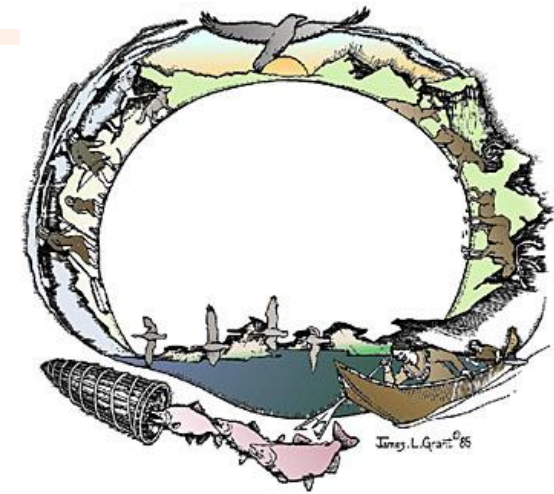


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# Energy Solutions in Rural Alaska:



## Tanana Chiefs Conference and Alaska Center for Energy and Power

*February 25, 2011*



**ACEP**

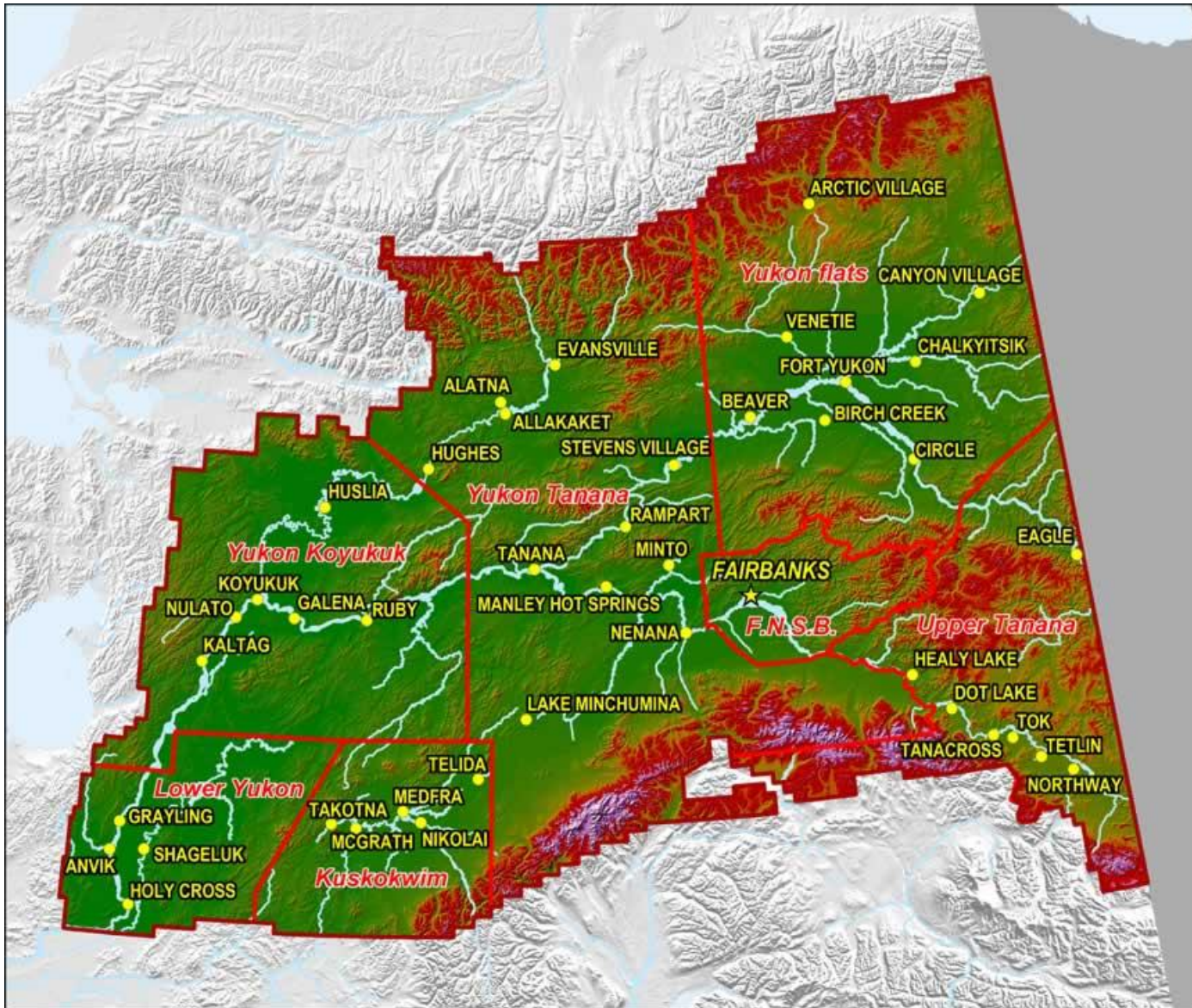
Alaska Center for Energy and Power

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**TANANA CHIEFS CONFERENCE** provides a unified voice to advance tribal governments, economic and social development, promote education and physical and mental wellness, and protect language, traditional, and cultural values.







**ACEP**  
Alaska Center for Energy and Power

**Alaska Center for Energy and Power** meets state and local needs for applied energy research by developing, refining, demonstrating, and ultimately helping commercialize marketable technologies that provide practical solutions to real-world problems.



**ACEP**  
Alaska Center for Energy and Power



# TCC-ACEP PARTNERSHIP:

Matches the rural service capacity of TCC with the engineering and technical expertise of ACEP to achieve energy solutions in rural communities.





# What does the term “energy solutions” mean?

- ✓ utilize local resources
- ✓ lower cost of electricity and heat for local consumers
- ✓ reduce dependence on fossil fuels

*...but most important of all...*





**“Energy solutions” means creating sustainable communities.**





# How do we get there?

Energy projects in TCC communities must meet three basic criteria:

- ✓ Community planning
- ✓ Economically feasible
- ✓ Technically feasible





# Energy research at the University of Alaska

Geophysical Institute

Institute for Social and Economic Research

Institute of Northern Engineering

Petroleum Development Laboratory

Agriculture and Forestry Experiment Station

UAA Logistics Program

Institute of Arctic Biology

UAA Engineering Program

International Arctic Research Center

Resilience and Adaptation Program

Cooperation Extension

Rural Campuses





# Wood-fired Heating Systems

- Currently installed in Tanana, Dot Lake, Craig, and other Alaska communities.
- Proposed for Anvik, Takotna, Ruby, Fort Yukon, McGrath, Koyukuk, and others.
- TCC and ACEP can help locate funding sources and provide technical assistance.





# Organic Rankine Cycle (ORC) Projects

**ORC engines use recovered heat from diesel generator to produce additional power.**





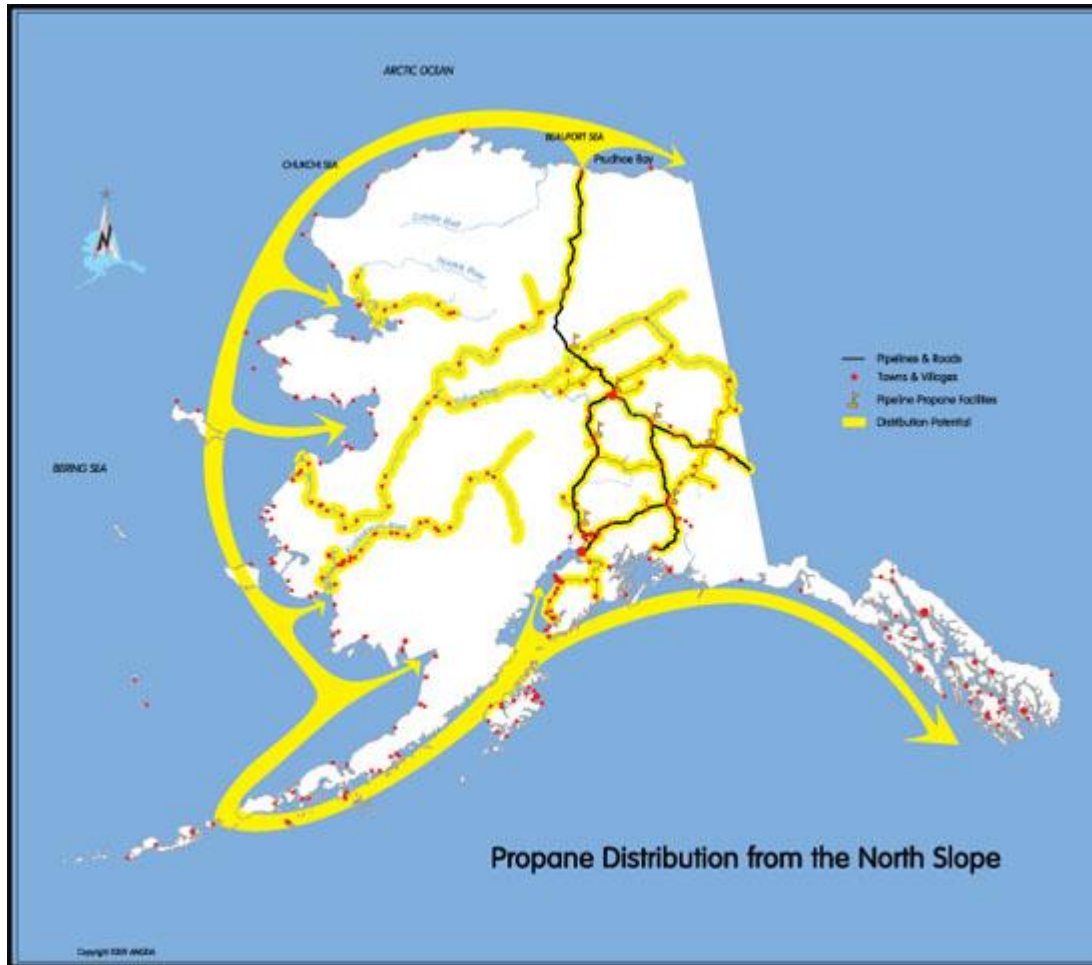
# Sustainable Agriculture & Community Greenhouses

- Heated with recovered heat from village power plant
- Community garden
- Fresh, nutritious, affordable produce
- Local employment
- Educational tool for students
- Reduce amount of imported food, carbon emissions, and solid waste in landfill





# Alaska North Slope Propane





# State of Alaska

- State will generate 50% of electricity from renewable sources by 2025.
- Emerging Energy Technology Fund
- Renewable Energy Fund
- Energy Efficiency Loan Fund
- Energy efficient public buildings
- State will achieve 15% increase in energy efficiency per capita by 2020.





Thank you.

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