

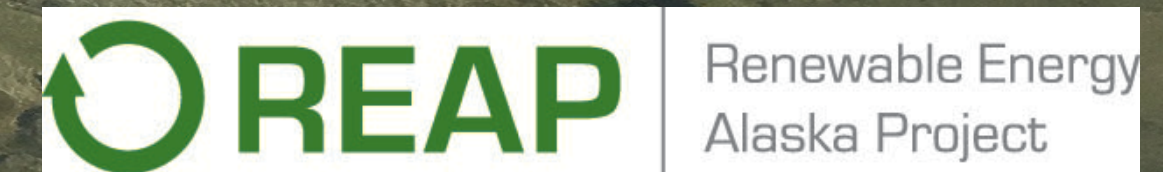
# Big and Small An Alaska Workforce Conundrum



Alaska Network of Energy  
Education and Employment

Alaska Wind Workshop  
September 8, 2023

Chris McConnell, ANEEE Director





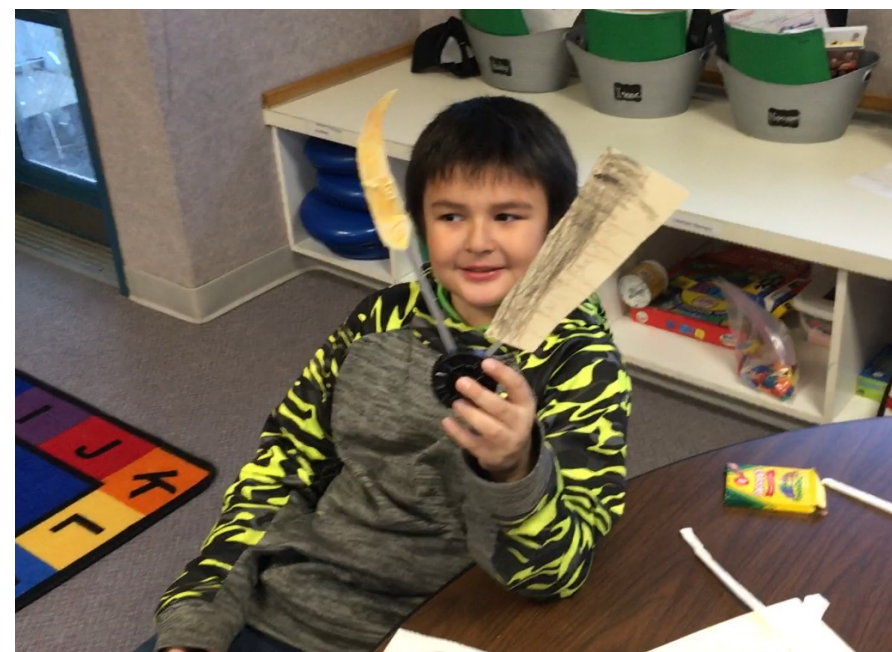
# Alaska Network for Energy Education & Employment

[alaskarenewableenergy.org](http://alaskarenewableenergy.org)



## WHERE ALASKANS *LEARN – TRAIN – EARN* In the Energy Sector

### K – 12<sup>th</sup> GRADE



### VOCATIONAL / CTE



### UNIVERSITY



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### JOBS & CAREERS



# Alaska projects in \$1.7 trillion bill have Murkowski beaming; Sullivan votes no

By **Liz Ruskin, Alaska Public Media** -  
December 22, 2022



## Skilled labor stretched thin over major infrastructure projects

- DoD
- DOT
- NOAA
- Broadband
- Deepwater Port in Nome
- Rural Alaska Airstrips

# US Energy Employment Reports – Alaska

## Energy Sector Hiring Difficulty

USEER State Report | Alaska

### Hiring Difficulty

Employers in Alaska reported 56.1% overall hiring difficulty.

**Table AK-2  
Hiring Difficulty**

Hiring Difficulty	Very Difficult (percent)	Somewhat Difficult (percent)	Not at All Difficult (percent)	Did Not Hire (percent)	Overall Hiring Difficulty
Overall	26.5	29.6	7.6	36.3	56.1

USEER 2023 | ALASKA

### Hiring Difficulty

Employers in Alaska reported 42% overall hiring difficulty (Table AK-2).

**Table AK-2 Hiring Difficulty by Major Technology Application**

Hiring Difficulty	Very Difficult (percent)	Somewhat Difficult (percent)	Not at All Difficult (percent)	Did not hire (percent)	Overall Hiring Difficulty
Overall	22	20	4	53	42

# Conundrum Solved!

## Build a Pipeline and hire 10-25% the Working Population

**In October 1977 the Trans-Alaska pipeline project was fully staffed with 28,062 workers and contractors. In the three years it took to build the pipeline, more than 70,000 people were employed in one way or another.**

**Population of Alaska in 1977: 409,000**

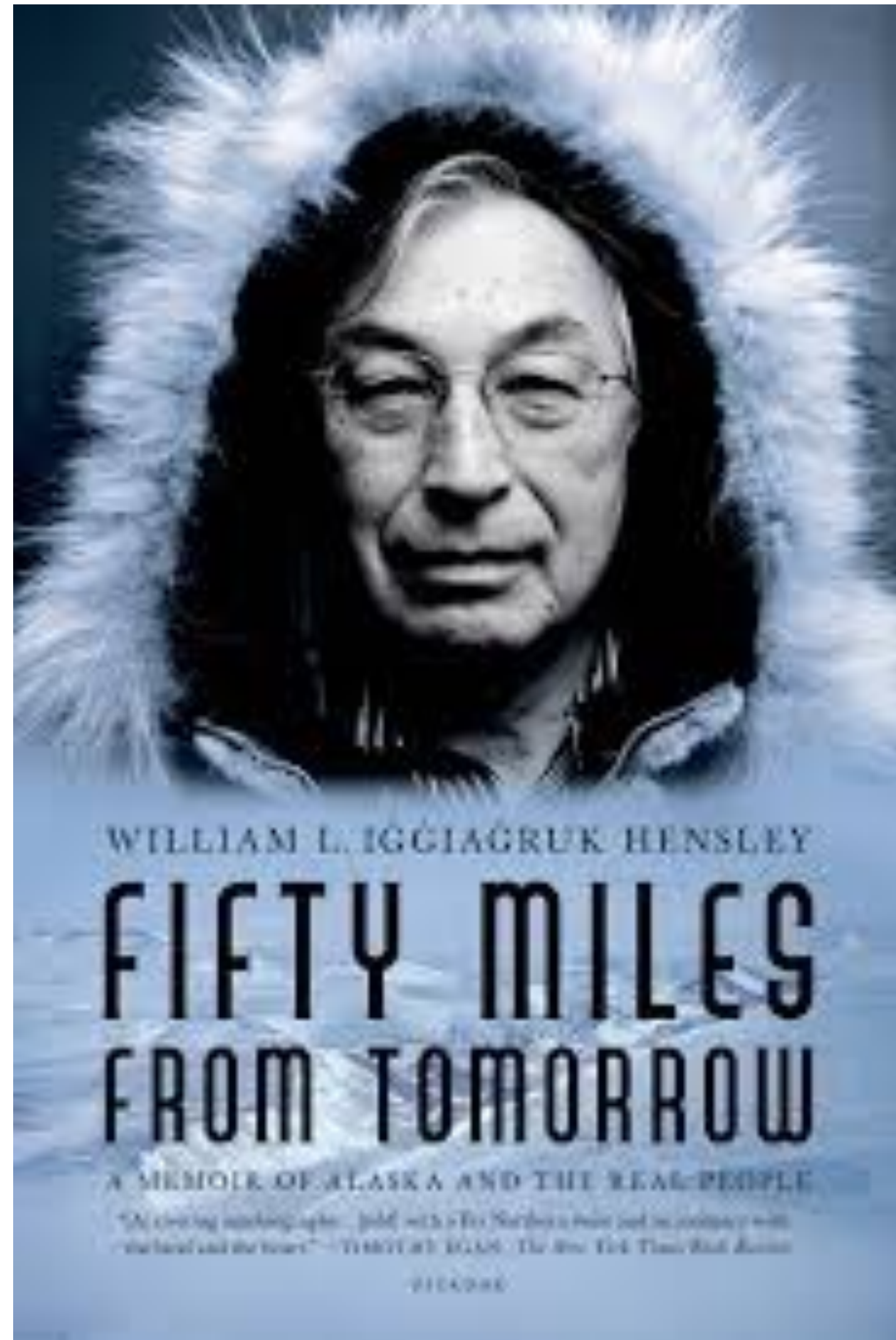
**Working Age Population: approximately 250,000**

# Big and Small

## An Everlasting Alaskan Workforce Challenge

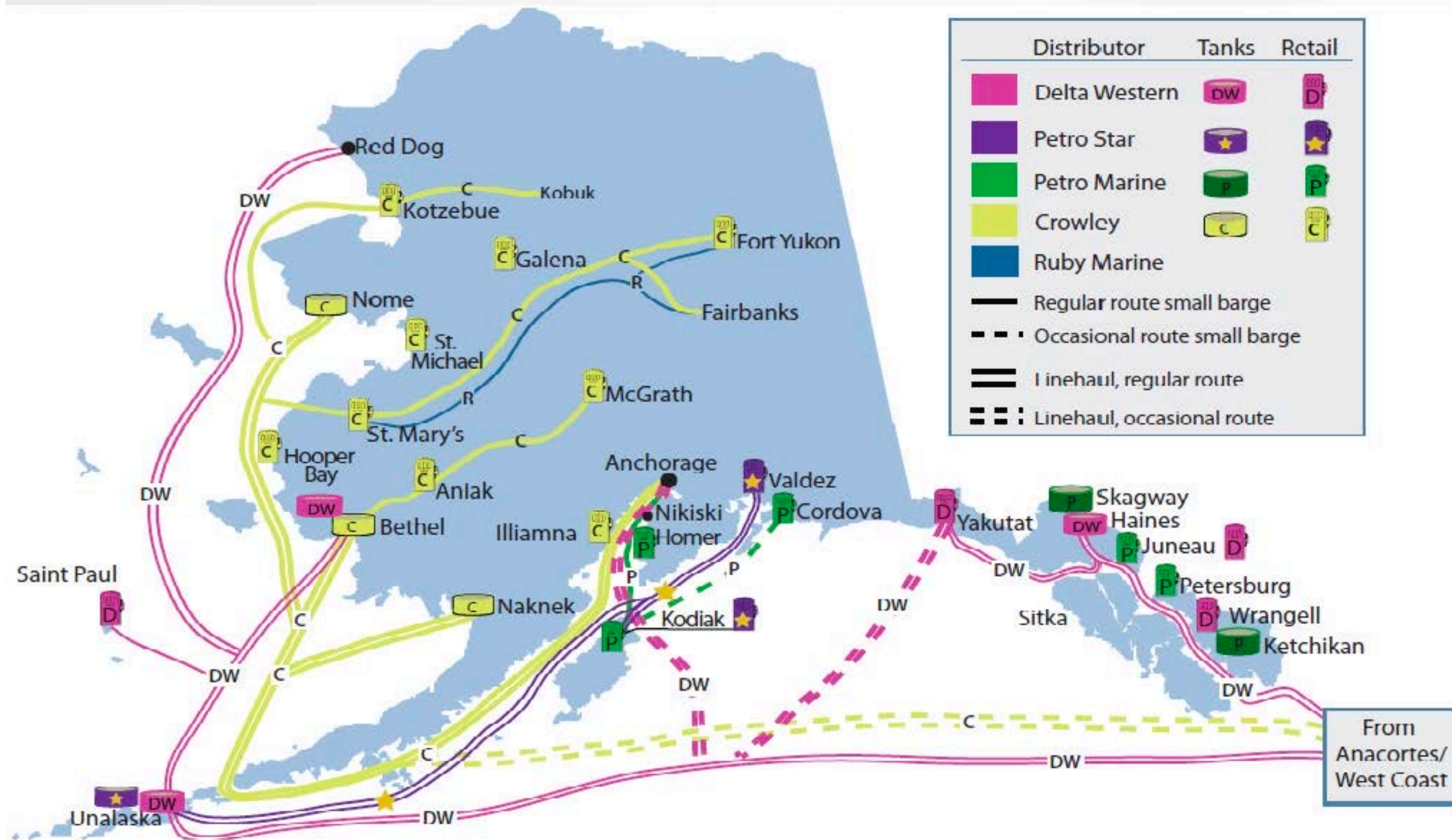
**Alaska has a well-deserved reputation as a world leading laboratory for renewable energy innovation, but its renewable energy workforce (<700 jobs) represents approximately .2% of the roughly 320,000 workers in Alaska – the smallest such renewable workforce in the nation.**

## Willie Hensley on the Electrification of Rural Alaska



“Electricity had come to town in Kotzebue in the 1950s and all of a sudden we no longer needed to burn diesel oil in coffee cans on the ice-runway at night for pilots with nowhere to land. We could buy freezers to preserve food instead of storing it deep in the frozen ground. Street lights lit our way on stormy evenings. Children could advance at school because they could study at night. But out in the villages it was entirely different. Like the early years of my life, I sometimes think of it as the twilight of the Stone Age.”

# Fuel Distribution Routes to Rural Markets

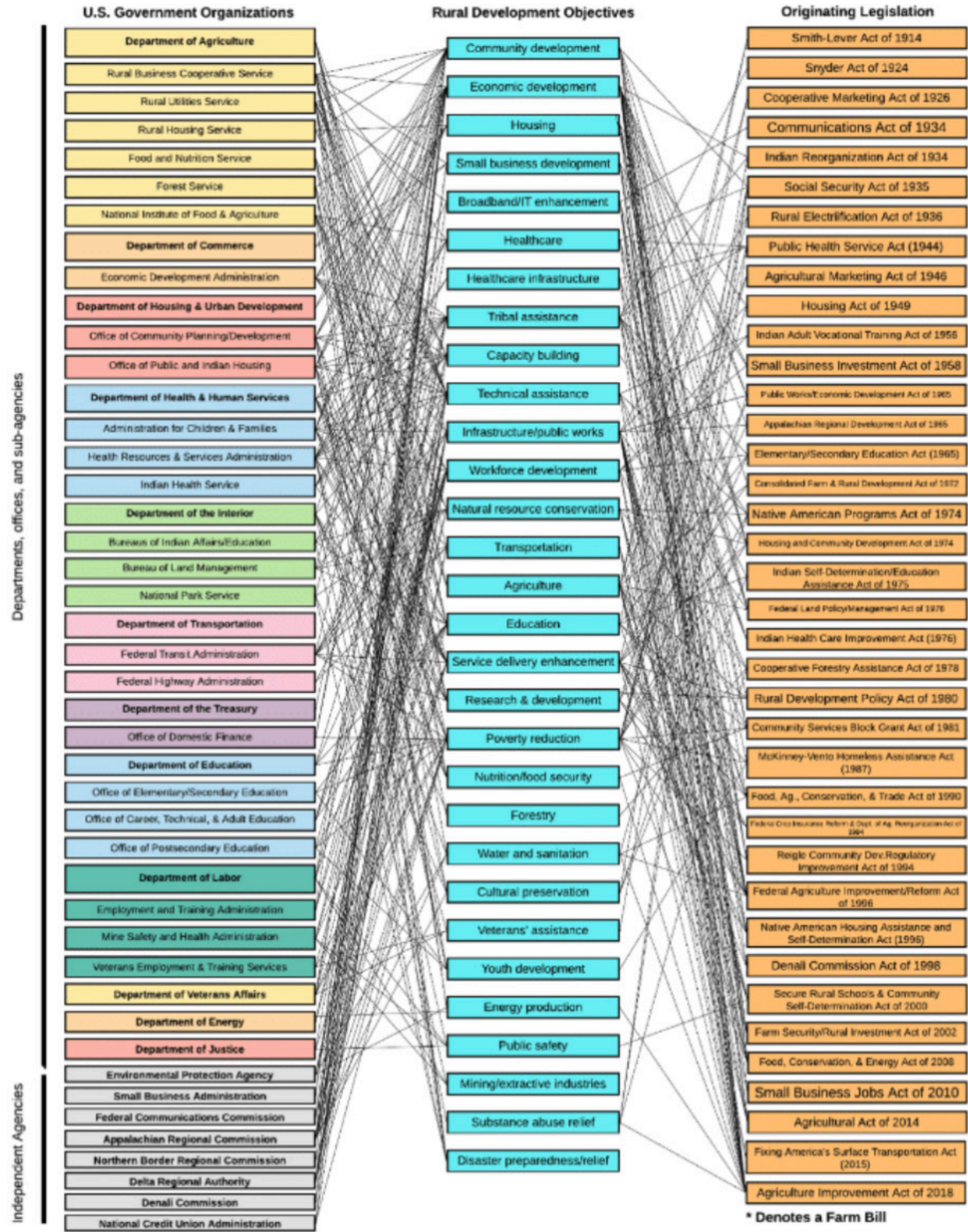




# Federal Development Assistance for Rural and Tribal Communities

## Federal Development Assistance for Rural and Tribal Communities

While USDA is technically charged with directing federal rural policy, programs that promote rural and tribal development are spread widely throughout the government. No comprehensive and integrated strategy exists. As shown below, the array of legislation, directives, and program meant to help these communities leads to significant confusion and fragmentation.



IIAE



Y OF ALASKA ANCHOR

ISEI



BRISTOL BAY CAMPUS  
SERVING THE BRISTOL BAY REGION AND  
THE ALEUTIAN AND PRIBILOF ISLANDS

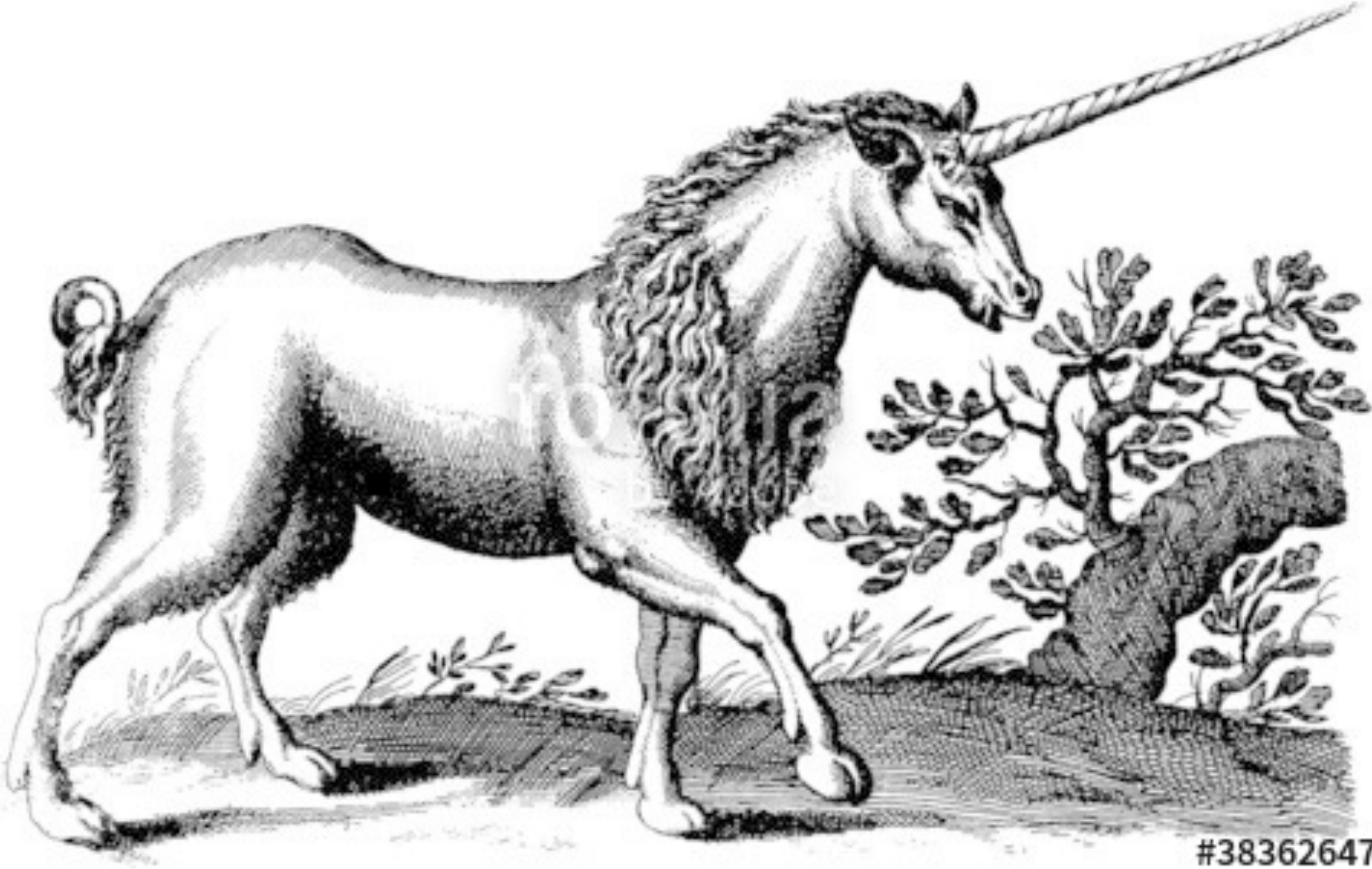


PEOPLE'S LEARNING CENTRE



KODI

# *Sustainable Support Programs for Operations and Maintenance in Rural Alaska*



## CIRCUIT RIDER

### CURRENT STATUS

During the first quarter of calendar year 2018 and in accordance with 3 AAC 108.220 the Circuit Rider (CR) and Rural Electric Utility Workers (REUW) provided real time **remote assistance and training** via phone and SCADA to the following communities:

Akiak	Chitina	Kwigillingok	Pelican
Akiachak	Crooked Creek	Kongiganak	Prince of Whales
Alakanuk	Diomedede	Larsen Bay	Whale Pass
Atmautluak	Egegik	Levelock	Port Alsworth
AVTEC	Elfin Cove	Manokotak	Sleetmute
Beaver	False Pass	McGrath	Stevens Village
Buckland	Hoonah	Nikolski	St. George
Central	Hughes	Newtok	Stoney River
Chenega	Igiugig	Northway	Tatitlek
Chefornak	Kake	Nunam Iqua	Takotna
Chignik Bay	Kipnuk	Ouzinkie	Tuluksak
Chignik Lagoon	Kwethluk	Pedro Bay	Unalakleet

CR and REUW traveled to the village and provided **onsite training and assistance** to: Akiak, Akiachak, AVTEC, Kipnuk, Kwigillingok, Levelock, Napakiak, Pedro Bay, Tuntatuliak.

### PROGRAM OVERVIEW

Under 3 AAC 108.200 - 240 the Alaska Energy Authority's Circuit Rider program provides eligible utilities with technical assistance to improve the efficiency, safety, and reliability of their power systems and helps reduce the risk and severity of emergency conditions.

AEA staff instruct the rural utility operators and managers in the proper operations and maintenance of their generation and distribution infrastructure. Generation includes conventional diesel and alternative sources of hydro and wind. Technical staff can help with diagnosing and troubleshooting through real time remote monitoring, or provide onsite training, technical consultation, assistance and minor repairs. The program does not replace the utility's necessary operations and maintenance budget or provide funding for major repairs or reconstruction of utility systems.

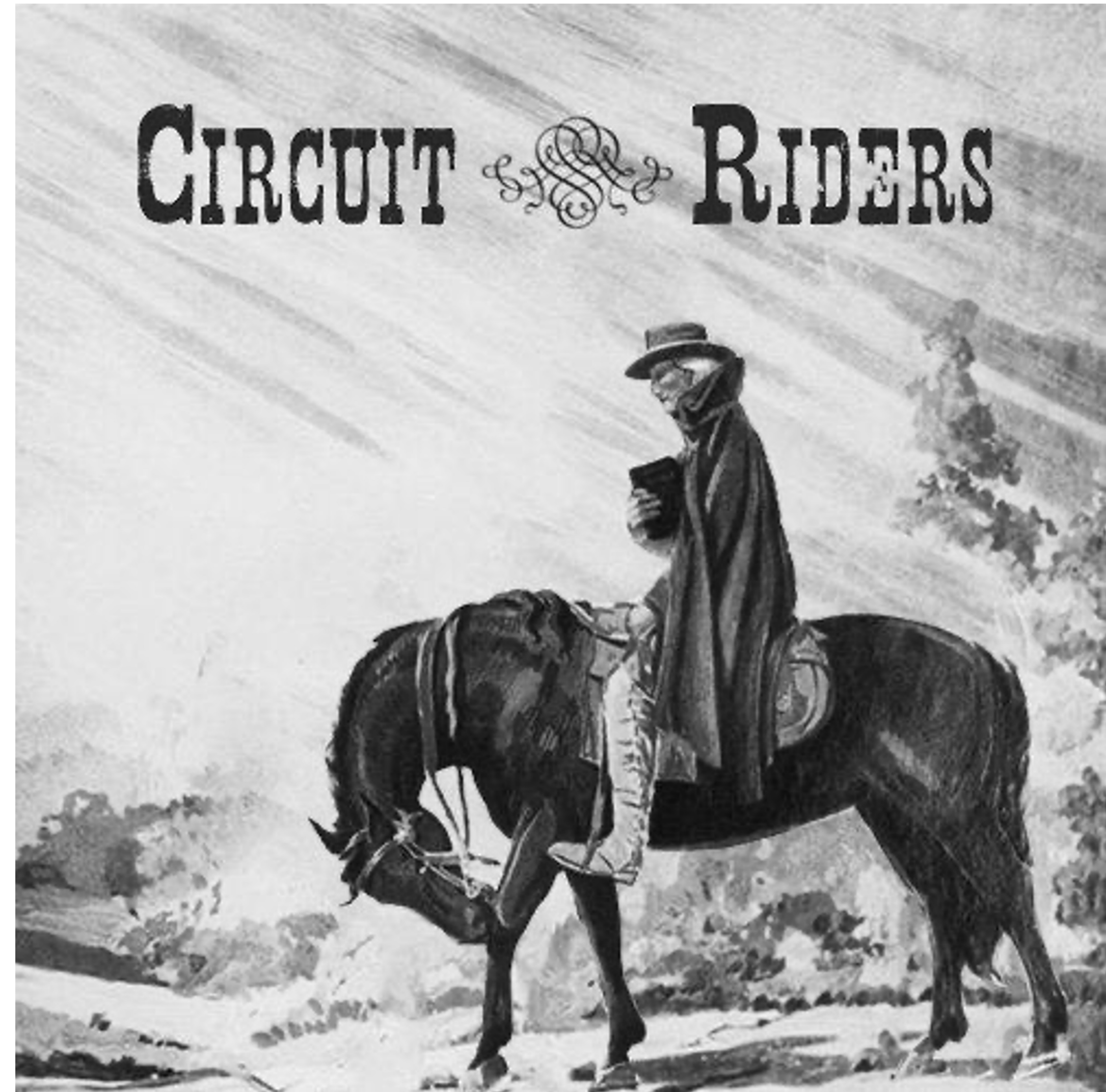
AEA annually evaluates the utilities needs under the Circuit Rider program. The program manager and Circuit Rider technician review the needs and requests and in coordination with other information respond accordingly.

This program is available for rural Alaska communities with a population between 20 and 2,000. The utility's ability to pay for assistance from other sources is considered. The utilities are encouraged to have power plant operators who have: knowledge of the local power system; are able to communicate effectively; are available during onsite visits; and the ability to maintain written performance logs. To reduce the programs travel expenses the utilities are encouraged to use email, phone calls and have a remotely accessible Supervisory Control and Data Acquisition (SCADA) system.

Current funding is from both State of Alaska and Denali Commission.

# AEA

## RURAL ENERGY ASSISTANCE



ALASKA ENERGY AUTHORITY

### QUICK FACTS

Real time remote assistance reduces need for travel

Protects the State's investment in energy infrastructure

Reduces likelihood of electrical emergencies

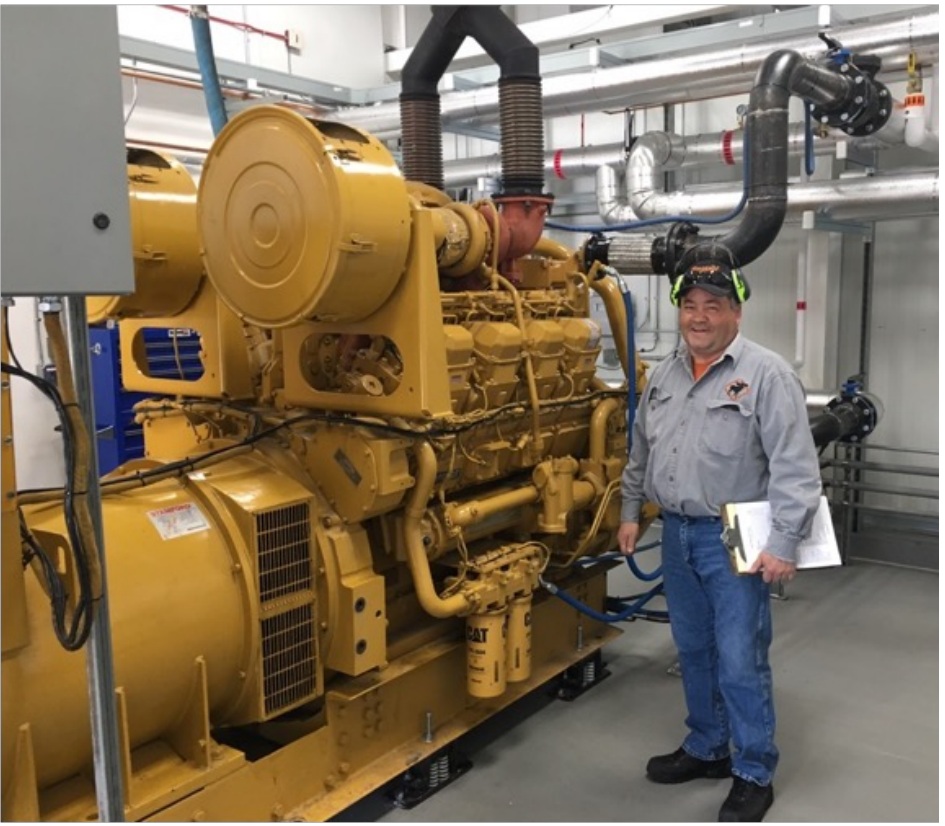
### FOR MORE INFO CONTACT:

Alan Fetters  
Rural Assistance Manager

AFETTERS@AIDEA.ORG  
907.771.3000

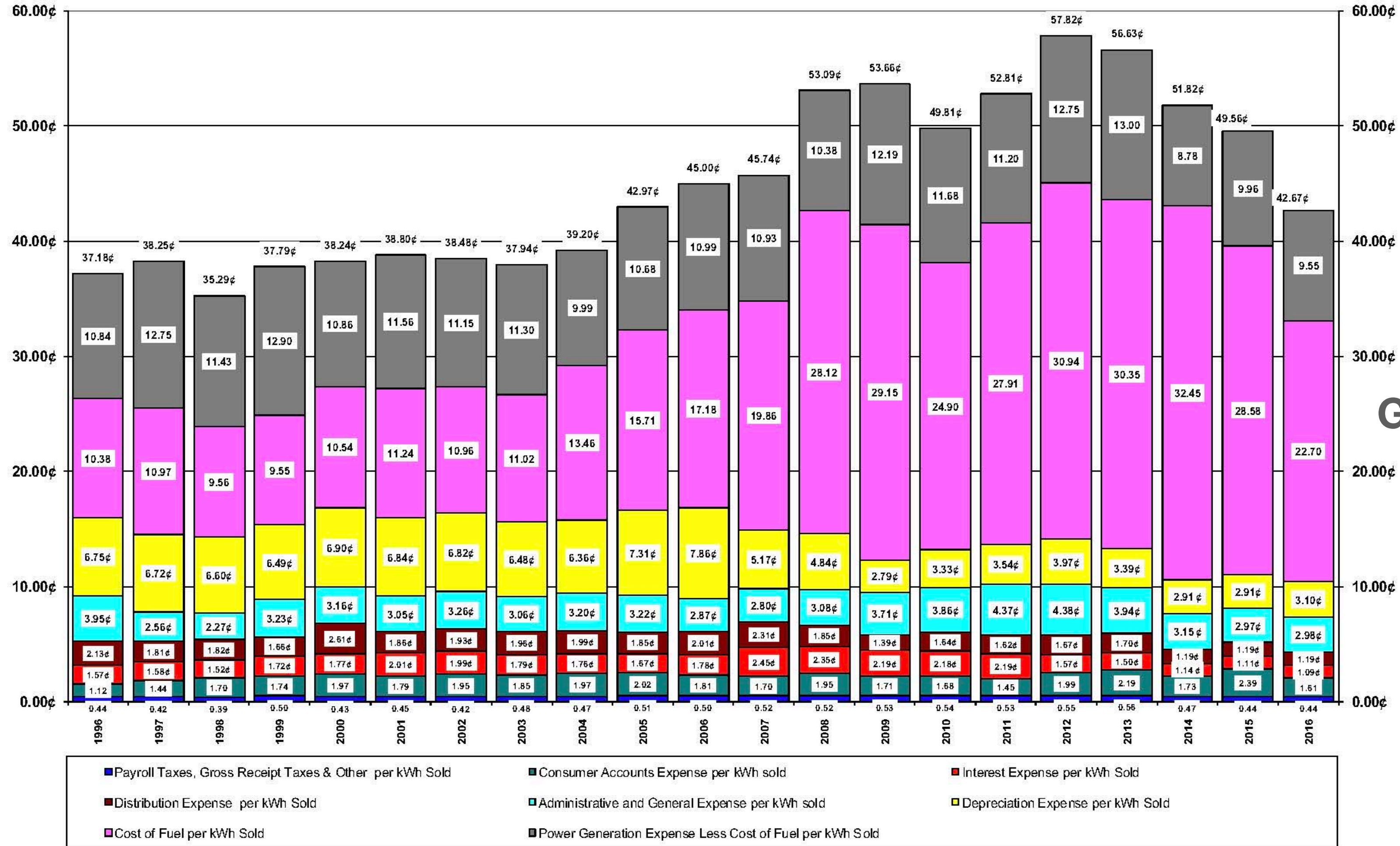
REDUCING THE COST OF ENERGY IN ALASKA  
WWW.AKENERGYAUTHORITY.ORG

# Regional Coordination and Collaboration in Operations and Maintenance

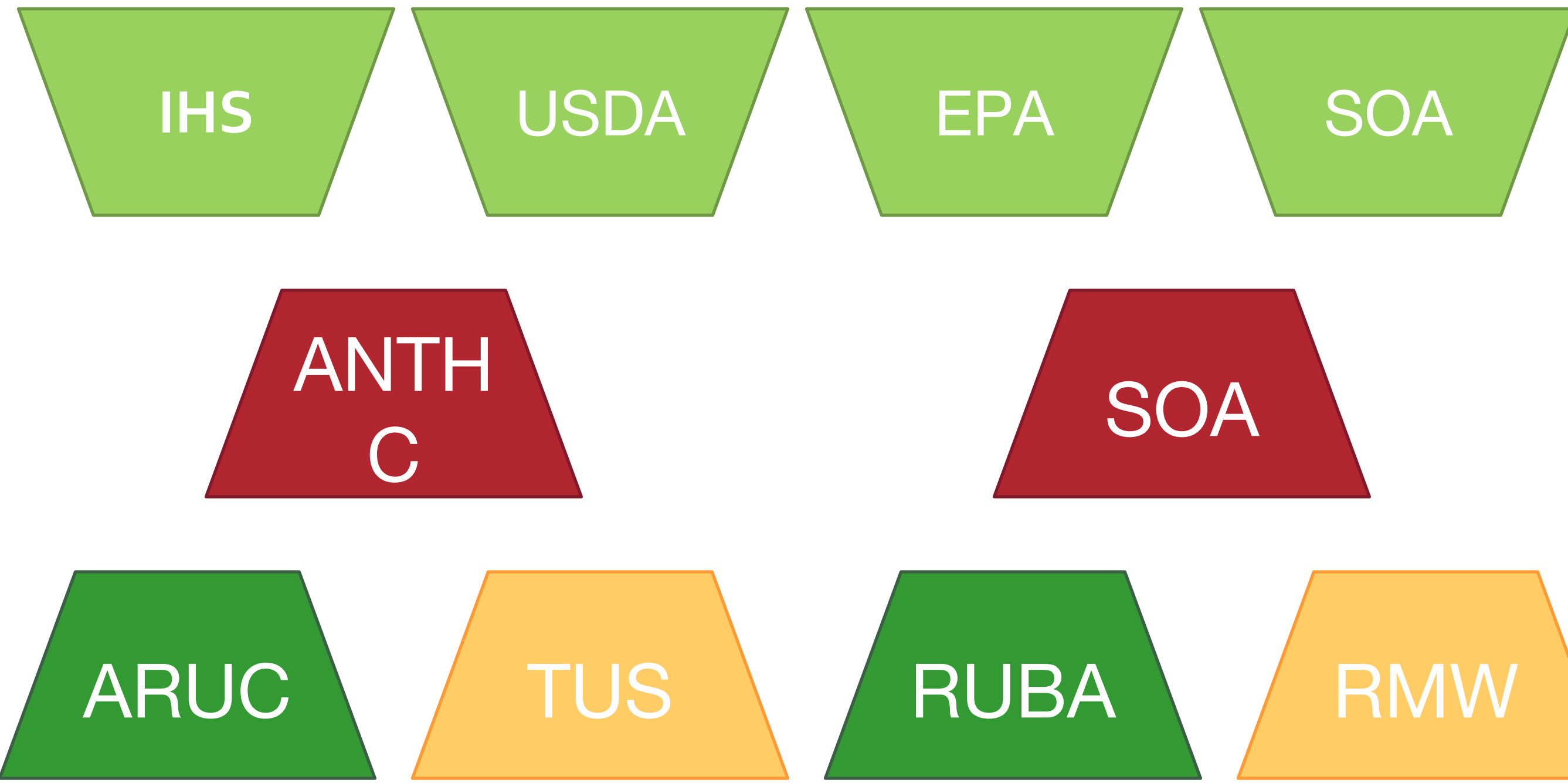


# Alaska Village Electric Cost Components per Kilowatt-hour Sold

# AVEC



# Shared Resources



Shared goals of protecting public health and infrastructure investments by building technical and managerial capacity.

IHS – Indian Health Service; USDA – US Department of Agriculture;  
EPA – Environmental Protection Agency; SOA – State of Alaska; ANTHC – Alaska Native Tribal Health Consortium  
ARUC - Alaska Rural Utility Collaborative; TUS - Tribal Utility Support  
RUBA - Rural Utility Business Advisor; RMW - Remote Maintenance Worker

# REMOTE MAINTENANCE WORKER PROGRAM



Slides Courtesy Carrie Bohan - DEC





## People In Power (PIP)



### **Training Coordination for Low Performing Independent Rural Alaska Utilities**

**A collaboration between The Denali Commission, Department of Energy Arctic Energy, ANEEEE and REAP**

**Building Capacity in Operations/Maintenance/Management/Governance**

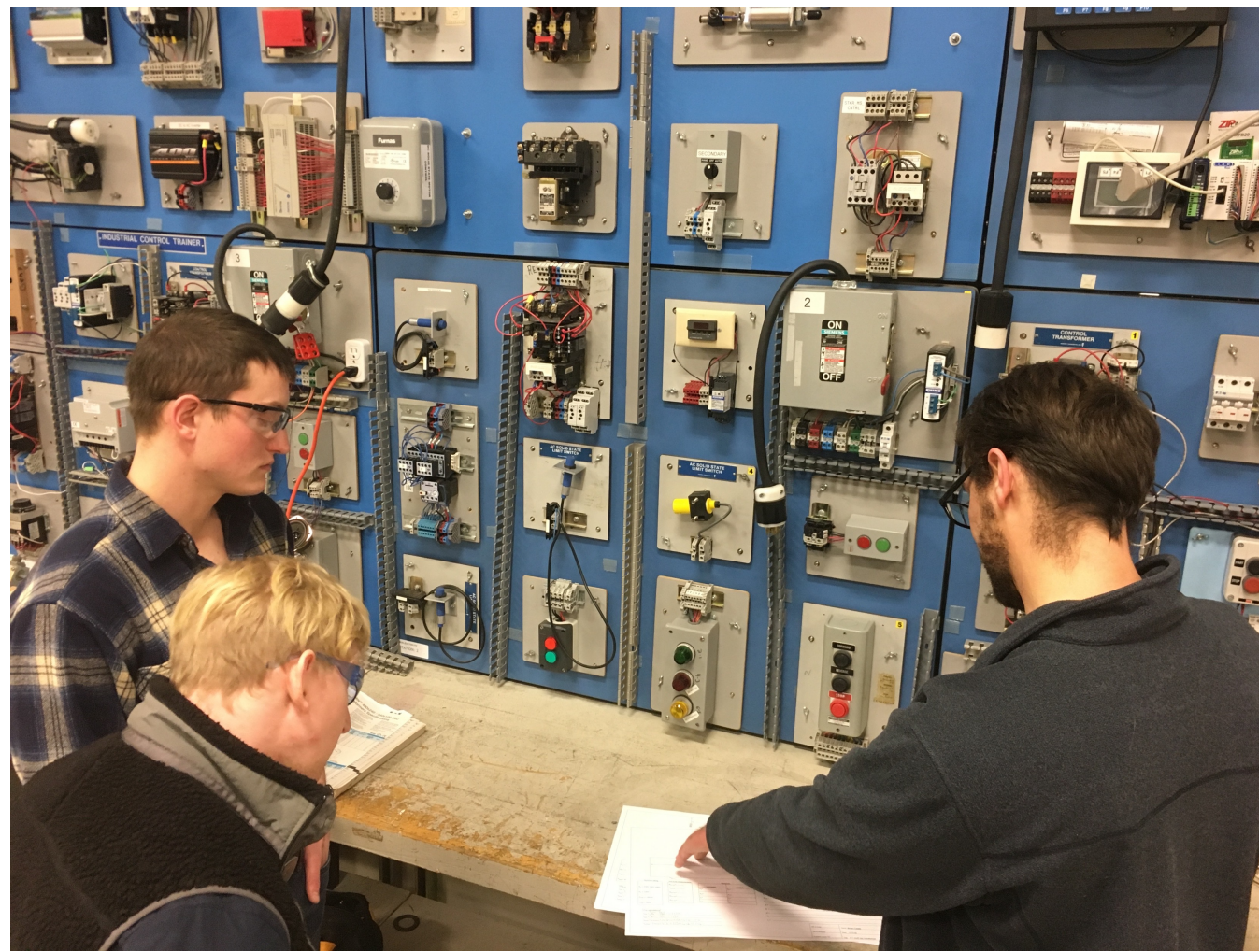


**F-35 FIGHTER JET  
= \$100 Million**



**PILOT TRAINING = \$11 Million**

# AVTEC



## Lower Kuskokwim School District Science Fair



# Alaska's Greatest Resource

## ASD – CTE Overhaul

Anchorage School District  
Educating All Students for Success in Life

COMMUNITY FAMILIES STUDENTS SCHOOLS DEPARTMENTS SCHOOL BOARD STAFF I WANT TO... Q

**College, Career and Life Ready for All Students**

Education plays a vital role in preparing students in the Anchorage School District to become engaged, productive members of our culturally rich community. Our community envisions students empowered by real world experiences with access to educational opportunities within and beyond the walls of school buildings. The Anchorage School District is boldly committed to transforming how we prepare students for life, college and careers within Alaska and across the globe.

**Resources**

- [ECL Launch May 3, 2023](#)
- [School Board Work Session May 23, 2023](#)
- [School Board Work Session May 23, 2023 \(PDF\)](#)

### Why the Shift?

#### College Ready



Over 70% of living wage jobs will require something beyond a high school diploma, we must ensure more students are academically prepared to access post-secondary learning opportunities such as college and technical training.

#### Career Ready



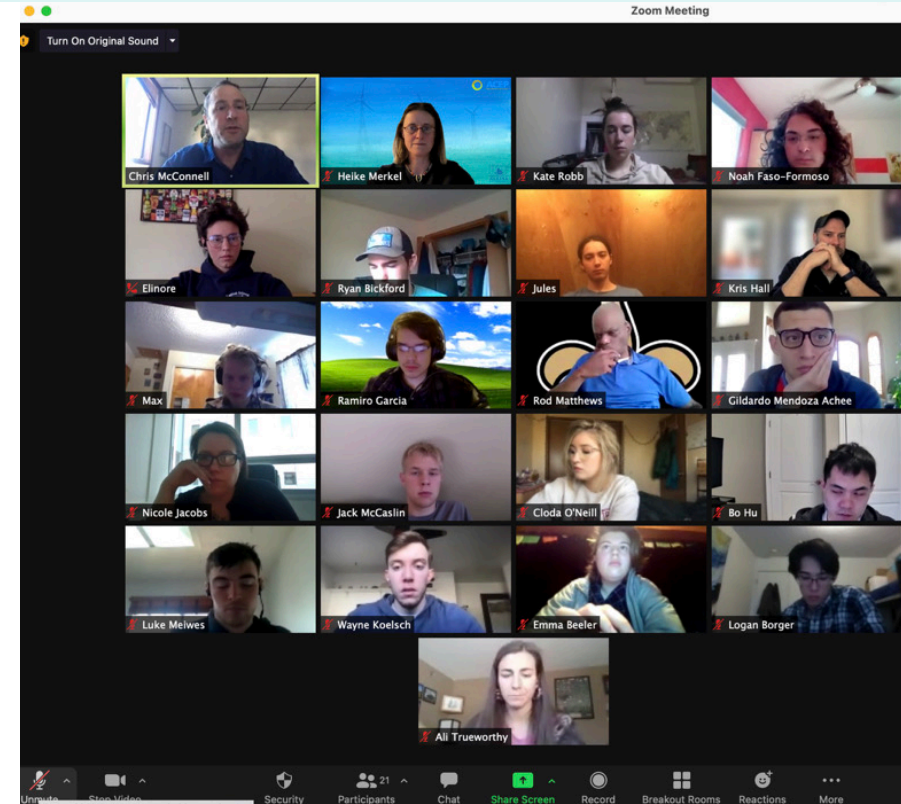
Anchorage's economic future depends on a robust, innovative workforce; we must provide educational pathways for all students that lead to in-demand, high-wage career opportunities.

#### Life Ready



College and career readiness programs have long focused on academic knowledge and behaviors, but social skills, interpersonal skills, and transition skills are taught separately; we must integrate these skills that are critical to helping students navigate their paths through life.

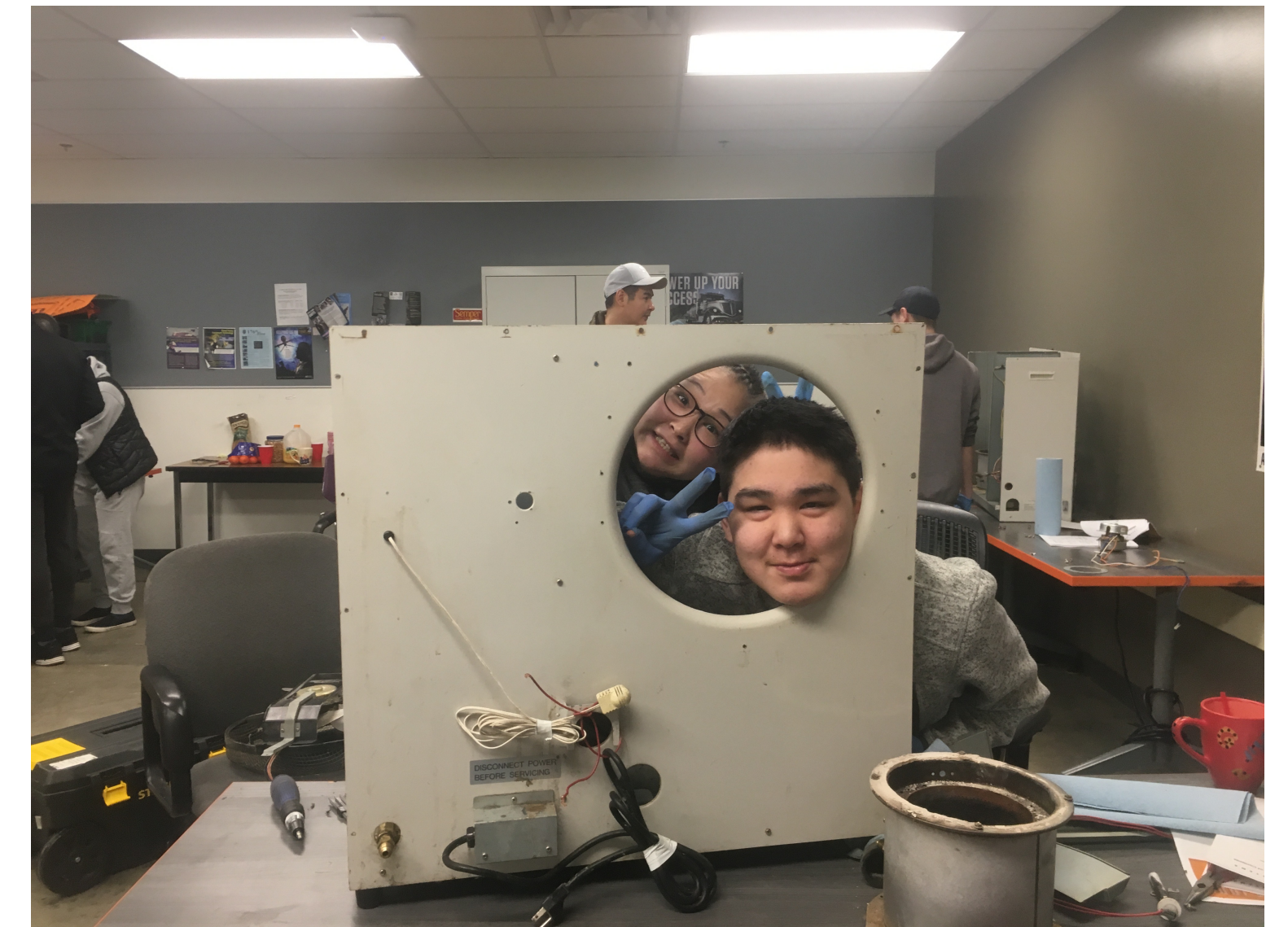
## ACEP Microgrid Bootcamp

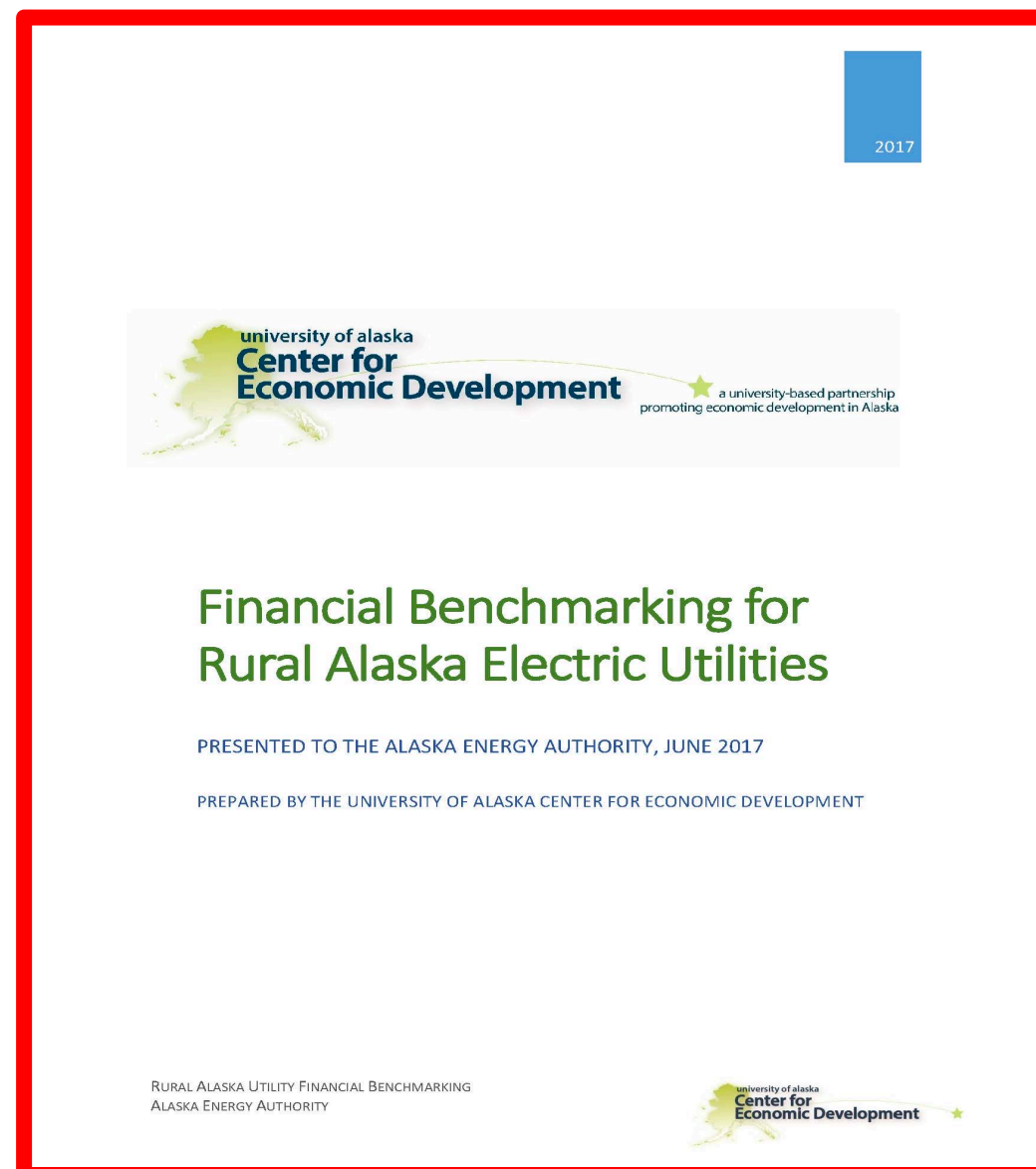
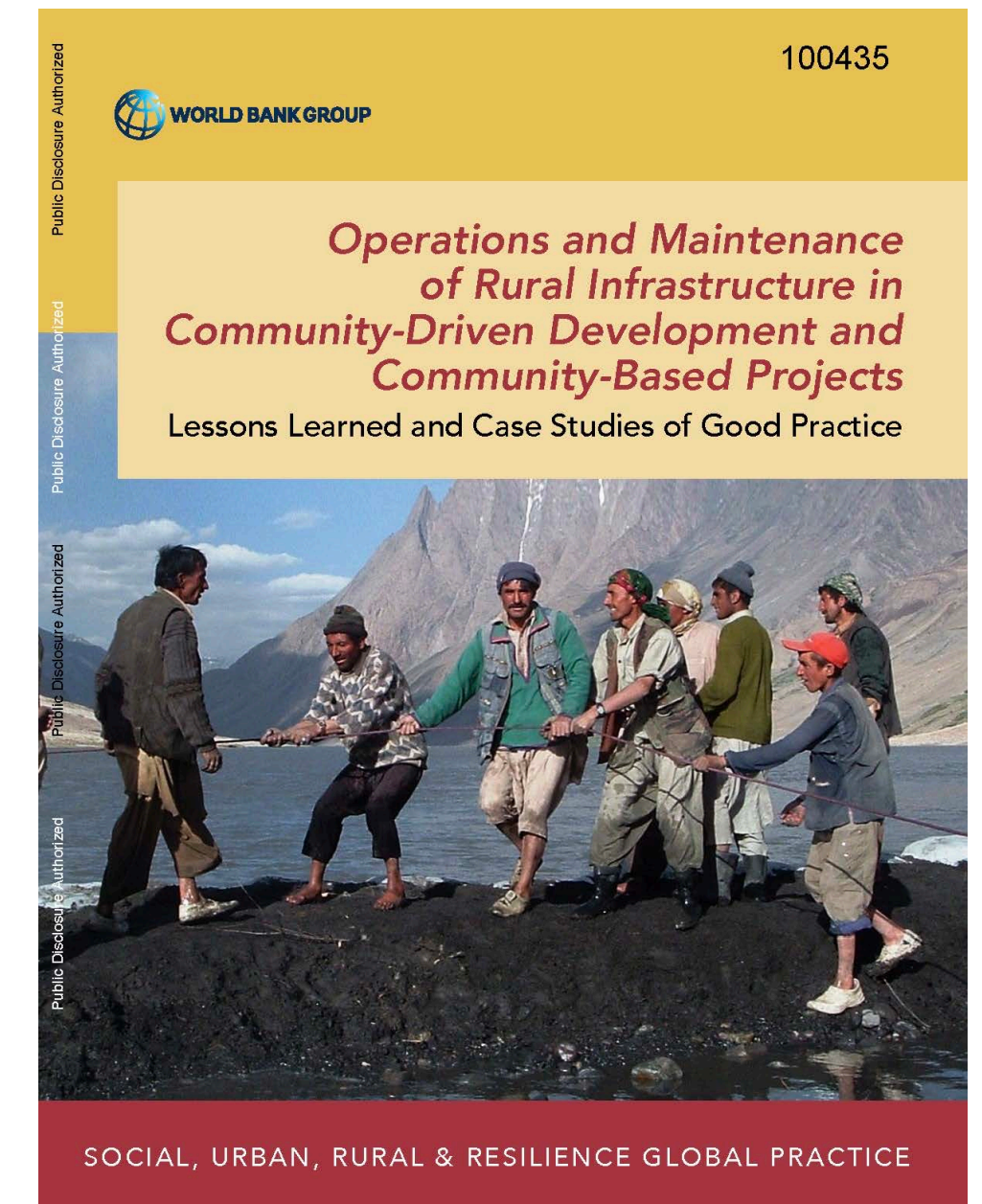
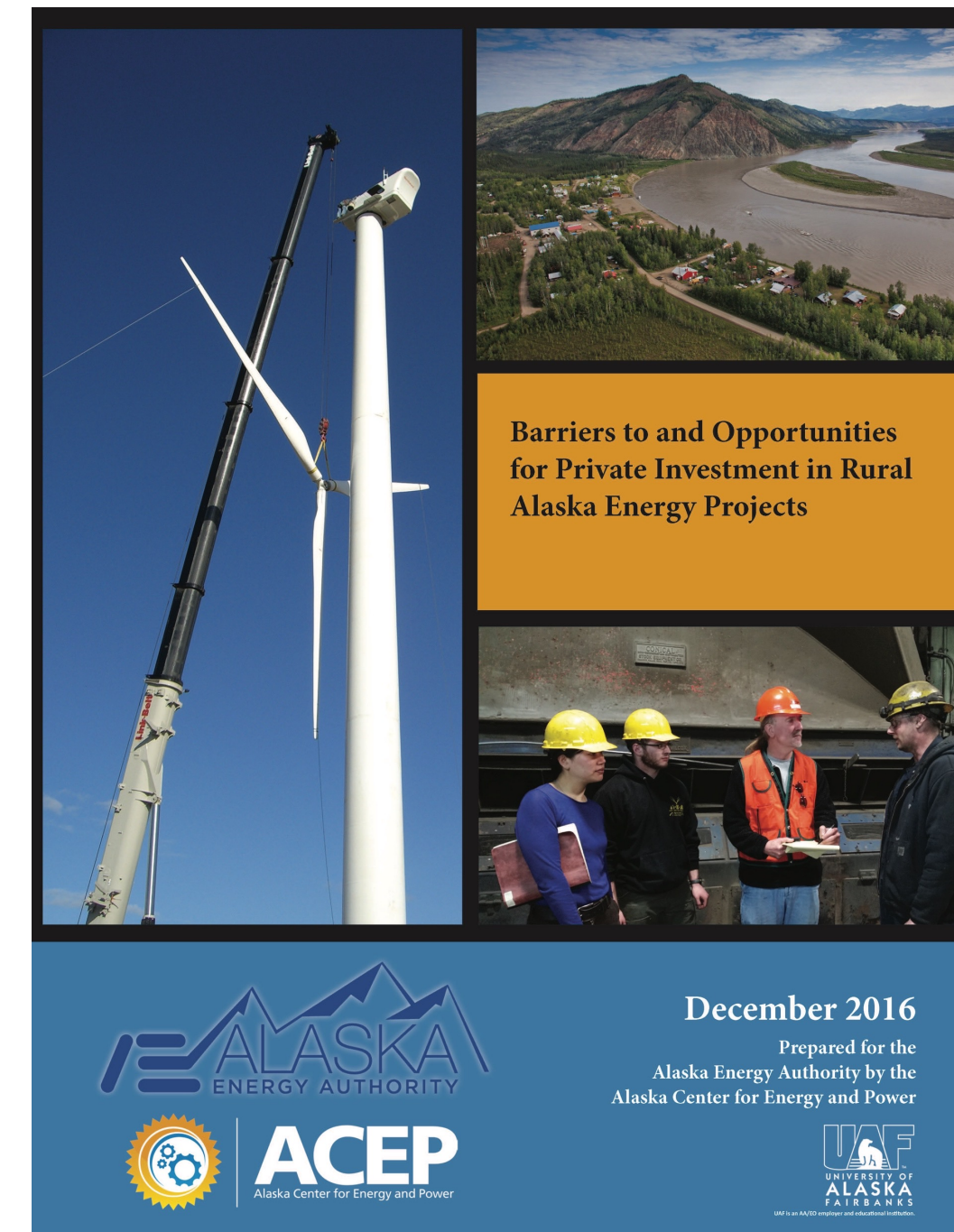
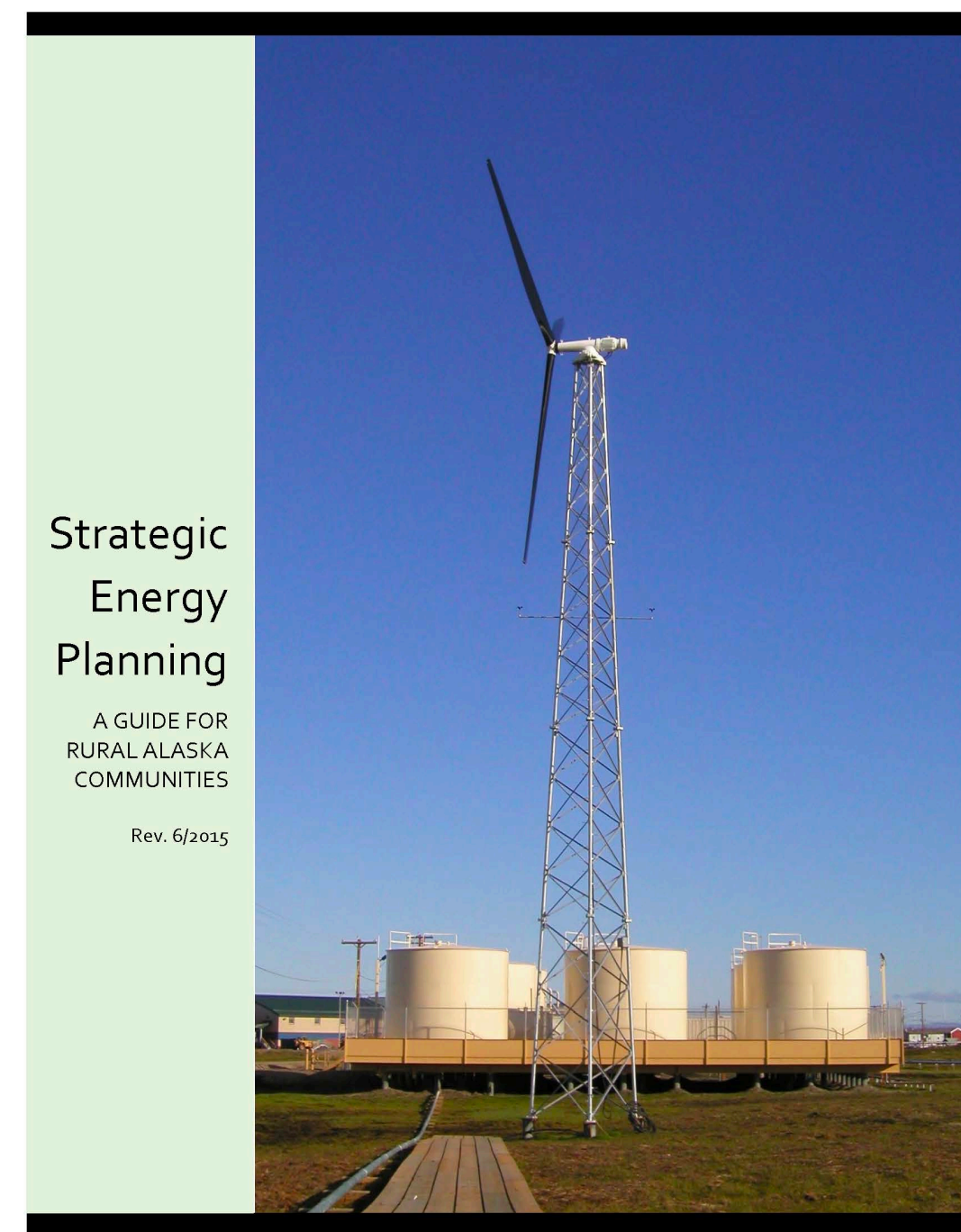
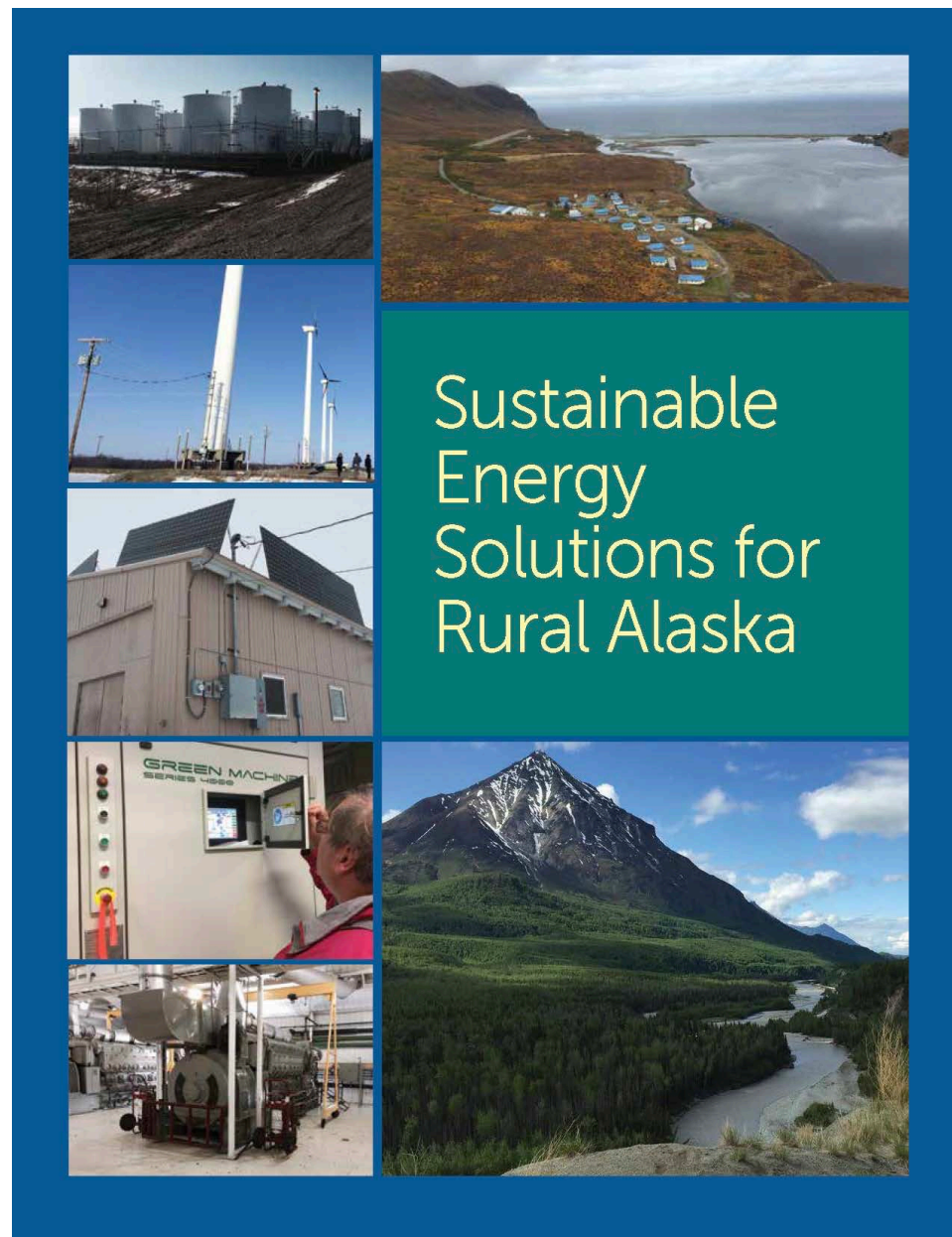


# UAF Bristol Bay



## Kusilvak Academy CTE College Credit



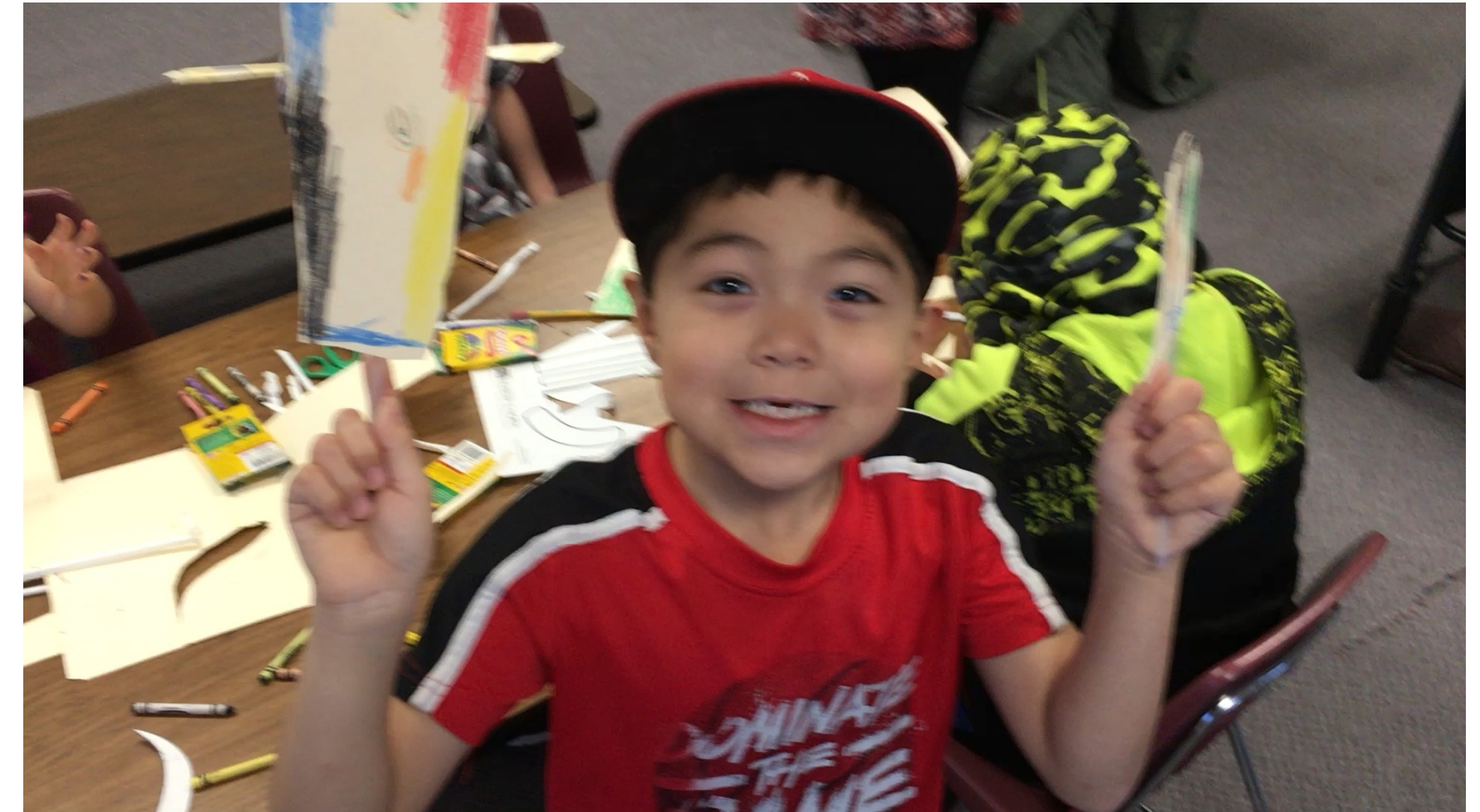


# Recommended Reading





# The Road Ahead is Wide Open



[ANEEEWORKS.ORG](http://ANEEEWORKS.ORG)

[alaskarenewableenergy.org](http://alaskarenewableenergy.org)

Chris McConnell  
ANEEE Director  
September 8, 2023

 Renewable Energy  
Alaska Project