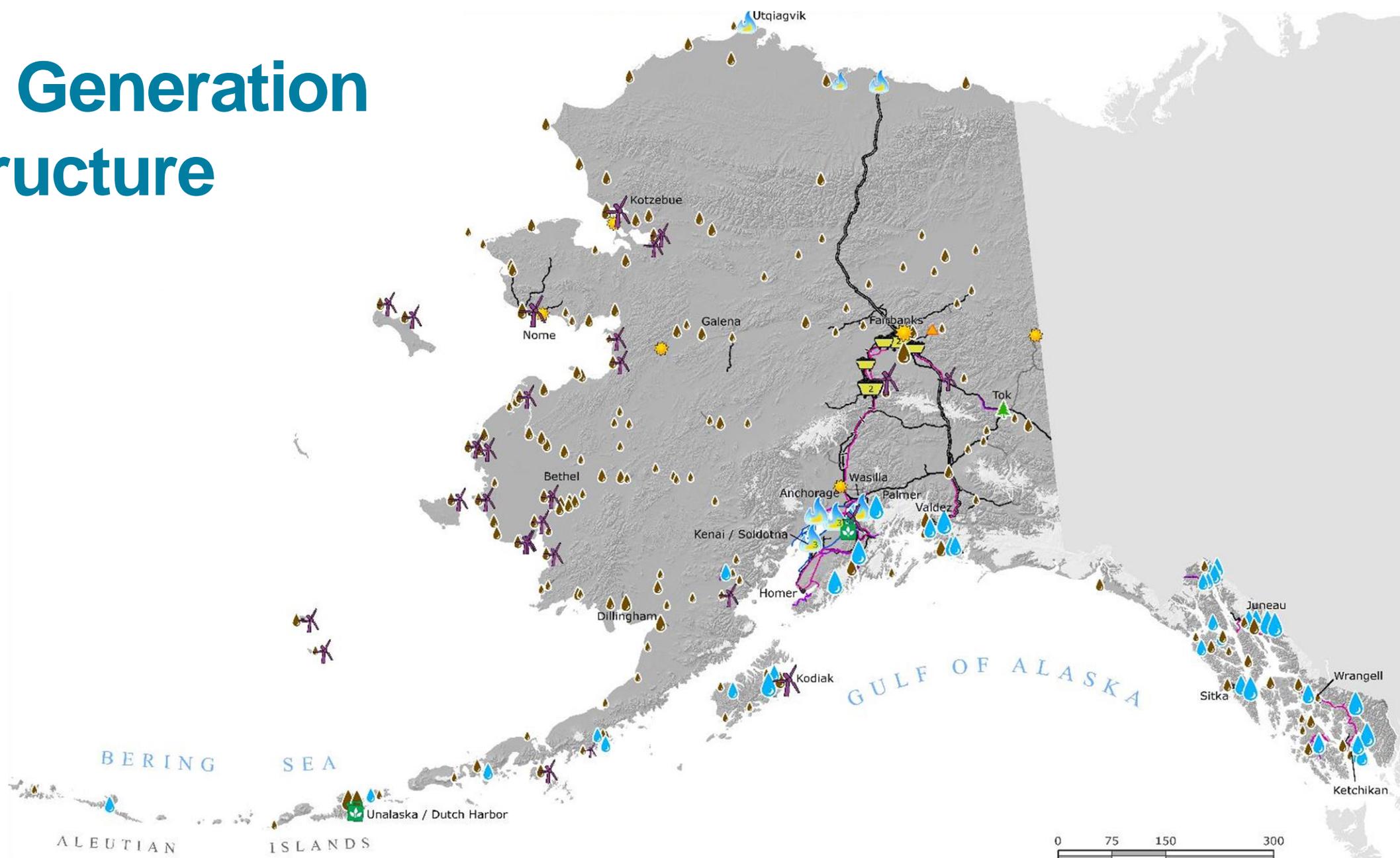
Energy in Alaska



- ▶ **740,000** People
- ▶ **660,000** Sq. Miles
- ▶ **200** Islanded power systems

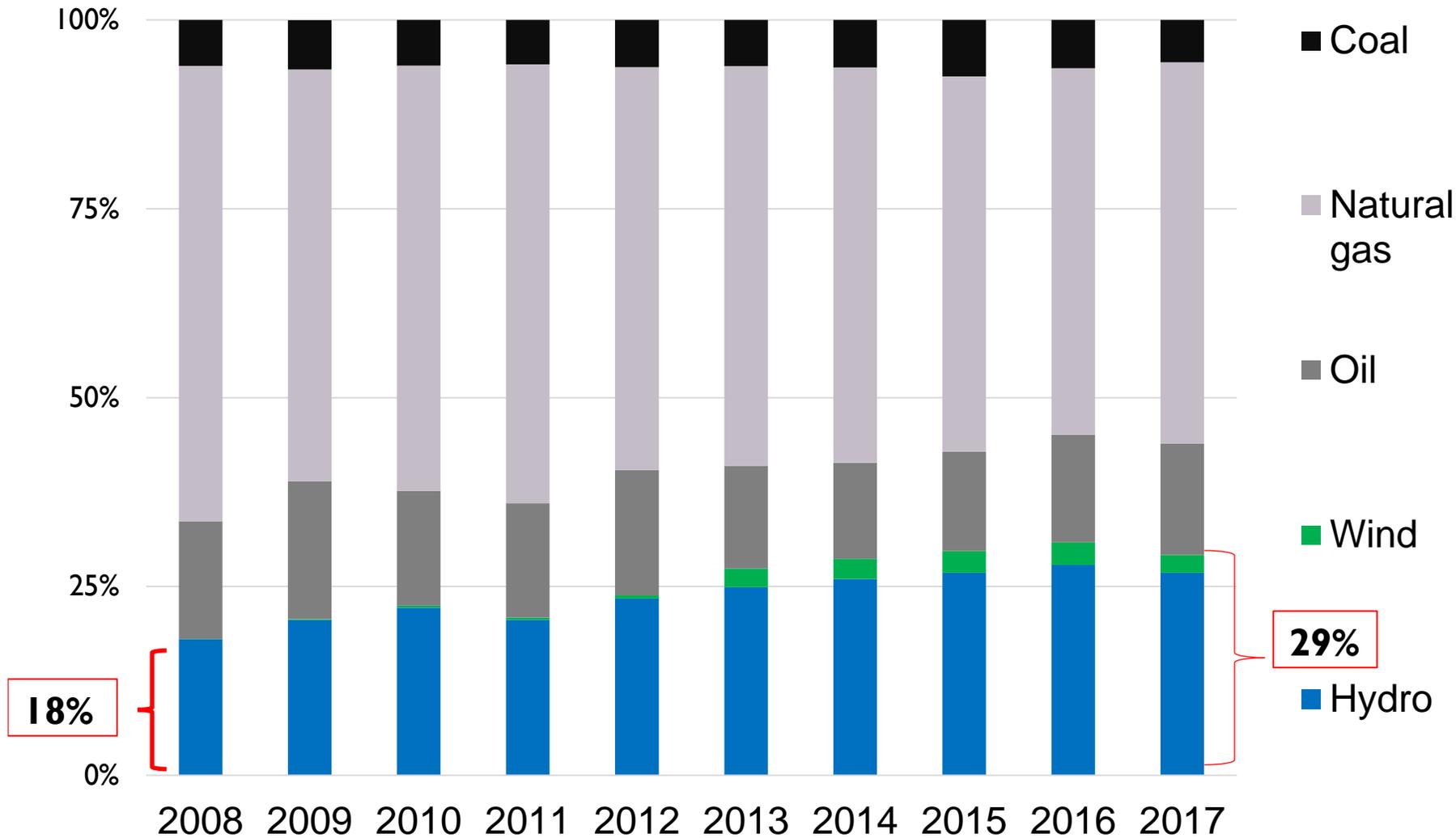


Alaska Generation Infrastructure



Percent of electricity generated by fuel source

Source: Energy Statistics, EIA, and PCE data (2008-2017)



Alaska State Energy Policy (2010):

Goal of 50% of electricity generated by renewable source by 2025

REF Statutory Guidance

Eligible Projects Must:

- ▶ Be a new project not in operation in 2008, and Be a hydro, direct use of renewable energy, a facility that generates electricity from fuel cells that use hydrogen from RE or natural gas (certain conditions for natural gas), or be a facility that generates electricity using renewable energy.

Evaluation Process:

- ▶ Develop a methodology for determining the order of projects that may receive assistance,
 - ▷ most weight being given to projects that serve any area in which the average cost of energy to each resident of the area exceeds the average cost to each resident of other areas of the state,
 - ▷ significant weight given to a *statewide balance of grant funds* and to the *amount of matching funds*



Four Stage REF Evaluation Process

Step 1	Step 2	Step 3	Step 4
Completeness/eligibility (AEA staff)	Feasibility and public benefit (AEA, DNR, Contractors) <ul style="list-style-type: none">▶ Technical and economic evaluation▶ Qualifications and experience of team▶ Project management, development, operation	Ranking projects (AEA/REFAC) <ul style="list-style-type: none">▶ Cost of energy single biggest criterion (30%)▶ Levelized feasibility score from stage 2 (25%)▶ Other criteria include public benefits, readiness, local support and match	Regional spreading (AEA/REFAC)



REFAC Advisory Committee

NAME	SECTOR	APPOINTED BY
Meera Kohler	Small rural electric utility	Governor
Unfilled	Representative of an Alaska Native Organization	Governor
Chris Rose	Business/Organization involved in renewable energy	Governor
Alicia Siira	Denali Commission	Governor
Lee Thibert	Large urban electric utility	Governor
Natasha von Imhof	Senate member 2	Senate President
David Wilson	Senate member 1	Senate President
Adam Wool	House member 2	Speaker of the House
Tiffany Zulkosky	House member 1	Speaker of the House



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



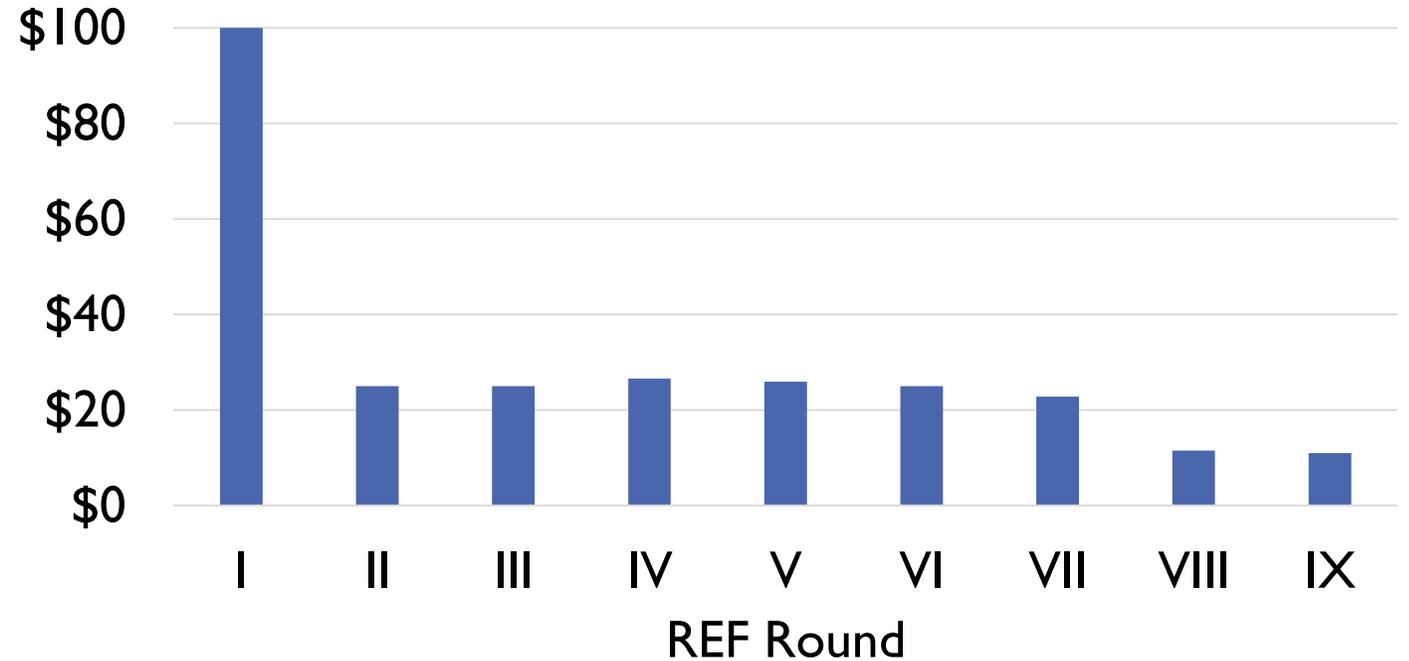
REFAC Input Since Inception Includes:

- ▶ Increase focus on high energy cost communities
- ▶ Encourage heat projects
- ▶ Encourage energy efficiency points in scoring for heat projects
- ▶ Regional spreading of grant funds
- ▶ Support recommendations to the legislature

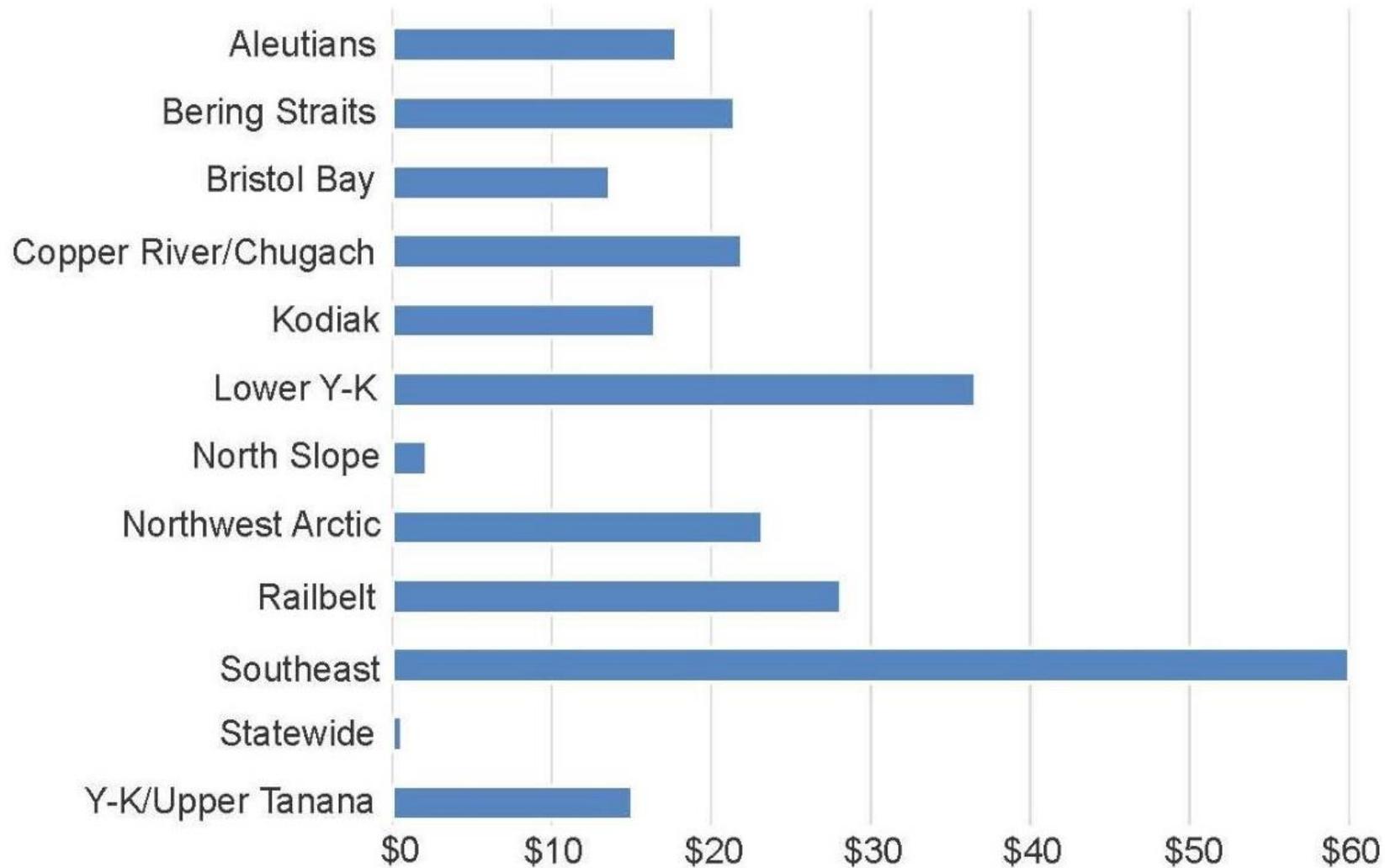


REF Appropriations (\$ millions)

- ▶ Rounds I-IX: 851 total applications received
- ▶ 295 applications funded
- ▶ \$268 million granted
- ▶ \$165 million in direct project match

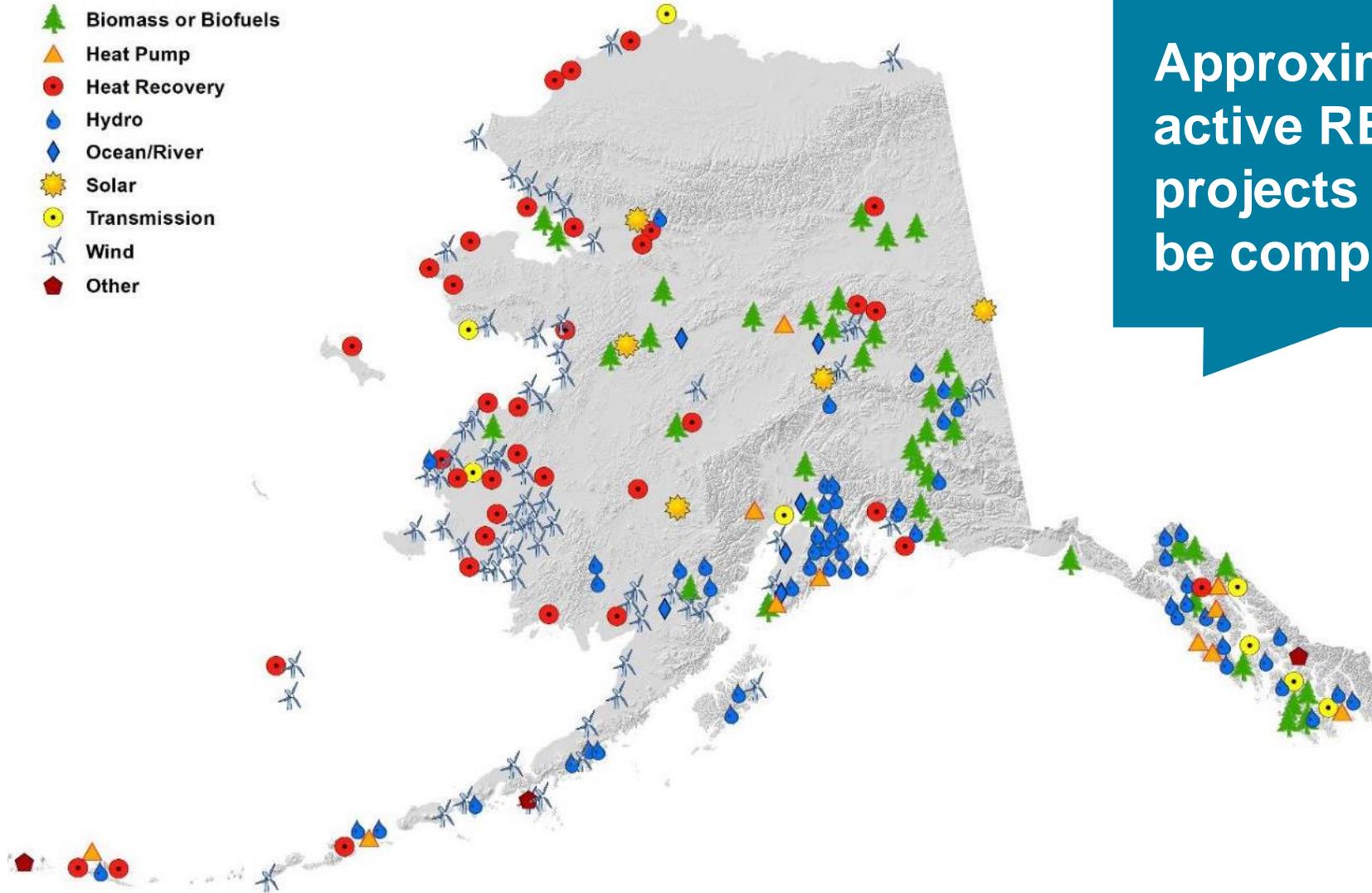


REF Spending to Date by Region (\$ millions)



REF Projects Rounds I-IX

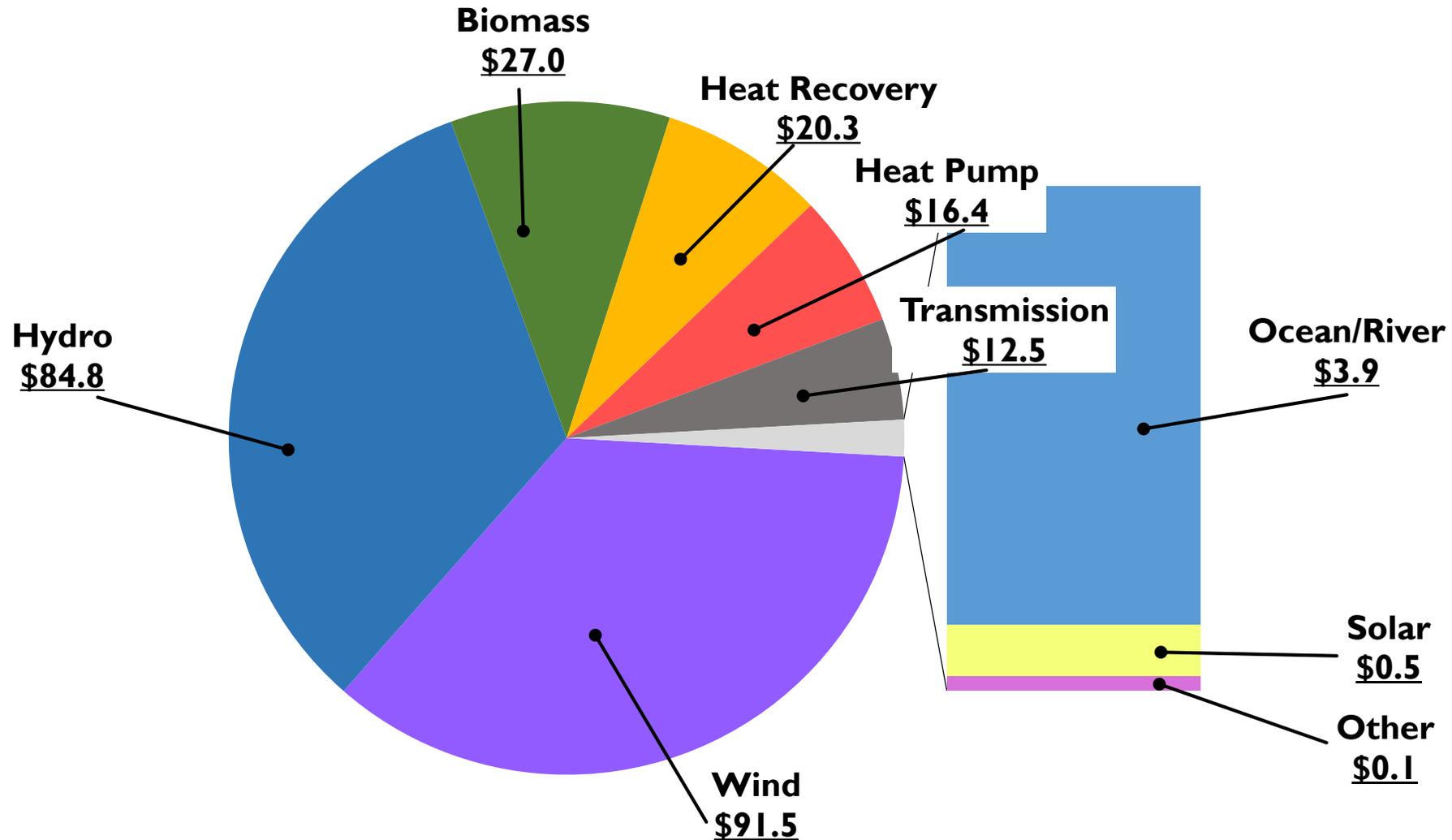
-  Biomass or Biofuels
-  Heat Pump
-  Heat Recovery
-  Hydro
-  Ocean/River
-  Solar
-  Transmission
-  Wind
-  Other



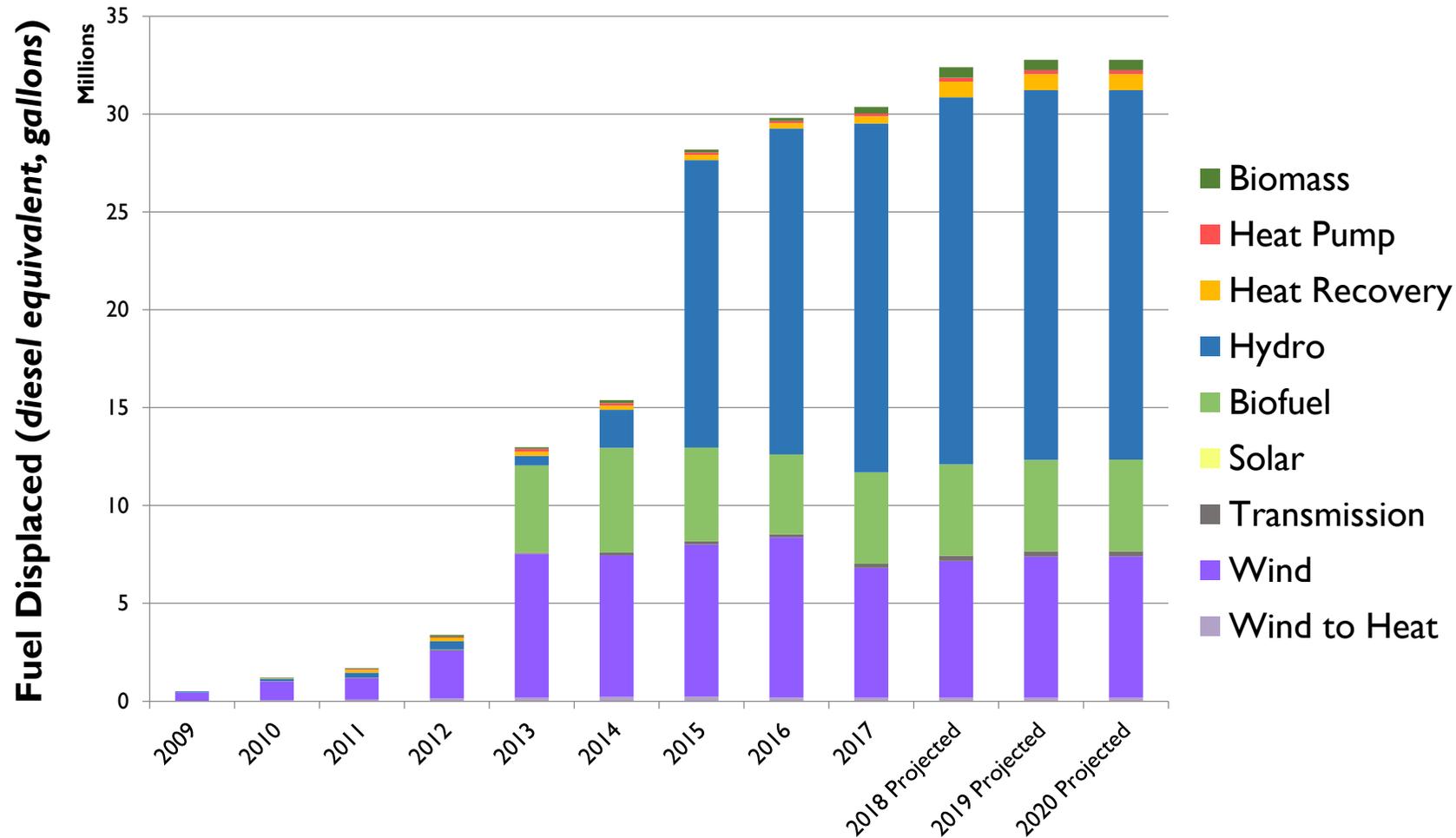
Approximately 30 active REF projects remain to be completed



REF Spending to Date by Resource (\$ millions)



REF Fuel Savings From Construction Projects

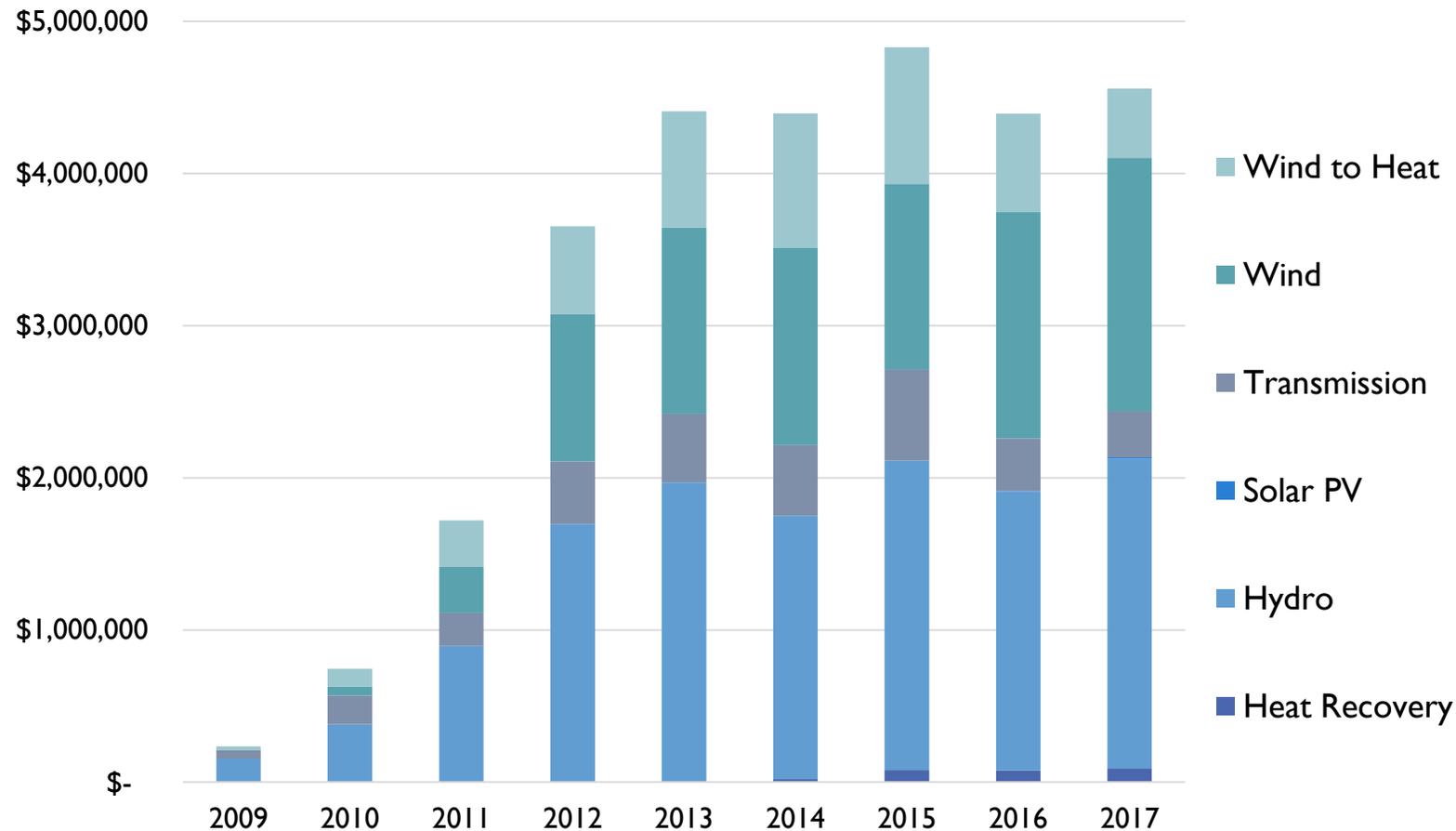


Total fuel cost savings in 2017: ~\$74M



REF Projects in PCE-Eligible Communities

Value of diesel saved in PCE-eligible communities
(2009-2017)



**Total fuel cost savings to PCE-eligible utilities
2009-2017: ~\$29M**



Informational Items

- ▶ Fund balance
- ▶ One-page description for potential funders
- ▶ Request for Application schedule
- ▶ Business operations plan template/Best Practices checklists
- ▶ Metering requirements
- ▶ Other



REF Balance and Potential Funding

Uncommitted:

▶ ~\$8.58M as of 9/30/2019

Operating Fund Commitment:

▶ \$1.948M (FY20)

▶ \$1.4M (FY21 proposed)

Fiscal Year	PCE endowment fund earnings	Excess earnings from PCE Endowment potentially available to REF	Action
FY20	\$76.6M	\$454,000	Vetoed by governor
FY21	\$74.1M	<\$200,000	



One Pager and Potential Funders

▶ Requested by REFAC in November 2018



Alaska Renewable Energy Fund Evaluation Process Summary

The need for affordable, sustainable energy in Alaska is great. Relative to the rest of the nation, Alaska's rural communities pay the highest energy costs and include some of the poorest places. To help communities reduce and stabilize their heat and electricity costs, the Alaska State Legislature established the Alaska Renewable Energy Fund (REF), a competitive grant program, in 2008. The program was established to help fund cost-effective renewable energy projects throughout the state. The Alaska Energy Authority (AEA) administers REF evaluation process and manages all REF grants.



RFA Release Schedule

Action	Expected Dates
RFA release	March 2020
Applications due	June/July 2020
REFAC meeting	July/August 2020
Evaluate applications	July-November 2020
REFAC meeting	December 2020/January 2021
Deliver recommendations to legislature	January 29, 2021
Grants could begin	July 1, 2021



Incentivizing Operations and Financial Planning

Current Rules

- ▶ Statute
 - ▷ No Reference
- ▶ Regulations
 - ▷ Public benefit...
 - ▷ “ability to ..operate and maintain the project for the life of the project.”

Recommended additions to Scoring Criteria and Grant application

- ▶ **Stage 2 Criterion 2 Qualifications and Experience (20% of Stage 2)**
 - ▷ The applicant, partners, and/or contractors have sufficient knowledge and experience to successfully complete and operate the project.
 - ▷ The project team has staffing, time, and other resources to successfully complete and operate the project.
 - ▷ *For construction projects, include the final operational and business plan completed under Phase III--Final Design & Permitting, including financial and operational plans for end-of-life. Operational plans should be detailed and include labor and material costs, training needed, minor and major repair schedules, etc. [This would be added to 4.1.2 Expertise and Resources in grant application]*
- ▶ **Stage 3: Section 7—Sustainability**
 - ▷ The capability of the grantee to demonstrate the capacity, both administratively and financially, to provide for the long-term operation and maintenance of the proposed project
 - ▷ *For construction projects, attach and describe how the applicant will implement the final financial and operational plan to provide for the long-term operation and maintenance of the proposed project. [This would be added to Section 7--Sustainability in grant application]*



Assisting with Operations and Financial Planning

- ▶ Template for business and operations planning
- ▶ Will be available through AEA's website



Other – Metering Equipment, Cost of Energy

Data Collection Recommended Language

▶ Metering Equipment

- ▶ Please provide a short narrative, and cost estimate, identifying the metering equipment that will be used to comply with the operations reporting requirement identified in Section 3.15 of the Request for Applications. **Any identified metering equipment will not be included as a project cost.**

Energy Cost Calculation

- ▶ The Household Energy Cost is calculated as follows:

- ▶ ***HEC = (cost of power*6,000 kWh/yr) + (cost of heating fuel*regional mean HH gallons/yr)***

- ▶ The Cost of Energy Score is then assigned using the following formula:

- ▶ ***COE Score = (HEC) / \$15,254.77 x 10, Score cannot be greater than 10***

- ▶ Communities with an average combined residential energy bill at or above \$15,254.77 are assigned the maximum score of 10. This value is the cost that allows 10% of all communities in the state to receive full points for this criterion in the current year.



Other Changes

- ▶ Operational data
 - ▷ What are we going to do with it
- ▶ Much simpler status report to the legislature to meet statutory requirement



Action Items

Potential changes to the 2020 RFA based on 2018 REFAC requests:

- ▶ Change funding limits
- ▶ Prioritize early stage projects
- ▶ Increase local match weighting
- ▶ Incentivize supply- and demand-side efficiency



Change Funding Limits

Goals and Justification

Currently:

- ▶ Average grant size ~\$950,0000
- ▶ 61% less than or equal to \$500k
- ▶ 12% between \$500k and \$1M
- ▶ 27% greater than \$1M

Possible:

- ▶ Fund more projects
- ▶ Probably more likely to be pre-construction and/or heating projects
- ▶ Might increase applicant match



Current Funding Limits

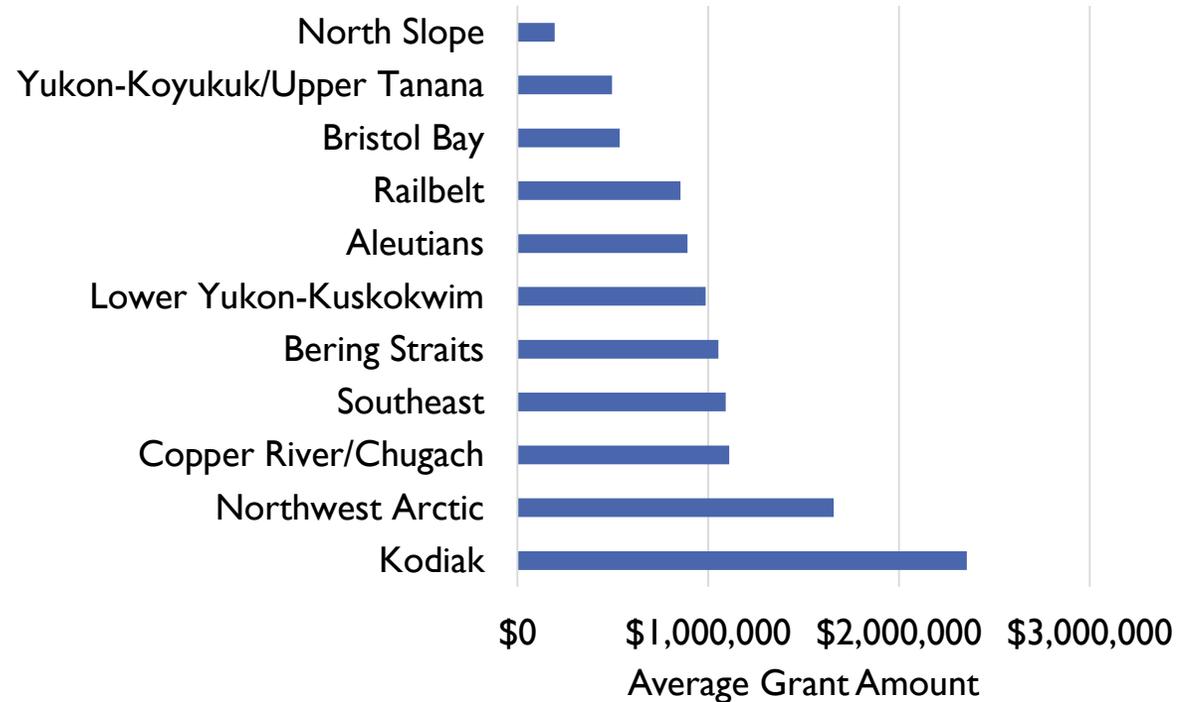
Phase	Grant Limits by location	
	Low Energy Cost Areas	High Energy Cost Areas
Phase I, Reconnaissance	The per-project total of Phase I and II is limited to 20% of anticipated construction cost (Phase IV), not to exceed \$2M.	
Phase II, Feasibility and Conceptual Design		
Phase III, Final Design and Permitting	20% of anticipated construction cost (Phase IV), and counting against the total construction grant limit below.	
Phase IV, Construction and Commissioning	\$2M per project, including final design and permitting (Phase III) costs, above.	\$4M 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.	
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 \$4M. Any amount above the usual \$2M 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.	



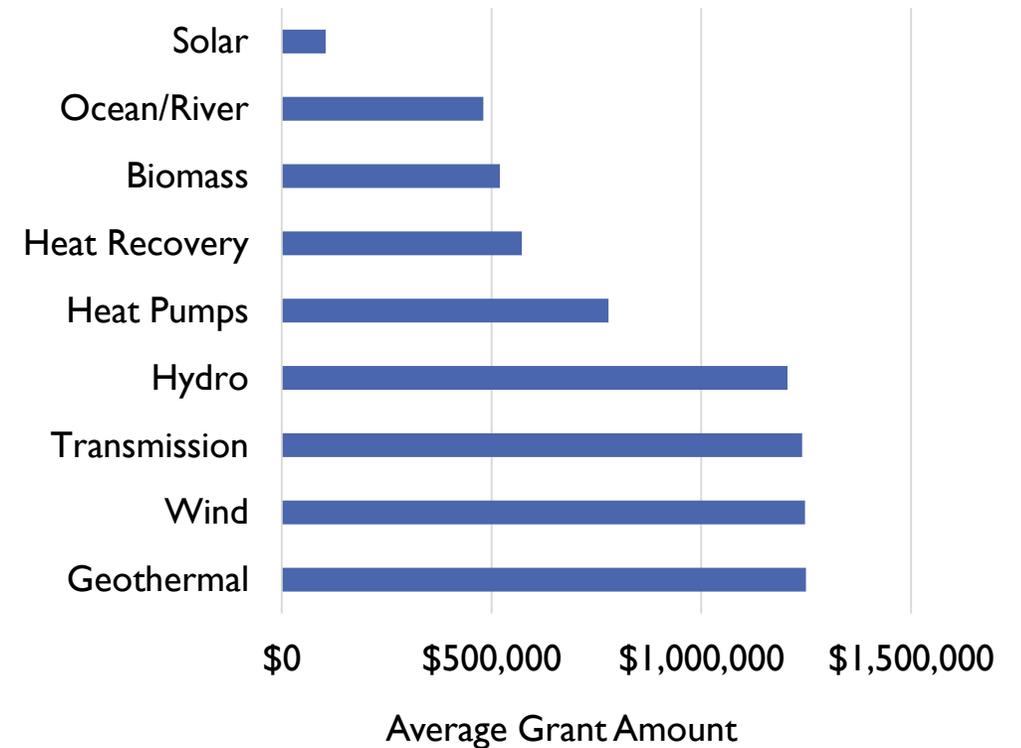
Change Funding Limits

Impact on Application Types

Average Grant Amount by AEA Energy Region
Round 1-9



Average Grant Amount by Technology Type
Round 1-9



Prioritize Early Stage Projects

Goals and Justification

Focus on phases with most risk, i.e. pre-construction

1. Lack of capital to do pre-construction work
2. Risk of doing pre-construction work
3. Non-state funds are more easily secured after pre-construction activities
4. Create a “pipeline” of new projects

Round 9 Targets

Project Phase	Target Allocation – Percentage of Grant Funds Recommended
I. Reconnaissance Study	50%
II. Feasibility/ Conceptual Design	
III. Final Design and Permitting	50%
IV. Construction and Commissioning	
Additional target	
Heat projects	30% of total funding



Prioritize Early Stage Projects

Pros

More projects will be funded –
Pre-construction projects average ~\$327k vs.
~\$1.5M for construction projects

Potentially create a “pipeline” of projects

Cons

Is it consistent with statute and regulations?

Fewer projects constructed with REF funds

Biomass projects would likely be represented less

Other risks, such as access to capital, may limit
the number of projects that make it to construction

Assume smaller, less wealthy communities would be
less likely to finance construction without state support

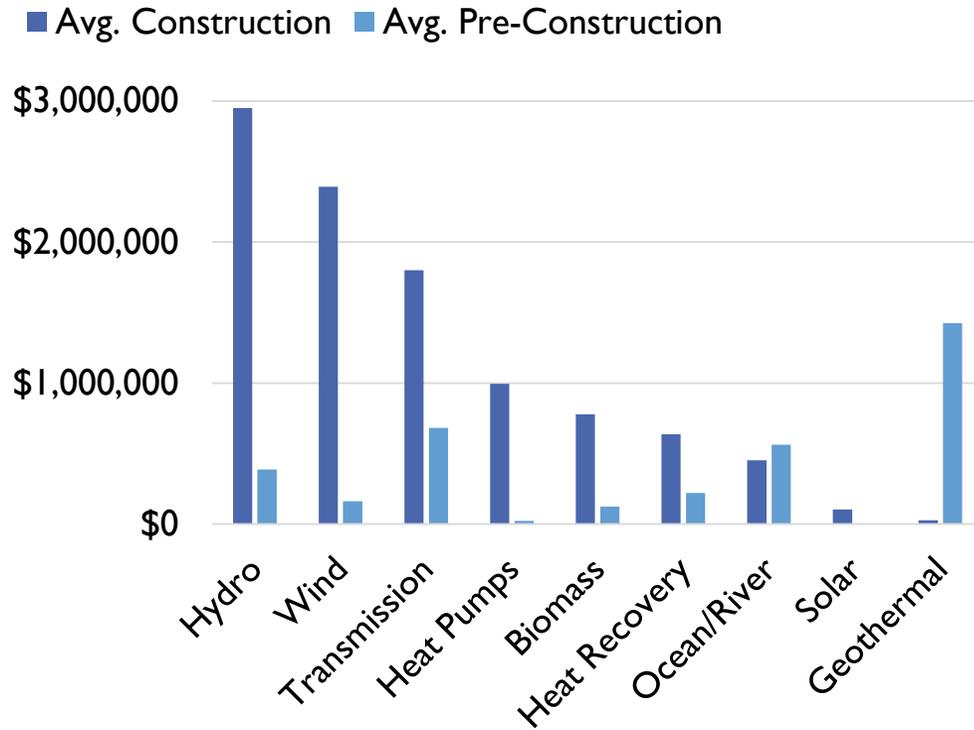
May not know if projects are ever constructed



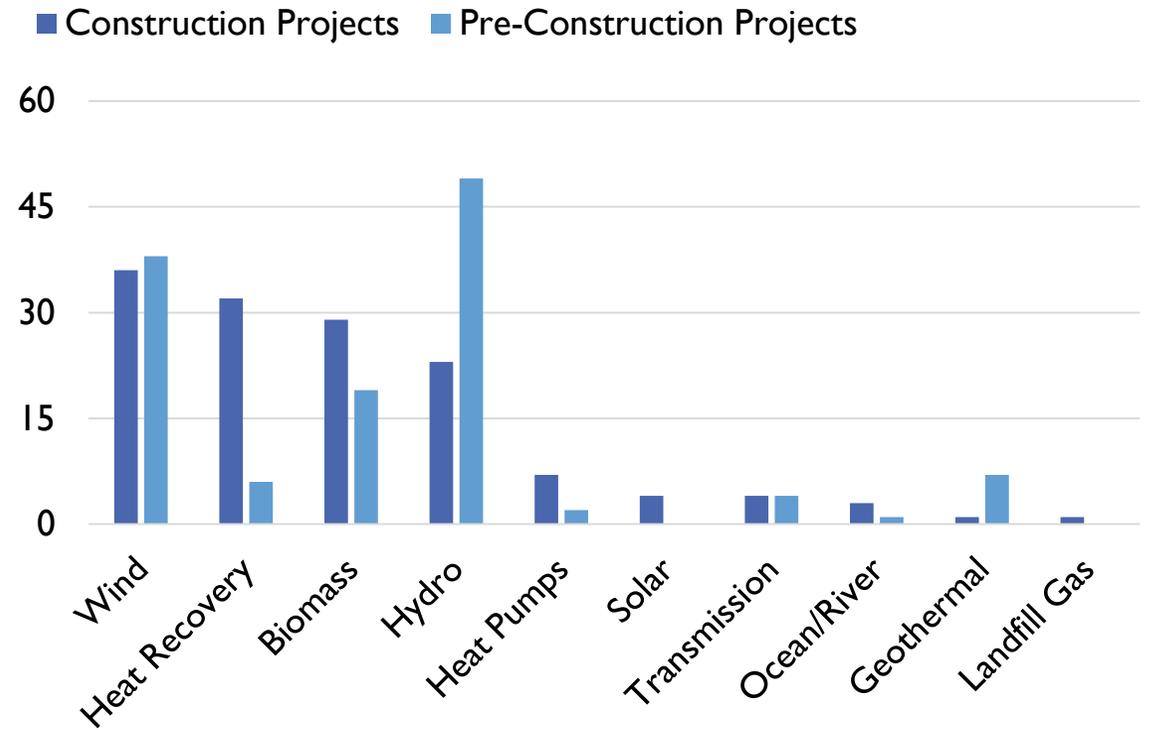
Prioritize Early Stage Projects

Impact on Application Types

Average Grant Award by Technology and Phase



Number of Grants Awarded by Technology and Phase



Increasing Local Match

Current Rules

- ▶ Statute
 - ▷ Scoring must be significant
 - ▷ Cost of energy must have most weight
- ▶ Regulations
 - ▷ “Significant”
- ▶ Round 1-2 = 25%
- ▶ Round 3-4 = 20%
- ▶ Round 5-9 = 15%

What will greater match do?

- ▶ Will it increase match supplied?
- ▶ Will it reduce or change access to program by region, project type, project phase?
- ▶ Would it change order of selections?
- ▶ Will it improve project outcomes?
- ▶ What category(ies) will be decreased in importance?

Recommendation

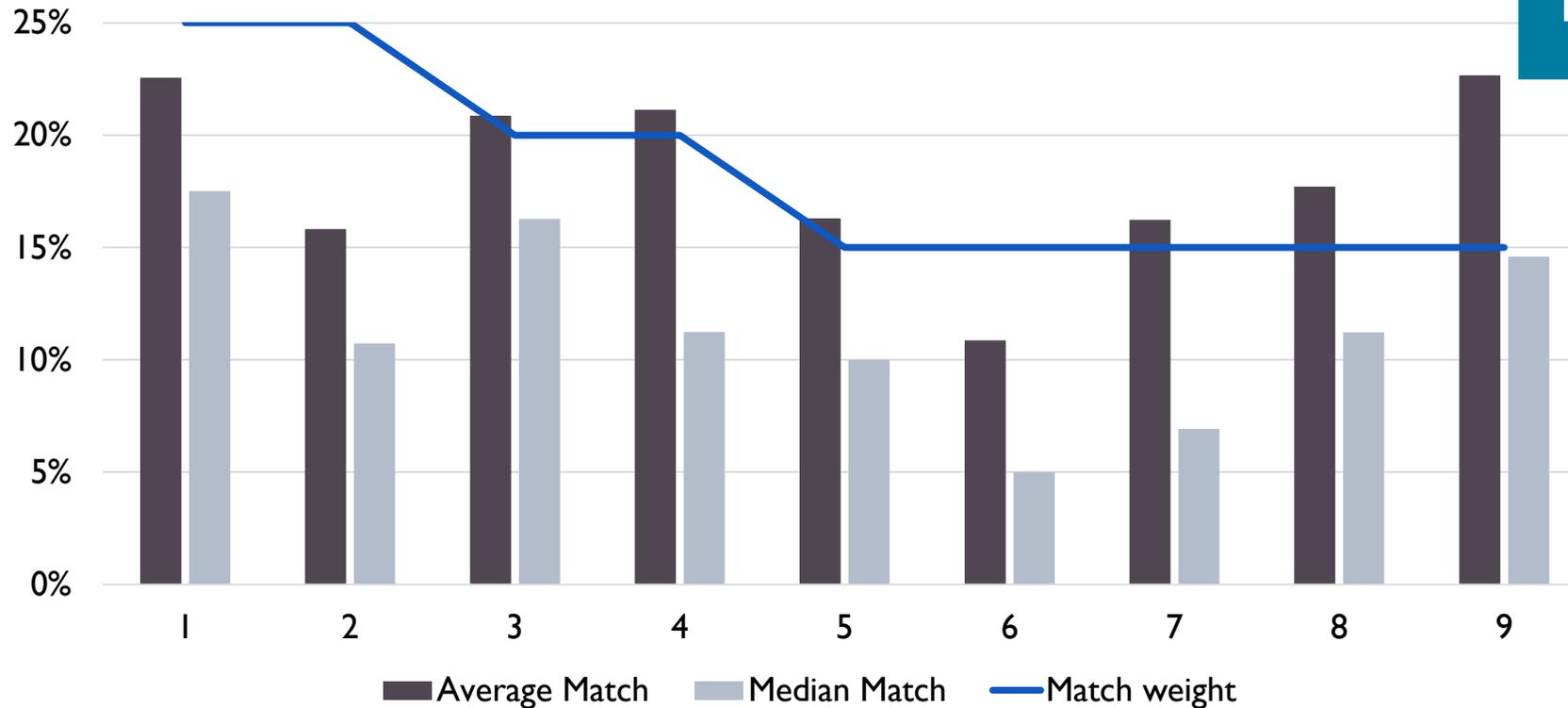
- ▶ Without identification of clear, specific need, don't change things



Increasing Local Match

Impact on Match provided

Average and Median Match Percent by Round
All applications REF Round 1-9



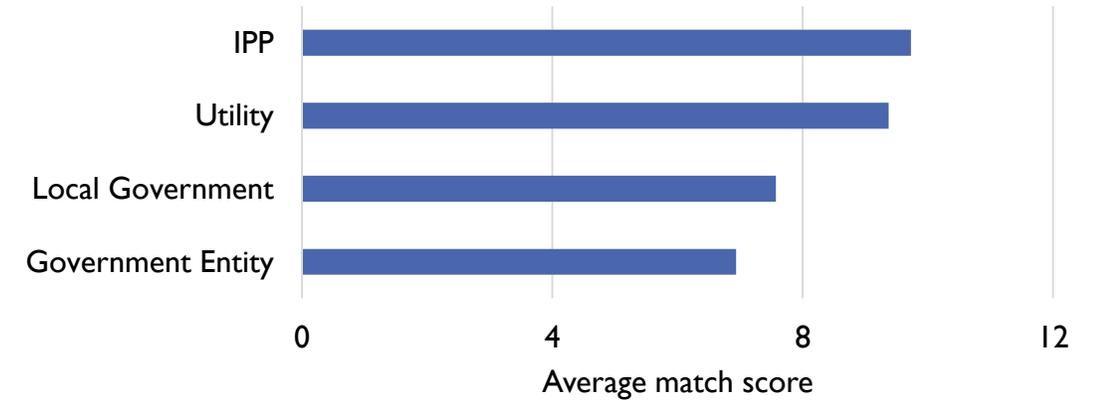
Changing match weight does not appear to appreciably change the amount of match offered



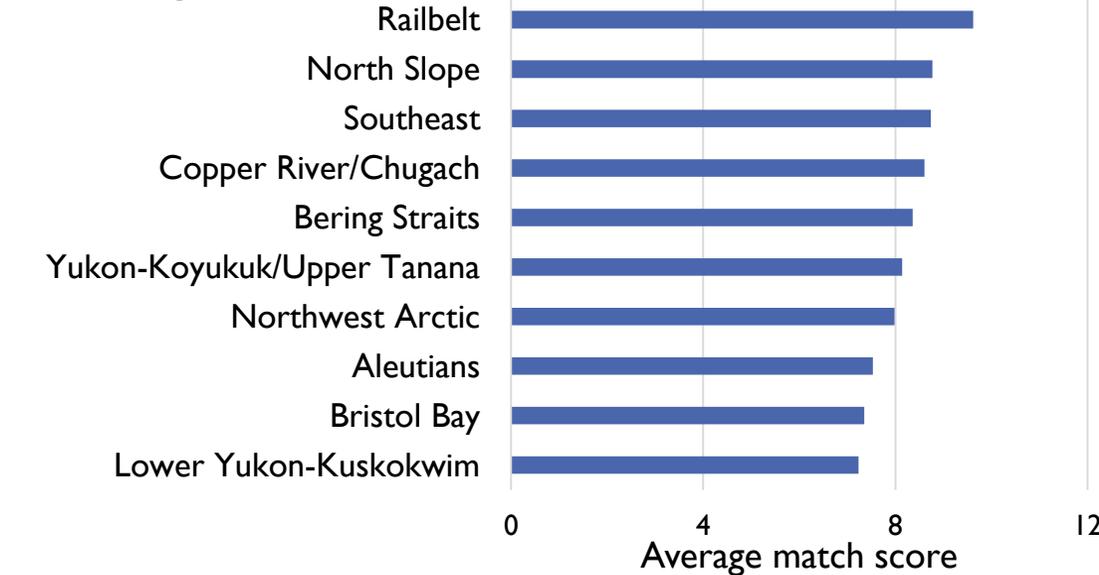
Increasing Local Match Impact on Application Types

Changing match weight will likely increase the likelihood of certain regions, applicant types, and technology type being more successful in securing grants.

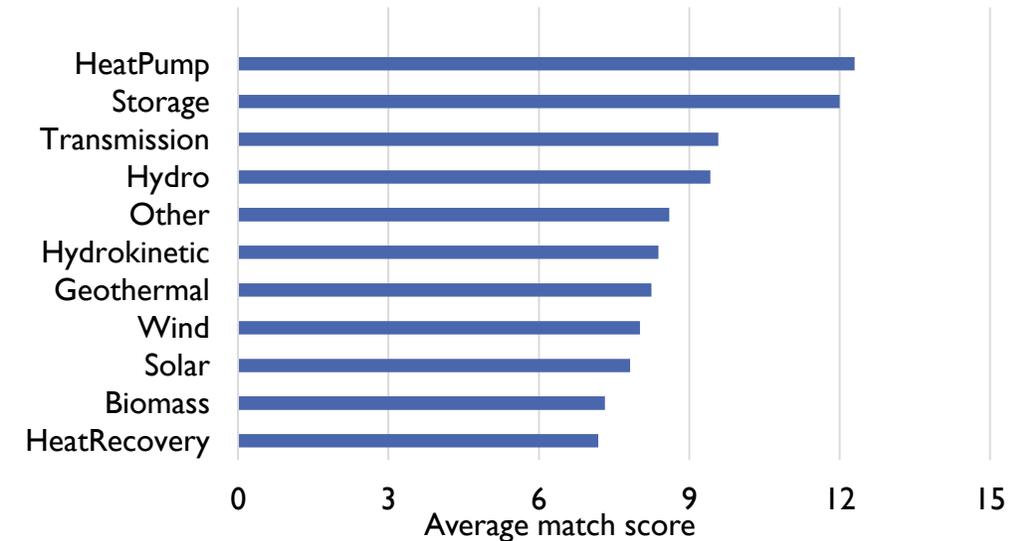
Average match score by Applicant Type
Passed Stage 2, REF Round 1-9



Average match score by AEA Energy Region
Passed Stage 2, REF Round 1-9



Average match score by Technology Type
Passed Stage 2, REF Round 1-9



Incentivizing Supply- and Demand-Side Efficiency

- ▶ Not precluded by statute or regulation
- ▶ Should be fair and consistent across all projects
- ▶ Limit unintended consequences



Incentivizing Supply- and Demand-Side Efficiency

1. Conditions for receiving credit:

- ▶ Improve RE integration
- ▶ Improve performance of RE project
- ▶ Care was taken to not negatively impact vulnerable populations.

2. Proof required to receive credit:

Documentation must be provided on the nature and cost of investments to be used as in-kind match, including:

- ▶ Pre- and post-implementation reports,
- ▶ Invoices for work completed,
- ▶ Photos of the work performed, and/or
- ▶ Any other available verification such as scopes of work, technical drawings, and payroll for work completed internally.

Applicant can decide if include in B/C

▶ YES

- ▷ Cost included as Match,
- ▷ Efficiency improvement included as a benefit,
- ▷ Cost is included in B/C
- ▷ Improvement may be included in Sustainability, Readiness, Technical Feasibility, and/or Other Public Benefits

▶ NO

- ▷ Improvement may be included in Sustainability, Readiness, Technical Feasibility, and/or Other Public Benefits



Member Comments



2020 CALENDAR

Next
Meeting?

January

Su	Mo	Tu	We	Th	Fr	Sa
			1	2	3	4
5	6	7	8	9	10	11
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February

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September

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October

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December

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