

Alaska Renewable Energy Fund Grants: What works and lessons learned

8th International Conference on Environmental, Cultural,
Economic and Social Sustainability

Ginny Fay, Institute of Social and Economic Research,
University of Alaska Anchorage



Institute of Social and Economic Research

Mission Statement:

ISER enhances the well-being of Alaskans and others, through non-partisan research that helps people understand social and economic systems and supports informed public and private decision-making.





Steve Colt
professor of
economics



Ginny Fay
assistant professor
of economics



Matt Berman
professor of
economics



**Katherine
Jackstadt**
research
associate



**Alejandra
Villalobos
Meléndez**
research
professional



Ben Saylor
database
manager and
computer
programmer



Sohrab Pathan
research professional



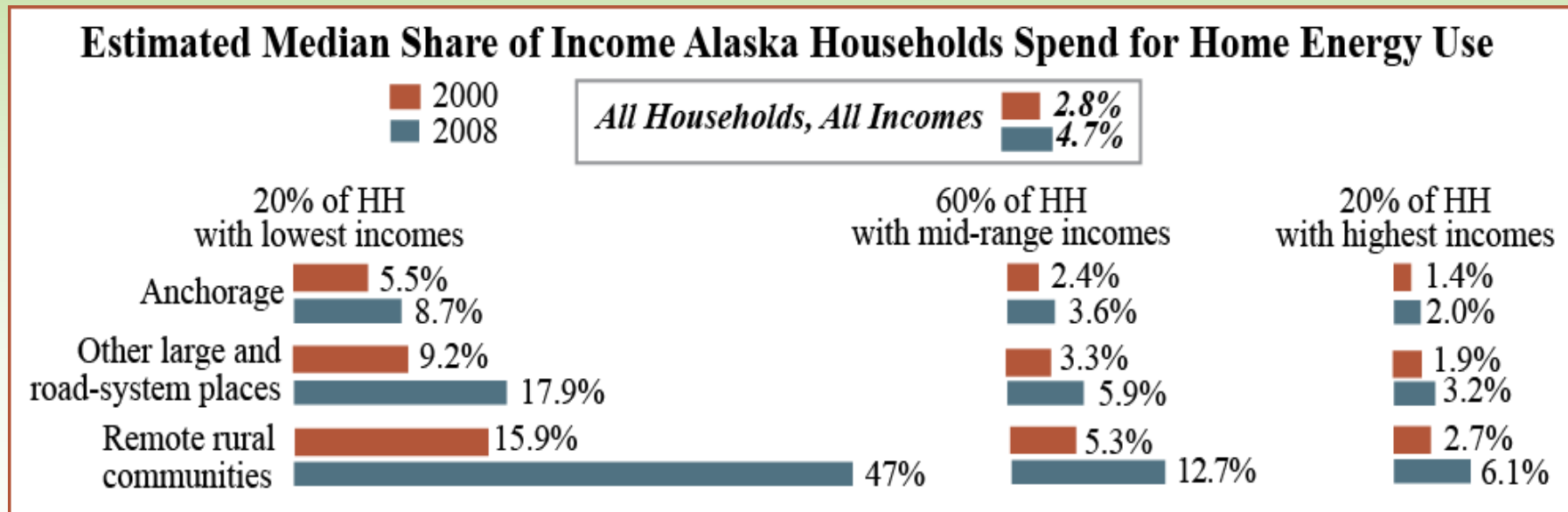
**Tobias
Schwörer**
research
professional



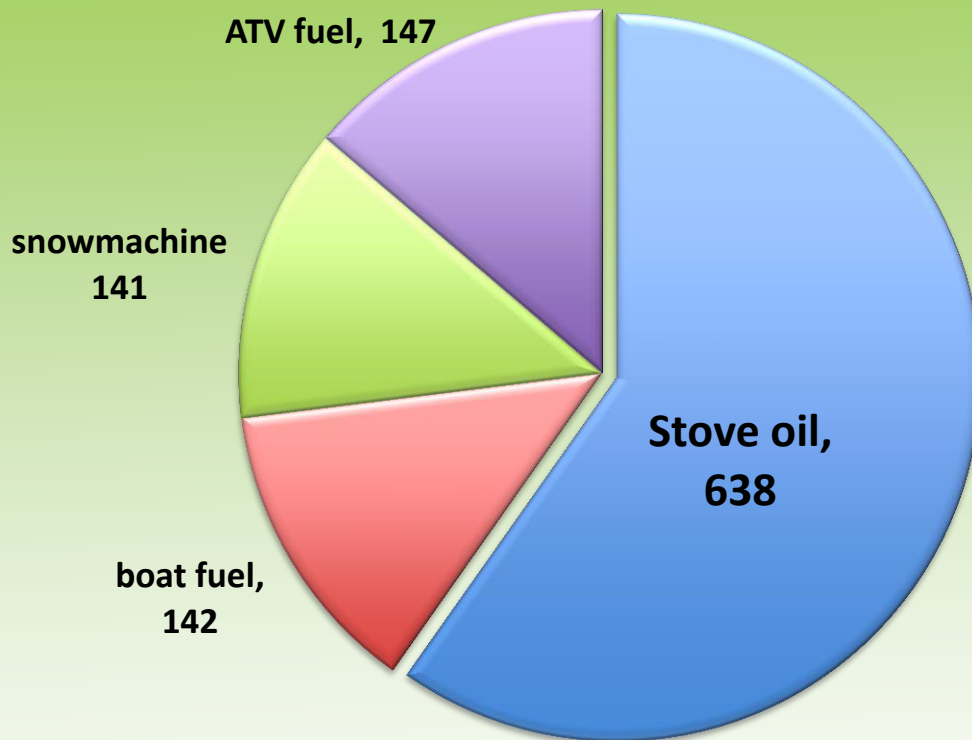
Energy – Economy – Communities

Impacts of rising energy costs

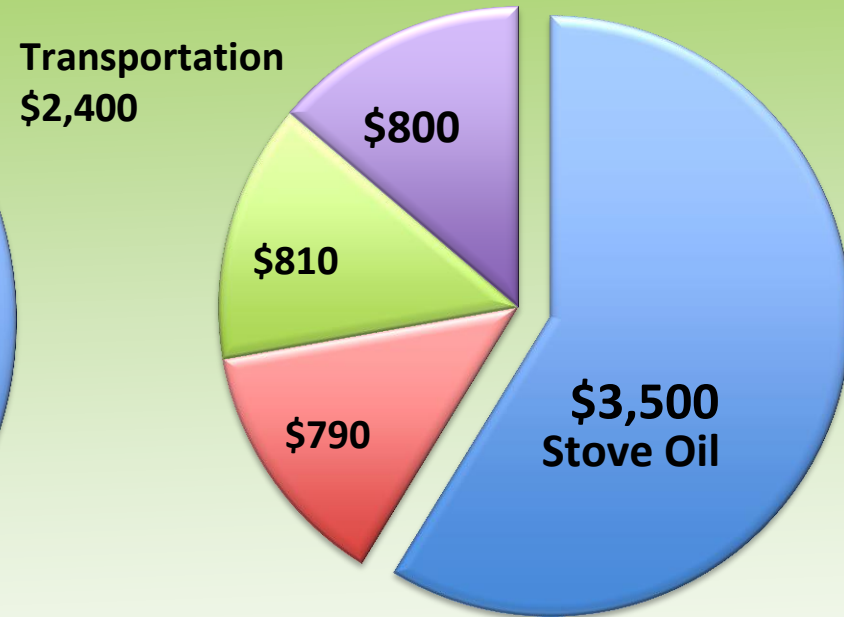
- ISER research estimates that the poorest households in remote rural villages spend nearly half their household income on home energy.



Gallons of Fuel Oil & Gas



Household Annual Budget Fuel Oil and Gas



Transportation and Heating Requirement per household, Kongiganak
Source: Intelligent Energy Systems, LLC



Alaska Renewable Energy Fund

- 2008 historically high crude oil prices
- Alaska State Legislature created Renewable Energy Fund (REF) grant program
- Intent to appropriate \$50 million annually for five years
- Placed Alaska near the forefront of the 50 states in funding for renewable energy



Project review and selection process

- Request for applications
- Clear, objective review procedures
- Four-stage review process:
 - ✓ One—eligibility and potential feasibility screening
 - ✓ Two—technical and economic review
 - ✓ Three—comparative cost of energy, local match, sustainability, public benefits
 - ✓ Four—geographic balance of funding

Stage 2 Engineering and economic feasibility evaluation

Criteria	Weight
1. Project Management, Development, and Operation	20%
2. Qualifications and Experience	20%
3. Technical Feasibility	20%
4. Economic Feasibility	40%

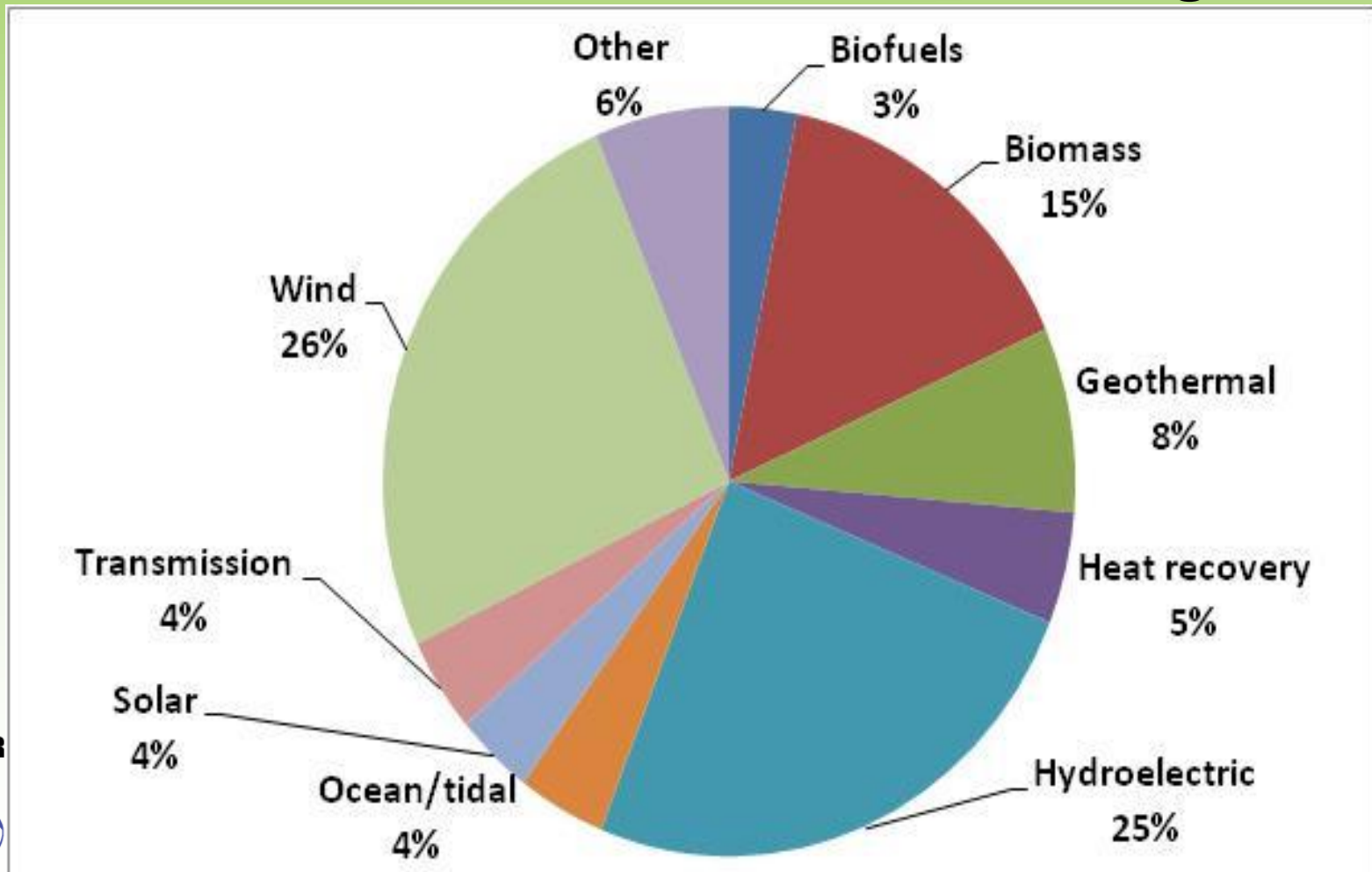


Stage 3 Evaluation for local support and sustainability

Criteria	Weight
Cost of energy per resident relative to other areas	25%
Matching funds and other resources committed	20%
Project feasibility	20%
Project readiness	10%
Public benefits including economic benefit to the Alaska public.	15%
Sustainability – the ability to finance, operate and maintain the project for the life of the project	5%
Local Support	5%
Statewide balance of funds	
Compliance with previous grant awards and progress in previous phases.	

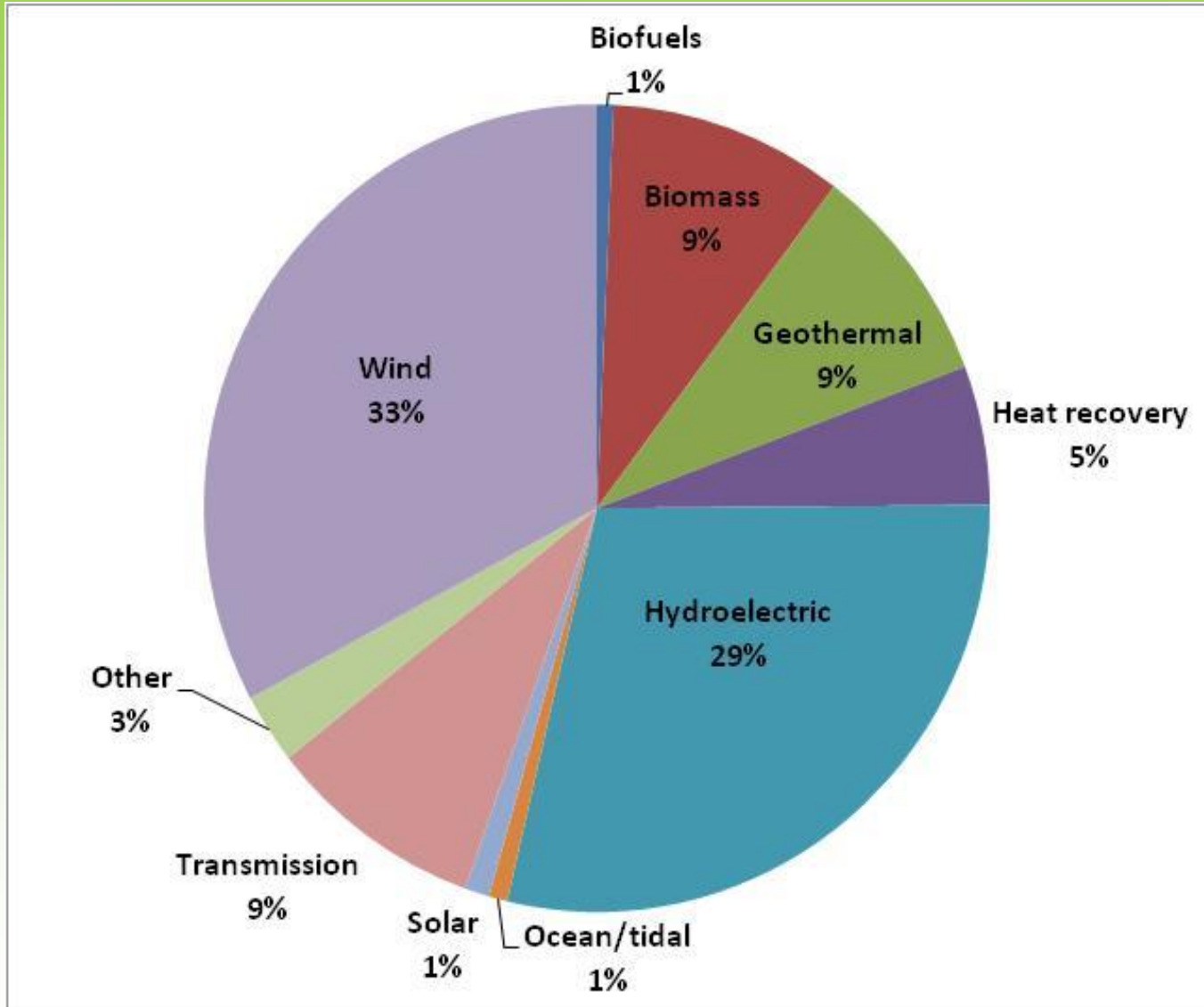
Request for Applications

- More than 450 applications requesting more than \$1.1 billion for rounds one through four



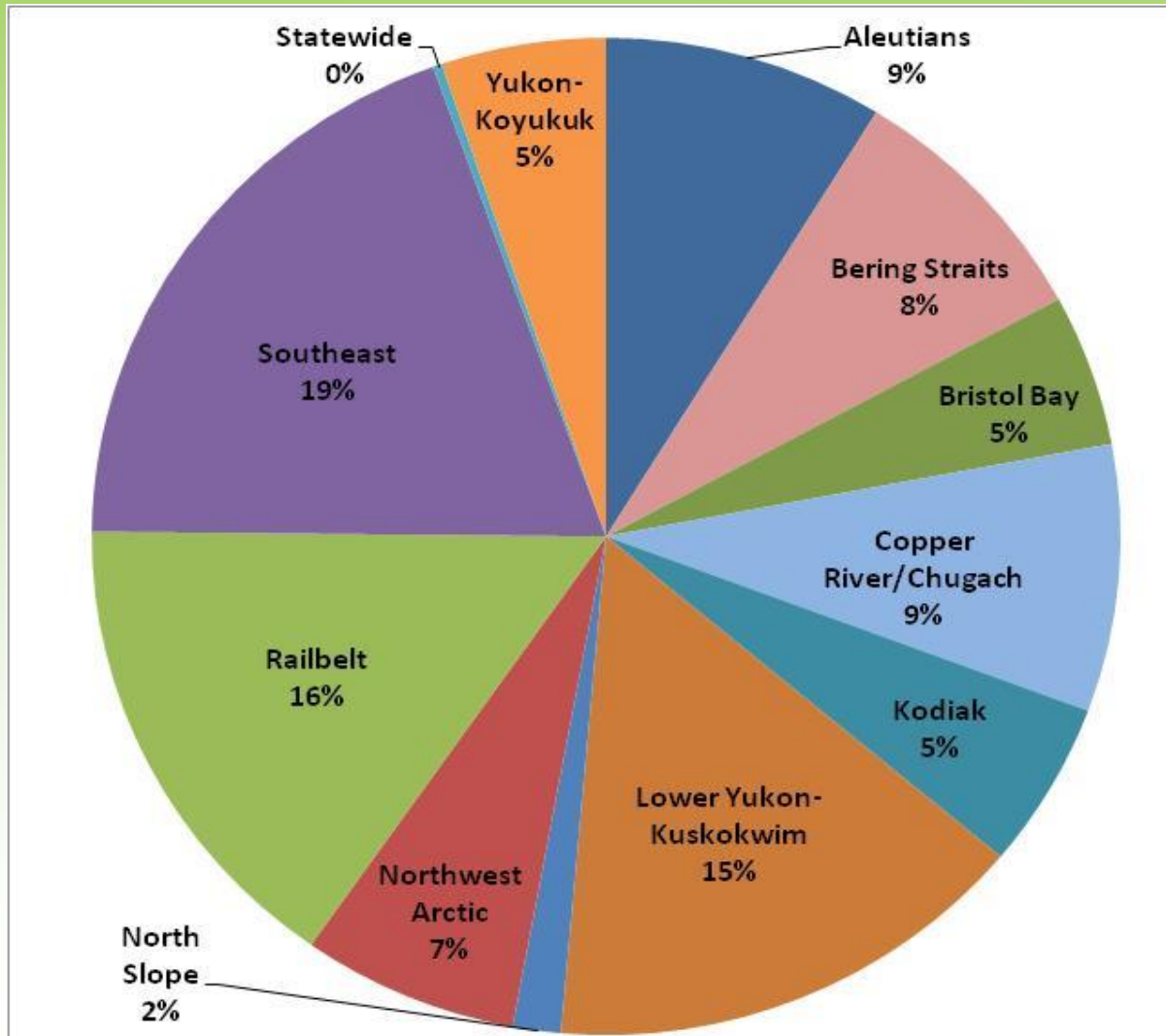
Project funding

- \$154.8 million awarded for 181 projects

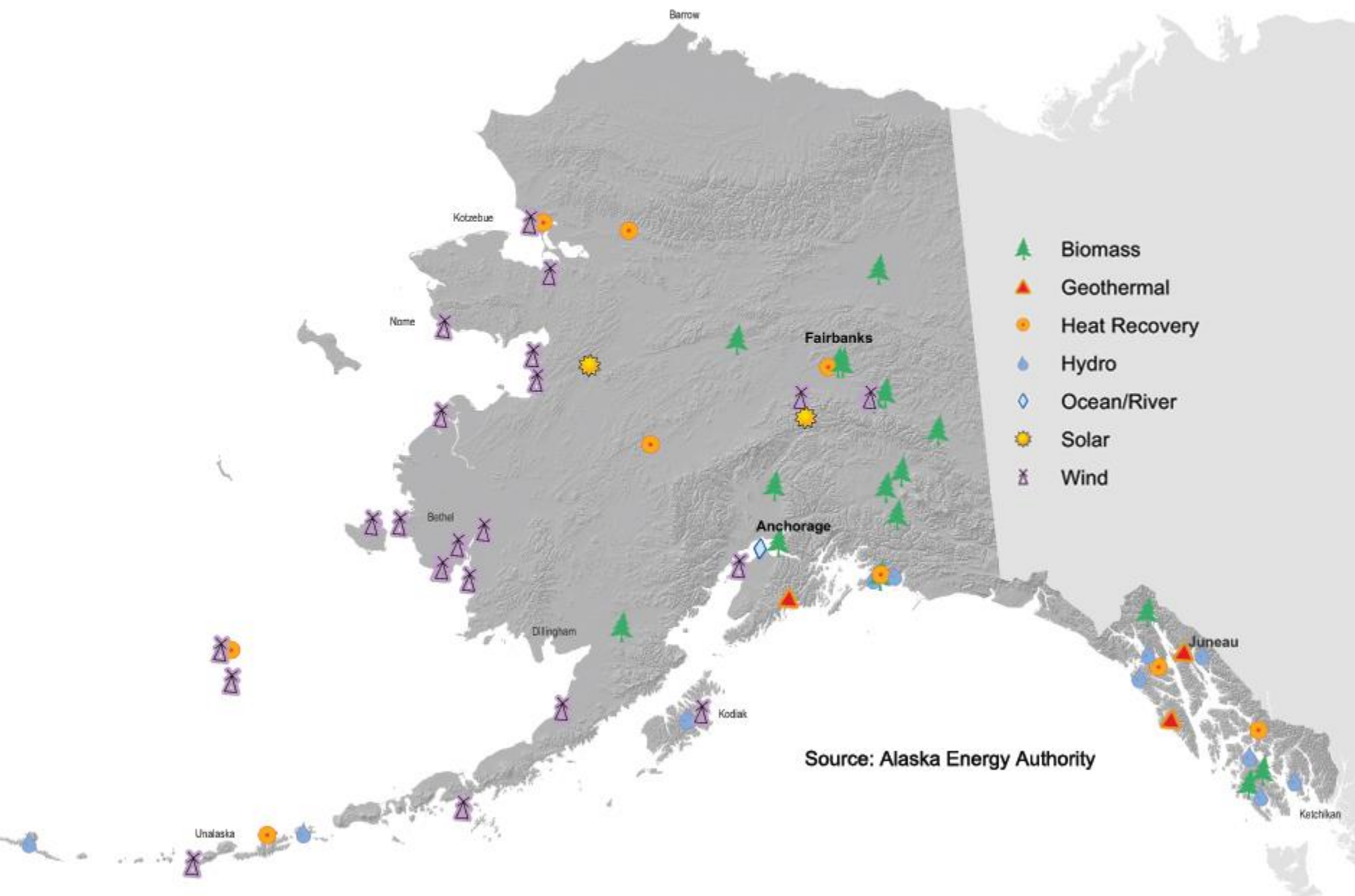


Project funding

\$109.3 million initial funding to 150 projects in remote villages; or 83% of funded projects



Projects Under Construction, 2011 Renewable Energy Fund (Rounds I - IV)



Source: Alaska Energy Authority

Bottom up versus top down

- Assumed better information leads to match up between applicant led versus agency identified project but that is not the case
- Good match with wind (80%), medium with biomass (54%), poor with hydroelectric (12%)
- Tendency to go with more proven technologies even if the economics are poor?
- Over focus on electricity rather than space heating—biomass also provides local employment

How Alaska compares

- Most other U.S. state programs ratepayer financed
- Directed at demand-side distributed generation systems
- Clean Energy State Alliance over 52,000 projects
- 1,300 MW installed through 2009
- About half wind and half solar but wind ended with federal production tax credits
- Over next decade, \$7.2 billion ratepayer collections, \$4.6 billion in California alone



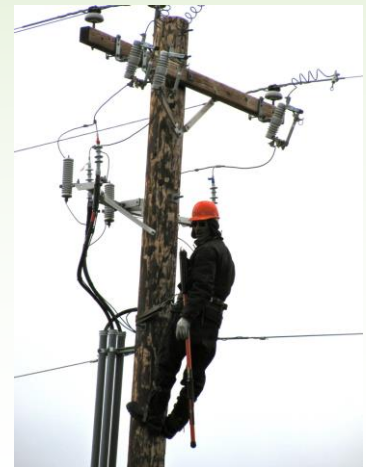
Lessons learned

- Clear, transparent public and appealable process is critical and worth the time and cost
- Need for more feedback and higher expectations on applications
- More project vetting via feasibility studies
- \$4 million grant cap might undersize projects; led to artificial phasing
- Grant reimbursement process difficult for small operators without access to capital



Lessons learned

- Increased RE installations but loans or more leverage for urban projects may be warranted
- Leveraging of public funds 1: 1.7; most leverage from urban projects; below other states (1:3)
- Left federal production tax credits “on the table”
- Growing a fledgling industry—critical to provide enough but not too much funding
- Alaska becoming a leader in non-grid connected renewable energy systems



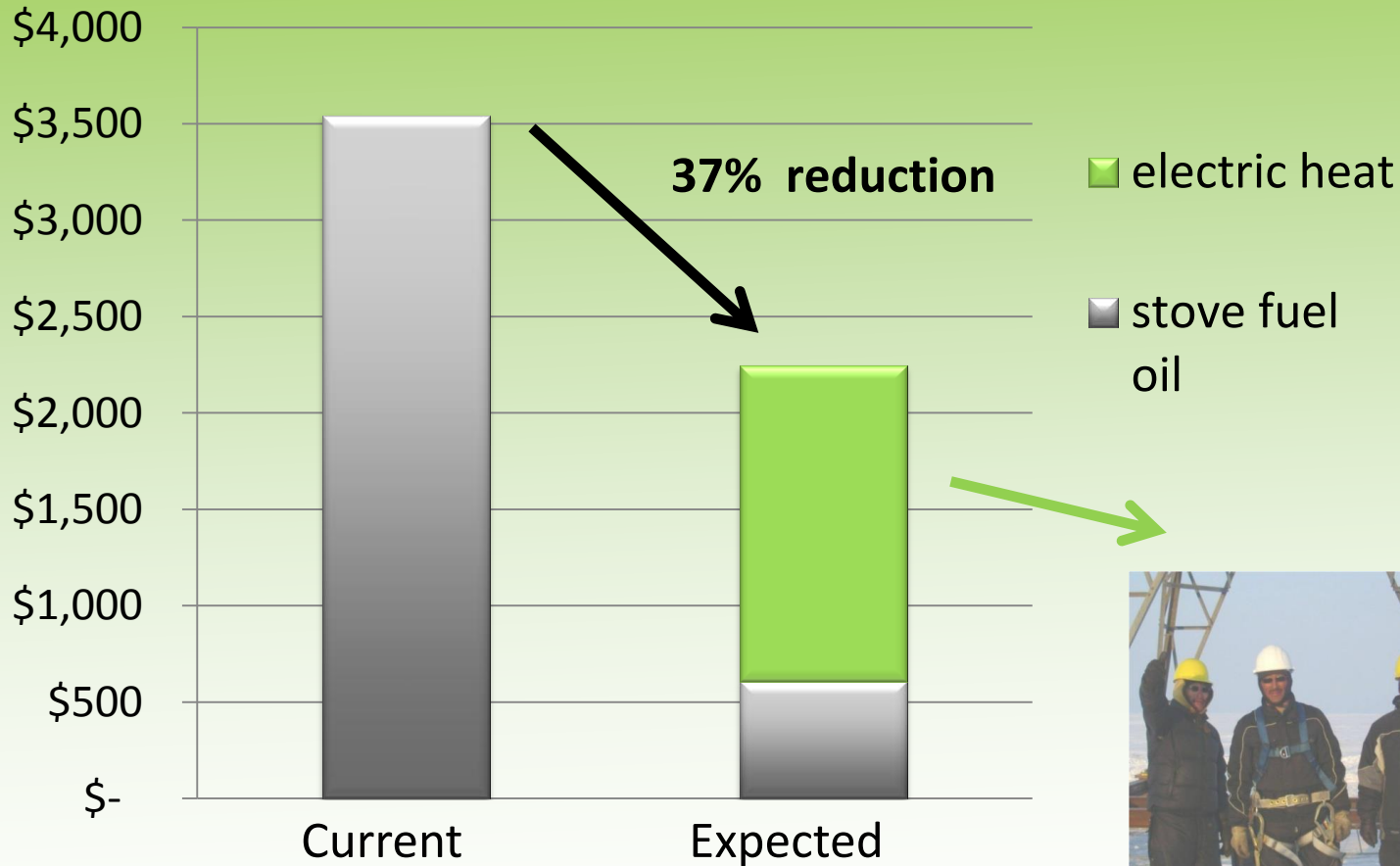
Challenge “to think out of the box”

- Agency fiduciary obligation for funds tends to stifle innovation
- Projects with more risk or more engaged with communities take longer to show success
- Fine line between supporting innovation and new solutions to enduring challenges and “wasting” funds



Estimated annual per household savings on space heating

current price of fuel oil: \$5.35
electric rate for heat: \$0.09/kWh



Cultural, economic and social sustainability

Critical for rural villages transition to alternative sources of energy providing:

- Financial benefits keeping more money in villages
- Increasing economic development opportunities
- Increasing human capital
- Potentially slowing the rate of rural to urban migration

Contact

Ginny Fay, UAA, ISER

– vfay@alaska.edu

– 907-786-5402

Alejandra Villalobos-Melendez, UAA, ISER

- anvm@uaa.alaska.edu

- 907-786-5454

website: www.iser.uaa.alaska.edu

Peter Crimp, Alaska Energy Authority

- PCrimp@aidea.org

- 907-771-3039



Institute of Social and Economic Research
University of Alaska Anchorage