ALASKA DAY 2012

Renewable Energy Solutions for Rural Alaska

Alaska Energy Brief

Alaska Federation of Natives | May 2012

ALASKA DAY 2012

The Alaska Federation of Natives (AFN) and the Center for American Progress (CAP) are gathering together federal officials, private sector representatives, academics, policymakers, and Alaska Native leaders to discuss the successes and continuing challenges to achieving renewable energy solutions for rural Alaska. Experts will identify components of an immediate strategy to stem the rural energy crisis and develop a roadmap for increasing renewable energy in rural Alaska.

Participants will explore the premise that Alaska's fossil fuel crisis can be solved with energy efficiency and renewable energy production. The process will generate knowledge and build a new American industry with national and international applications.

Rural Alaska needs:

- Better energy efficiency for Alaska Native housing
- Energy upgrades and weatherization
- Support for rural energy programs - including Arctic and rural demonstration projects
- National and international knowledge-sharing opportunities

Drying salmon in front of a smokehouse. AFN Alaska Day Photo Competition | RurAL CAP

Alaska Federation of Natives

AFN's membership includes 244 Native villages, 13 regional for-profit Native corporations (established by the Alaska Native Claims Settlement Act) and 12 regional non-profit tribal consortia that offer a range of human services to their member villages. Julie E. Kitka serves as the president of the Alaska Federation of Natives (AFN). Ralph Andersen and Senator Albert Kookesh (pictured below) serve as co-chairs, of a 37-member board of directors elected annually at the organization's Convention.

AFN has three overarching long-term goals concerning energy in rural Alaska:

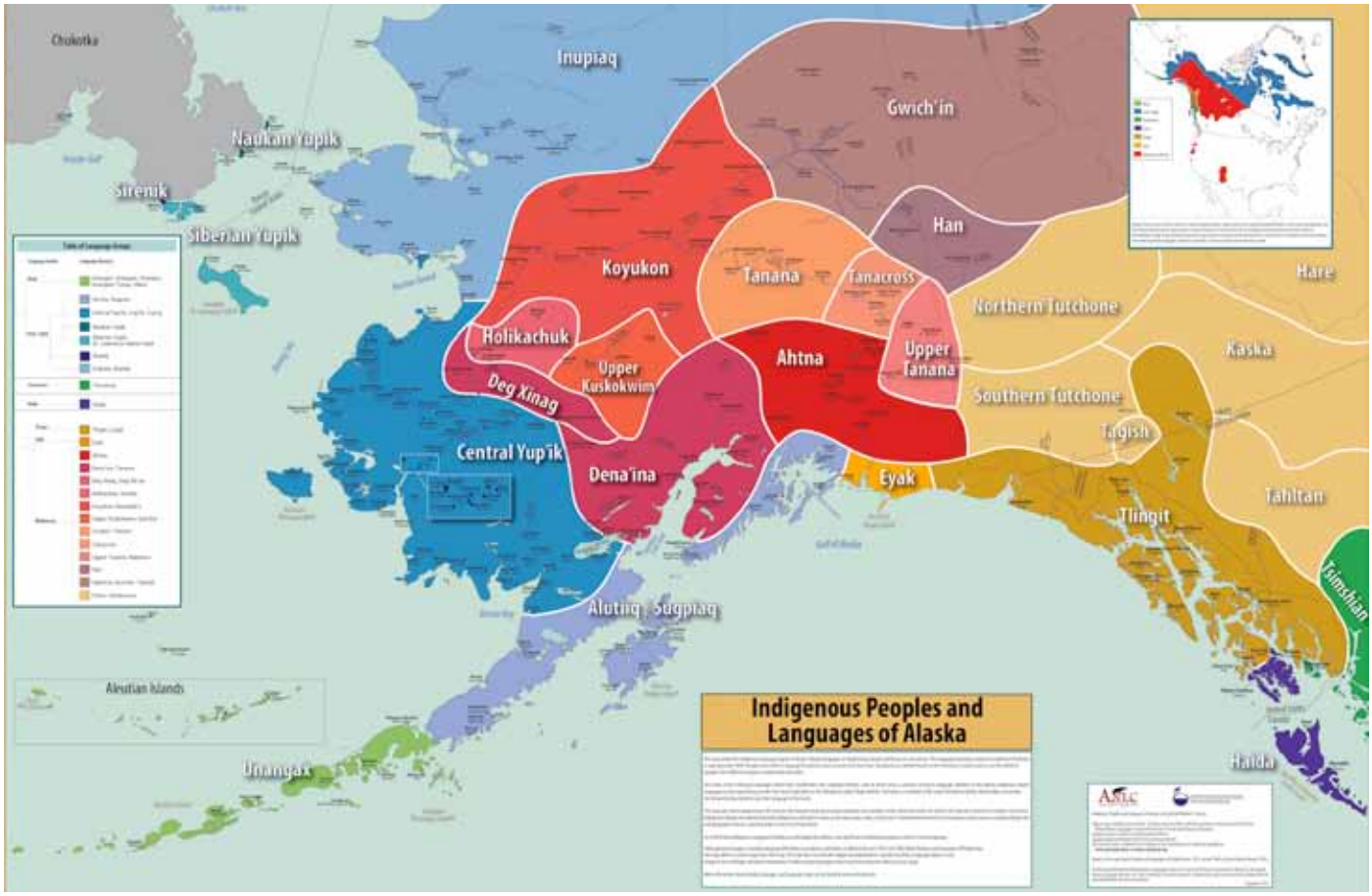
1. Equalization of energy costs for all Alaskans
2. Additional funding for long-term development of alternative energy resources and conservation
3. Immediate relief through measures that would help individuals deal with the rising cost of energy in rural Alaska

ALASKA BACKGROUND

Alaska's Indigenous Peoples

Alaska Natives have lived a subsistence way of life for more than 10,000 years: hunting, fishing and gathering food and other necessities that enable them to survive in some of the world's harshest and most challenging conditions. According to the 2010 Census, Alaska Natives numbered more than 138,000 people, about 19 percent of the state's total population.

Alaska Natives consist of distinct indigenous cultures in different geographical areas of the state: Inupiaq, Central Yup'ik, Cup'ik and Siberian Yup'ik Eskimos; Athabascan, Tlingit, Haida and Tsimshian Indians; and Aleuts, Alutiiqs, Sugpiaqs and Eyaks. Each cultural group consists of many tribes, and almost half the 560 federally recognized tribes in the United States are located in Alaska.



Krauss, Michael, Gary Holton, Jim Kerr, and Colin T. West. 2011. Indigenous Peoples and Languages of Alaska. Fairbanks and Anchorage: Alaska Native Language Center and UAA Institute of Social and Economic Research. Online: http://www.uaf.edu/anla/map

ALASKA BACKGROUND

Alaska's Version of "Rural"

Alaska's urban areas—Anchorage, Fairbanks, and Juneau (the state capital)—resemble many small cities in the rest of America. Many of the other 250 or so communities are located off the road system and more closely resemble villages in developing countries.

Alaska Native villages are undergoing rapid change. Some of the changes have proven beneficial, while others have stripped decision-making and authority from the local level. During the past two decades, life expectancy has increased. Infant mortality has decreased. Poverty has been reduced from over 60 percent to its current 20 percent. Our federal and state governments, and the Native community, have made concerted efforts to address these life and death issues. Increased access to health care has improved lives. Increased access to education at the village level has increased attendance in school. New housing is slowly replacing old substandard structures. New public water and sewer systems have helped reduce the spread of disease from contamination and unsafe water.

In economic terms, cash-paying jobs for Native people are few and seasonal, and the rural tax base is minimal at best. All communities depend on the state and federal government to help subsidize public services.

Rural Alaska home | Photo from 2009 Native Insight Competition

The cost of heating oil remains unbearably high, and winters are cold and long. Aviation fuel price increases mean that shipping costs are higher than ever, with a direct effect on retail prices for necessities like food and clothing. Energy costs remain one of rural Alaska's greatest challenges.

ALASKA ENERGY BACKGROUND

Rural Alaska Energy Crisis

Rural Alaska's villages are among the most economically depressed communities in the nation, and they also have the highest per capita fuel costs in the United States. While all Americans have suffered from the rising cost of fossil fuels, the impact on rural Alaska's communities is alarming. Most communities are not on power grids and are dependent on petroleum for three major uses: area heat, transportation, and electricity. In the winter, a village home can use up to five 55-gallon drums of heating oil each month, **spending up to $2,000 every 30 days.** Village electricity is mainly generated by stand-alone, outdated diesel-burning power stations, many of them more than 40 years old. Oil is barged from Seattle to regional distribution sites in the summer and then distributed to more remote coastal and river communities by smaller barge companies.

Because most villages lack roads, life in rural Alaska is entirely dependent upon petroleum products. Rural Alaskans frequently travel by air and rely heavily on all-terrain vehicles, snow machines and outboard motors for subsistence food gathering, commercial fishing and other activities. The increasing cost of fuel has crippled rural economies and the delivery of government services. It is steadily pushing village families deeper into poverty and despair. **If left unaddressed, skyrocketing energy costs threaten the very survival of rural Alaska's small, remote Native communities.**

The federal LIHEAP program helps villages to a small degree by offsetting the enormous household heating costs, yet this funding is perpetually threatened by budget reductions. To sustain rural communities, petroleum dependence must be reduced, local power generation shifted to alternative energy resources, and conservation methods for construction and renovation must be widely adopted.

COMMUNITIES IN CRISIS

Prices in the northwest Alaska hub community of Kotzebue illustrate the severity of this rural Alaska energy crisis:

- **$7.35 for a gallon of gas***
- **$9.99 for a gallon of milk**
- **$3.29 for a loaf of bread**
- **$20.99 for a package of 24 baby diapers**
  Compare this to $19.99 for a 72-diaper package ordered through Amazon.com (delivery restrictions apply to rural Alaska)

****$10.46 per gallon in nearby Kobuk***

ALASKA ENERGY SOLUTIONS

Renewable Energy for Rural Alaska: A Model Demonstration Project

Many villages in rural Alaska are actively working to develop alternative renewable energy projects. Beyond reducing the cost of energy, tremendous manufacturing, sales and service opportunities for Alaskans exist in alternative energy services. For example, wind and solar energy developments will need tailored products, services and alternative materials. Also, hybrid homes and other facilities, most of which are now being developed and manufactured abroad, could be created in Alaska, creating local jobs and income.

Alaska is so large and diverse that one village's alternative energy resources may not be available in other villages. Some areas have strong wind power potential, while others have geothermal resources. **Because of Alaska's virtually unlimited energy resources, the state could be a model for the rest of the country as part of a national demonstration project on alternative technologies, as well as a national proving ground.** Such experiments would hold strategic importance for the nation's economy and national security.

AFN Convention 2011 | Photo by Clark Mishler

An investment in renewable energy development will bring down future costs and help create careers and family income. **The undeveloped alternative energy sources most often discussed for rural Alaska are small hydro power (water wheels in rivers to generate power), solar energy, sea wave action, biomass, coal, methane, and geothermal power.**

ALASKA ENERGY SOLUTIONS

Renewable Energy for Rural Alaska: A Call for Action

Addressing Immediate & Longer Term Challenges

We must immediately moderate the impacts of the energy crisis on rural Alaskans, Native and non-Native alike. To this end, AFN seeks immediate relief through measures that will help individuals deal with the rising cost of energy. Equalization of energy costs for all Alaskans is an important goal. In the longer term, Alaska Natives wish to rely on an energy future that is based on the development of alternative energy resources and conservation. One prerequisite for maximizing the success of clean energy initiatives is public vision, and nowhere is the public imagination supporting renewable energy stronger than in the Alaska Bush, where the need is greatest.

> To sustain rural communities, petroleum dependence must be reduced, local power generation shifted to alternative energy resources, and conservation methods for construction and renovation widely adopted.

To meet these challenges, numerous organizations in Alaska support renewable energy solutions. **In addition to the efforts of Alaska Native villages, various government, academic and civil society organizations are actively pursuing solutions. Particularly noteworthy are the Denali Commission, the Alaska Center for Energy and Power, the Alaska Energy Authority, the Renewable Energy Alaska Project, and the Cold Climate Housing Research Center.**

Working with many partners, AFN has orchestrated an Energy Work Group Matrix of Alaska energy issues and proposed solutions, through which villages share knowledge among themselves about energy challenges, solutions, and pilot projects.

Alaska Native corporations and tribes are taking the lead on renewable energy initiatives, and some interesting activities are taking shape at resource companies that are active in Alaska. Resources in Alaska have always created jobs, and nation-building in the American Arctic could lead to U.S. Coast Guard growth and port development, which would improve dependable emergency search and rescue, spill response, new marine routes and procedures, shipping, maintenance, and ultimately economic expansion in Alaska and the U.S.

A Renewable Energy Future for Rural Alaska

Shifting our focus to alternative energy sources will be critical moving forward. Given rural Alaska's currently heavy reliance on diesel generators, immediate approaches based on improving our use of traditional energy sources remain very relevant. Immediate changes such as improvement in diesel generator efficiency will have a marked impact on rural Alaska energy use. Yet Alaska Natives are also currently setting their sights on a seamless clean energy system for rural Alaska, and Alaska Natives have much to learn from experts in Washington about the possibilities and the realities of a transition to a clean energy future. The participation of these experts in Alaska Day is highly valued.

Defining an efficient path to Alaska's energy future will involve simultaneously addressing many different clean energy priorities, including the creation of smart micro-grids, energy-efficient buildings, clean technologies, energy storage, and other evolving delivery systems.

Federal Energy Priorities & Rural Alaska Projects for Consideration

National energy efficiency initiatives frequently place an emphasis on urban areas because of their demographic importance and their impact on greenhouse gas emissions, while rural areas are often overlooked. Yet Alaska offers many options for the federal government to explore. New energy technologies, climate change reduction, and environmental protection are important federal priorities. As test sites for new clean energy technologies, Alaska villages offer a milieu in which environmental and climatic impacts are perhaps the most readily apparent. Furthermore, Alaska is a most suitable location for initiatives in energy efficiency research, weatherization, and biomass research and development.

Map sourced from http://russia-alaska.com

ALASKA ENERGY SOLUTIONS

A Renewable Energy Future for Rural Alaska, Continued

Projects Specific to the Blueprint for a Secure Energy Future

A secure energy future is a priority for America. New programs are in place to develop energy supplies, to assist consumers in saving energy and reducing costs, and to encourage innovation. Three areas within the suite of renewable energy endeavors that could benefit rural Alaska include:

Better Energy Efficiency of Alaska Native Housing Stock

The Administration's priority on improving the efficiency of federal buildings is well known, as are ongoing efforts to improve the energy performance of existing government buildings and to build a new generation of energy efficient buildings. The federal government makes substantial contributions to Alaska Native housing. **Rural Alaska can provide a showcase for better energy efficiency of federally supported housing stock in a harsh environment.**

Energy Upgrades and Weatherization

Rural Alaska can benefit substantially from efforts by HUD to support energy upgrades in homes. Full advantage should also be taken of the DOE's Weatherization Assistance Program that supports energy efficiency upgrades. **The latter program in particular may be a source of employment and on-the-job training for Alaska Natives.**

Rural Energy Programs

Alaska should fully participate in various federal initiatives that promote renewable energy in rural areas, with objectives such as greater energy efficiency and increased renewable electric power.

Dock in rural Alaska | Photo by Aurora Lehr

Other Action Areas for Federal Consideration

Rural Alaska offers other activities for consideration that can support federal renewable energy and development priorities.

Using Alaska Native Villages to Test and Demonstrate New Energy Technologies

Like all Americans, Alaskans in rural and remote locations aspire to clean and efficient energy technologies. Rural Alaska is an ideal venue for the deployment of efficient forms of decentralized, off-grid energy production, and can contribute to achieving federal energy and climate change policy objectives.

Supporting Better Broadband Service in Rural Alaska

Telecommunications is a key driver of the clean energy network. Unfortunately, all of rural Alaska is currently underserved. The full deployment of broadband services in rural Alaska would support clean energy initiatives, and a host of other benefits.

Assisting Alaska Natives in Learning from Others

Alaska Natives are attentive to the efforts of other Northern groups to meet clean energy challenges. Of special note is the European Union Northern Periphery Program that helps communities on the northern margins of Europe develop their economic, social, and environmental potential. Much of the advanced thinking on renewable energy in remote northern areas is happening in Europe, Canada, and even China. Federal and other experts can assist Alaska Natives in drawing out and benefitting from the most relevant lessons learned and emerging best practices.

Supporting Alaska Natives in Serving Development Aid Markets

Access to sustainable energy in developing countries is a top international priority. Alaska Natives have acquired solid expertise in developing and managing both conventional and alternative energy sources in a challenging, fragile environment, and in a manner that respects and supports Indigenous Peoples. This experience can be of value to multilateral development agencies, such as the World Bank and its borrowers, and bilateral agencies such as USAID. It is a potential source of profit for Alaska Natives that could help alleviate the worsening economic conditions caused by the rural energy crisis. This is consistent with the goal of positioning America as the global leader in clean energy, albeit in a special niche.

Alaska Federation of Natives
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Cover Photos: AFN Alaska Day Photo Competition submissions from Gina M. Pope, Fairbanks | Gretchen Booth, Noatak | Aurora Lehr, Anchorage | RurAL CAP