

Ethan Schutt, Chief of Staff
Alaska Native Tribal Health Consortium

Senate Energy and Natural Resources Committee
Hearing on Electricity Sector in a Changing Environment

Good Morning. Thank you for the opportunity to provide input on behalf of the Alaska Native Tribal Health Consortium (ANTHC) My name is Ethan Schutt and I am the Chief of Staff for ANTHC. ANTHC is a state-wide consortium of tribes and tribal organizations in Alaska that operates the Alaska Native Medical Center in Anchorage in partnership with Southcentral Foundation. ANTHC also operates a number of specialty clinics, statewide programs through telemedicine, and educates village-based providers.

Formed in 1997, ANTHC is dedicated to the vision that Alaska Native people are the healthiest people in the world. As the largest tribal health organization in the United States, the Consortium's nearly 3,000 employees deliver world-class medical, community, and environmental health services to the more than 160,000 Alaska Native and American Indian people residing in Alaska. ANTHC provides comprehensive specialty medical services at the Alaska Native Medical Center; wellness and prevention programs; disease research and prevention; rural health provider training; telehealth services; and essential operational, technical, and logistical support for our tribal health partners in Alaska.

In addition, ANTHC's Division of Environmental Health and Engineering (DEHE) provides planning, design, construction, and operations support of public health infrastructure—including safe water, sanitary waste disposal, and energy efficiency upgrades—throughout Alaska. Providing vital public health facilities that provide clean water and sanitary sewer systems for remote communities with no road access and harsh climates makes for unique engineering challenges, including extremely high energy usage and high energy costs.

Through our DEHE programs and our interactions with people in communities across Alaska, we see and help address both the dramatic and the subtle impacts of climate change. As we visit here this morning, there are 184 of 213 traditional Alaska Native communities that are environmentally threatened to some degree by flooding, erosion, storm surge, permafrost melt or other climate change-related conditions. Of those communities, 31 are imminently threatened, 12 are actively planning for partial or total community relocation and 4 need to immediately move the entire community—including all of the community infrastructure, housing, and public buildings—to escape life-threatening conditions. Of the 4 in dire and immediate threat, only 1 is far enough advanced in planning, permitting and funding to be in the process of a physical move: the village of Newtok is partially relocating to a new village site called Mertarvik, in the first of a multiple phase, whole-community relocation.

The climate change situation in Alaska and the rest of the circumpolar north is so dynamic that it requires new language to describe phenomenon that were unknown less than a generation ago. For instance, there is now a new word recognized in the federal emergency management

lexicon—a word so new to English usage that you have to find your way to the third page of a Google search to find it referenced as described here. “Usteq” is from the Yup’ik word which roughly translates as “surface caves in.” Usteq was coined to describe the compounding influences of thawing permafrost, flooding, and erosion. During an usteq event, permafrost thaw—a process that was previously a slow, developing hazard—becomes a rapid, high-consequence hazard. The permafrost layer that previously supported the surface as an invisible near-surface foundation thaws rapidly, liquifies, caves in and collapses—usteq. Often usteq is also associated with riverine or coastal erosion where the thawed and slumped surface is quickly eroded away. Although communities have already begun to experience the effects of usteq, it was not formally recognized as a *unique* hazard or formally named until it was included in the 2018 update to the [Alaska Statewide Hazard Mitigation Plan](#), a document required by the Federal Emergency Management Agency (FEMA) as a condition for receiving non-emergency disaster assistance.

Not all of the serious impacts of climate change are as obvious to those who are not intimately familiar with rural life in Alaska. Sea ice that historically protected shorelines and communities from fall and winter storms is thinner and forms later, exposing vast swaths of Alaska’s western and northwest arctic coasts to the battering of high winds and storm surge. The seasonal patterns of animals used as traditional food sources has dramatically changed in both timing and location. And winter travel has become hazardous due to poor and unpredictable ice conditions on rivers and lakes.

Rural Energy Initiative

The high cost of energy coupled with the intensive energy needs of sanitation systems across rural Alaska directly threaten the important health benefits provided by clean water and sanitary sewer service. Unlike most systems in the United States, Arctic and sub-Arctic sanitation systems common to Alaska require the constant addition of heat from oil-fired boilers and electricity for pumps that maintain circulation of water in order to keep water and sewer systems running in regions that can see temperatures colder than minus fifty degrees. Energy costs make up, on average, 40 percent of the total cost of operating public sanitation in rural Alaska, where heating fuel costs over \$10 per gallon in some locations. The high price of fuel results in water and sewer bills in rural Alaska that range from \$80 to \$250 per month per household; that’s five times the national average and well above the Environmental Protection Agency’s (EPA) recommended median household income threshold for customer affordability. While some operating costs for rural sanitation systems, such as labor, regulatory compliance and replacement parts, remain relatively fixed; reducing the cost of energy represents the most significant opportunity to make water and sewer services more affordable and, therefore, more sustainable for rural communities in Alaska.

Recognizing the essential role affordable and sustainable energy plays in rural communities, ANTHC has developed the Rural Energy Initiative—a program focused on reducing operational costs of rural water and sewer systems through energy efficiency and renewable energy solutions. To date, ANTHC has completed energy projects in 45 rural Alaskan communities. Funding for these efforts has been provided by three primary sources: the Denali Commission,

United States Department of Agriculture (USDA) Rural Development's Rural Alaska Village Grant Program 2% set-aside for technical assistance and training, and the State of Alaska. However, current funding levels will leave over 100 communities across rural Alaska with unfulfilled energy-saving potential, placing the health and the future of residents and their community in jeopardy.

The Rural Energy Initiative reduces water and sewer costs through a holistic, four-phased approach:

1. Conducting energy audits to model energy use and identify opportunities for savings
2. Implementing appropriate energy efficiency improvements and operator training
3. Reducing operating costs when possible using available renewable energy opportunities
4. Tracking performance and impacts of changes in the plant, operator behavior, and renewable energy approaches

ANTHC and its DEHE program continue to address the impacts of climate change on a daily basis across Alaska. Thank you for the chance to provide input on this important matter.