ARCTIC ENERGY ALLIANCE

October 2019

Case Study | COMMUNITY WOOD STOVE PROJECTS

2018/19 fiscal year

With various community partners

Behchokǫ̀, Dél̨ı̨ne̢, Gamètì, Wekweètì and Whatì

Background

Since 2007, the AEA has collaborated with partners in 13 communities across the NWT on community wood stove projects. The projects allow new, efficient wood stoves to be installed in residents' homes.

In the 2018/19 fiscal year, the AEA worked with partners in the communities of Behchokǫ̀, Dél̨ı̨ne̢, Gamètì, Wekweètì and Whatì to get 56 new stoves installed.

Heating with biomass—wood stoves in particular—continues to be a viable, economic and traditional alternative to heating with fossil fuels in NWT homes.

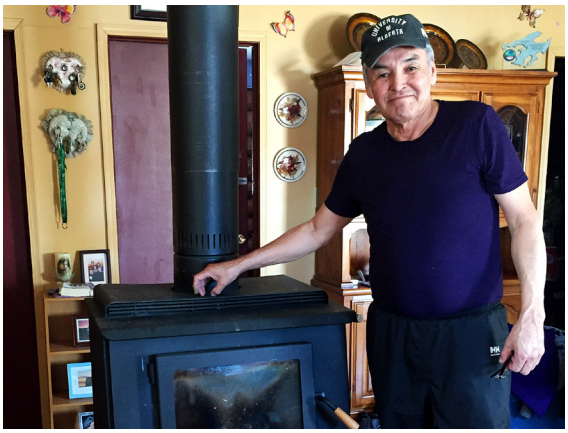
For each project, the AEA secures 50 percent of the necessary funding and collaborates with the community partner, who also contributes 50 percent of the funding. Both partners work together to complete the project.

The broad goals of the project are to:

- increase wood burning safety by supporting code-compliant installations
- reduce particulate emissions in smoke
- increase local capacity (e.g. wood harvesting and seasonal local employment)
- increase wood burning efficiency by installing EPA-certified wood stoves

Other benefits include decreasing fossil fuel use, decreasing greenhouse gas emissions, and helping residents save on heating bills.

The AEA has collaborated with community partners in most of the NWT's regions and supported code-compliant wood stove installer training in each region of the NWT under Wood Energy Technology Transfer Inc. (WETT).



Top: Phillip and Elizabeth Dryneck
Bottom: Morris Neyelle

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Wood stove model comparison*

	Efficiency	Particulate Emissions
Old stoves	60%	32.7 g/hr
New non-catalytic stoves	75%	3.4 g/hr
New catalytic stoves	81%	2.4 g/hr

**Data is estimated. Non-catalytic stove model used is the Pacific Energy Super 27, installed in homes in Behchokǫ̀, Gamètì, Wekweètì and Whatì. Catalytic stove model used is the Blaze King Princess, installed in homes in Délı̨nę.*

Estimated annual savings

Switching from an old stove to a new stove

By switching, the 50 homes that replaced their old wood stoves with new models are expected to save the following each year, combined:

33 cords of wood

2,300 kg of particulate emissions *(an 89% reduction)*

Adding a new wood stove

The six homes that added a new stove to supplement their existing heating systems are expected to save the following annually:

11,000 litres of heating oil

$**16,000** in heating oil costs

29 tonnes of greenhouse gases

Using a wood stove instead of heating oil

By using new, efficient wood stoves instead of relying solely on heating oil, all 56 recipients are estimated to save the following each year:

110,000 litres of heating oil

$**150,000** in heating oil costs

440 tonnes of greenhouse gases

> "We are really happy to receive the wood stove. We love the stove and the joy and warmth it brings into the house."
>
> *—Phillip Dryneck*

Phillip and Elizabeth Dryneck are both in their 80s. Elders that live on a pension sometimes can't afford to buy a new wood stove. Community wood stove projects give back to Elders by providing safe, efficient stoves at no cost.

> "The units give off a lot of heat and burn long. You just have to watch what kind of wood you put in it."
>
> *—Morris Neyelle*

Morris and Bernice Neyelle have a Blaze King catalytic wood stove in their home. Morris said he likes it better than the old one they had. They're enjoying the wood stove and it works very well.

In the 1960s, catalytic wood stoves were not available and people had to make their own from barrels. Morris' dad would make stoves for their tent and house.