CCHRC Joined the National Renewable Energy Laboratory in July 2020

Launched a new partnership with the national lab adding 20 years of experience researching and demonstrating energy efficient, durable, affordable housing and infrastructure in the Arctic. More at https://medium.com/@nationalrenewableenergylab/adding-an-alaska-housing-research-center-furthers-our-labs-reach-1d8345cc1978

Significance & Impact

Expands work in advancing energy efficiency and clean energy in Arctic communities
Developing "New Iglu" to Bring Affordable, High-Efficiency Housing to the Masses

• CCHRC was awarded DOE’s “Advanced Building Construction” Award to develop a prototype
• New Iglu is an affordable, flat-pack building system combining cutting edge vacuum insulation with well-established building components to create modular building kit
• Borrows structural frame and curtain wall glazing system used in high rise buildings across the world
• High-efficiency buildings could be used from the Arctic to the Tropics
• Made it to final round of $2-million Wells Fargo “Housing Affordability Breakthrough Challenge”

Significance & Impact

Provides a durable, energy efficient, low-cost, quick deployable modular building technology with the potential to transform the housing industry.

Provides a practical solution for low-income housing that reduces energy use and dependence on fossil fuels
Project Aims to Improve Health, Safety & Quality of Life in Native Village of Buckland

- Hundreds of subsistence villages struggle with high energy costs & unhealthy indoor air quality, deepening stress and inequality among indigenous populations. In the northwest Arctic village of Buckland, more than 2/3 of homes lack proper ventilation.
- Comprehensive “healthy homes” program includes home surveys, energy planning, and retrofits of up to 40 buildings to improve community-wide housing stock.
- Local capacity-building effort hires and trains crews to perform surveys and retrofit work.

Significance & Impact

Provides holistic approach to energy efficiency that incorporates local culture, economic development, and quality of life.
Launched “Solarize” Approach to Help Small Community Meet Renewable Energy Goals

Incentivizing Cold-Climate Efficiency in Juneau, AK

- Pilot project will inform future efforts to help Juneau attain 80% renewable energy for space heating and transportation by 2040
- Up to 150 homeowners can sign up for one of three groups in a “solarize” campaign for ductless heat pump retrofits and energy efficiency measures.
- Regional workforce development initiative will ensure local contractors can meet future demand.
- State and national partners will inform efforts and help apply final program guide to other rural locations with no natural gas access.

PI: Vanessa Stevens

Significance & Impact
Validate climatic boundaries of ductless heat pumps
Inform local and regional efforts to pursue beneficial electrification strategies
Pilot program to reduce household energy use by up to 50%