CCHRC

Cold Climate Housing Research Center

CCHRC is designing 33 new homes for the relocation of Newtok to their new village, Mertarvik

The Cold Climate Housing Research Center (CCHRC) celebrates its 20th anniversary this year. Founded to promote and advance development of healthy, durable and sustainable shelter for Alaskans, the organization has had a great impact on housing in Alaska over the past two decades.

With steady investment from the state, we have been able to make housing more efficient, healthy, and affordable for all Alaskans. The average house built today uses one fourth the energy as past generation homes. In rural Alaska, homes are being constructed for 20-40% lower cost than just a decade ago thanks to CCHRC technologies, making public funds go farther and keeping precious resources in these communities. In addition, people in urban and rural areas are now focusing on ventilation and indoor air quality in a way that is improving the health of Alaskans statewide. CCHRC has played a significant role through research, education, and collaborating with the building industry, housing authorities, and state leadership.

CCHRC needs $1 million from the Alaska State Legislature to continue this mission, the same amount we have received for the past three years, to continue to address Alaska's huge housing needs. The majority of Alaska's occupied housing uses at least three times more energy than the average home built to current standards (with many homes using five times more). More than half of all homes in Alaska are at risk of moisture and indoor air quality issues because they are under-ventilated, leading to health and safety concerns. In rural Alaska, over half of the occupied housing is extremely inefficient and reaching the end of its usable life.

WHO WE ARE

CCHRC is a mission-focused not-for-profit corporation formed in 1999 by members of the Alaska State Home Building Association to tackle the challenges of building in cold climates, including remote location, harsh working conditions, unstable ground, and high energy costs. Our state funding comes from the capital budget through our partner, the Alaska Housing Finance Corporation.

CCHRC's Research and Testing Facility in Fairbanks is the farthest-north LEED Platinum building in the world and is heated primarily with solar, geothermal, and biomass energy.

OUR WORK

CCHRC works with builders, homeowners, housing authorities, and financers to promote quality of housing at every level. Specific results include:

- CCHRC demonstration homes reduce energy costs for homeowners by 80% on average.
- We guided thousands of homeowners through the Alaska Housing Finance Corporation's energy efficiency programs to ensure their home improvements were cost-effective, durable, and healthy. **These efforts have saved Alaskans millions of dollars in energy costs since 2008,** with exponential health, economic, and environmental impacts.
- Collaborating with funders and rural partners to raise the bar for energy efficiency. Housing authorities in the North Slope, Interior, and Southwest Alaska are all building 6 Star or 5 Star Plus homes for the people of their region, as opposed to 4 Star twenty years ago.
- **Building workforce capacity in communities** by hiring and training local workers.
- Integrated heating & ventilation systems developed

by CCHRC are **improving indoor air quality in new homes across Alaska.** Unhealthy buildings in rural Alaska have resulted in the highest rates of respiratory disease in the nation among infants and the elderly.

- Water and wastewater systems developed with Alaska Native Tribal Health Consortium and partners are **improving sanitation in communities without piped water and sewer**. The systems improve health while saving the state millions on infrastructure.
- CCHRC classes and presentations across the circumpolar north **share building science and lessons learned with builders, designers, and planners**.
- Our content in local and national newspapers, magazines, and broadcast outlets shares our research to an international audience.
- Helping the state save money through energy efficiency, such as a current project that shows public facilities could reduce electric costs by up to 40% by switching to LEDs.

OUR IMPACT

- 6,000 individuals helped since 2014 through direct consultation
- 60,000 online hits a year
- more than 1 million Youtube views
- 20 demonstration homes across Alaska reducing energy use by 80%
- Partnered with 32 organizations in 2018, from major corporations like Dowl to villages such as Kwigillingok and Akiachak
- Changed how agencies engage with rural communities through a "holistic approach" that incorporates culture & lifestyle into projects

OUR REQUEST

As a stand-alone nonprofit, we simply cannot meet our mission without financial support from the State of Alaska. The contributions made by the Legislature over our history have been modest and steady. For every $1 of legislative funding, CCHRC has doubled through other sources to create a healthy funding mix. Each dollar we receive has stimulated an additional $20 in economic activity in Alaska related to housing. Over the past four years we have aggressively reorganized to be more resilient in these difficult financial times, but we simply cannot bear additional reductions and continue to provide value to the people of Alaska. **As demonstrated by the examples above, our modest request of continued $1 million in funding benefits not only the people of Alaska, but also the state's budget by facilitating effective use of public funds for energy and buildings.**

Building affordably in Alaska's population centers

The four homes at the University of Alaska Fairbanks Sustainable Village use less than half the energy of the average house in Fairbanks and 40% less than a new energy efficient house, proving that efficiency can also be affordable.

Testing & vetting new energy technologies

An air source heat pump at City Hall in Wrangell was one of many included in the Air Source Heat Pumps for Southeast Alaska study. Typical homeowners in Southeast Alaska could save between $5,000 and $10,000 in energy costs over the life of the equipment by installing this system.

Creating economic independence in villages

A CCHRC-designed home in Oscarville was privately financed by a local family. Thanks to the super-efficient building envelope, they are saving $4,000 a year in energy costs compared to average homes in the region.

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