



# 2024/25 Annual Report



# Contents

|                                                             |           |
|-------------------------------------------------------------|-----------|
| <b>Foreword.....</b>                                        | <b>2</b>  |
| <b>2024/25 at a glance .....</b>                            | <b>3</b>  |
| Overall results .....                                       | 4         |
| Highlights .....                                            | 5         |
| Budget .....                                                | 8         |
| <b>Introduction .....</b>                                   | <b>9</b>  |
| <b>Charting our course.....</b>                             | <b>10</b> |
| <b>Core programs .....</b>                                  | <b>12</b> |
| Energy efficiency and conservation programs .....           | 12        |
| Commercial Energy Conservation and Efficiency Program ..... | 12        |
| Community Government Building Energy Retrofit Program ..... | 15        |
| Energy Efficiency Incentive Program .....                   | 16        |
| Energy Rating Services Support Program .....                | 22        |
| Renewable and alternative energy programs .....             | 26        |
| Alternative Energy Technologies Program .....               | 26        |
| Biomass Energy Program.....                                 | 29        |
| Electric Transportation Incentive Program.....              | 31        |
| <b>Community engagement.....</b>                            | <b>33</b> |
| Beaufort-Delta office (Inuvik) .....                        | 33        |
| Dehcho office (Fort Simpson).....                           | 34        |
| North Slave office (Yellowknife).....                       | 34        |
| Sahtú office (Norman Wells) .....                           | 35        |
| South Slave office (Hay River) .....                        | 35        |
| Tłıchǝ office (Behchokǝ).....                               | 36        |

|                                                    |           |
|----------------------------------------------------|-----------|
| <b>Special projects .....</b>                      | <b>37</b> |
| Cold-Climate Air-Source Heat Pumps .....           | 37        |
| Community Energy Planning .....                    | 37        |
| Community Energy Profiles .....                    | 38        |
| Energy Word Book.....                              | 39        |
| EV/Hybrid Potential in Non-Hydro Communities ..... | 39        |
| Firewood Access.....                               | 40        |
| Home Winterization Walk-Throughs .....             | 40        |
| Results Communication .....                        | 41        |
| <b>Operations management .....</b>                 | <b>42</b> |
| Impact of AEA programs and projects.....           | 43        |
| Staff hours by program/project.....                | 44        |
| <b>Financial management.....</b>                   | <b>45</b> |
| Highlights .....                                   | 45        |
| Management discussion and analysis.....            | 46        |
| <b>Membership and governance .....</b>             | <b>47</b> |
| Board of directors .....                           | 47        |
| General members.....                               | 47        |
| Sustaining members .....                           | 47        |
| Staff .....                                        | 47        |

# Table of abbreviations

|               |                                         |
|---------------|-----------------------------------------|
| <b>AEA</b>    | Arctic Energy Alliance                  |
| <b>BEV</b>    | Battery electric vehicle                |
| <b>ccASHP</b> | Cold-climate air-source heat pump       |
| <b>ECM</b>    | Electronically commutated motor         |
| <b>EEIP</b>   | Energy Efficiency Incentive Program     |
| <b>EV</b>     | Electric vehicle                        |
| <b>GHG</b>    | Greenhouse gas                          |
| <b>GJ</b>     | Gigajoule                               |
| <b>GNWT</b>   | Government of the Northwest Territories |
| <b>ICE</b>    | Internal combustion engine              |
| <b>kW</b>     | Kilowatt                                |
| <b>kWh</b>    | Kilowatt-hour                           |
| <b>LCELF</b>  | Low Carbon Economy Leadership Fund      |
| <b>LED</b>    | Light-emitting diode                    |
| <b>MWh</b>    | Megawatt-hour                           |
| <b>NRCan</b>  | Natural Resources Canada                |
| <b>NWT</b>    | Northwest Territories                   |
| <b>PHEV</b>   | Plug-in hybrid electric vehicle         |
| <b>PV</b>     | Photovoltaic                            |

# Foreword

*For 28 years, the Arctic Energy Alliance has been leading the North in taking action to fight climate change. And we couldn't be prouder to lead that charge.*

For 2024/25, the amount of funding we received decreased significantly compared to recent years. While our core funding from the Government of the Northwest Territories stayed essentially the same, a primary funding program that we accessed through the Government of Canada came to a close. This meant the end of the expanded programs and special projects we had put in place over the past few years. It also meant that we were able to give out fewer rebates in our remaining programs than we have recently.

Nevertheless, we are honoured that we are still able to provide a high level of education and incentives to help people save energy, save money and reduce their carbon footprints.

Collectively, the clients we worked with this year will save 270 MWh of electricity annually, which is almost like taking a community the size of Jean Marie River off the grid. They will also reduce their carbon footprint by about 460 tonnes a year—equivalent to the greenhouse gases emitted by driving a passenger car 1,700,000 km.

Of course, our work is about much more than simply providing rebates and tracking savings. It's also about building relationships whenever we can so that we can do our part to help people understand how to best take action on lowering their energy bills and fighting climate change. Like when we partnered with three local governments to both develop and implement community energy plans. Or with two Indigenous organizations to develop energy-related educational materials in their people's own languages.

We think that the challenges of this year make our accomplishments even more worthwhile. We look forward to continuing to make the NWT a cleaner, more energy-efficient place to live.

**Mark Heyck**  
Executive Director

## 2024/25 at a glance

*This was a year of transition for the AEA. A funding program from the federal government that we have been accessing for the past five years came to an end. This meant that our overall funding returned to pre-2020 levels. As a result, the number of rebates we were able to give out returned to pre-2020 levels as well. It also meant that we had to end a few programs that relied on this federal funding.*

However, it's clear that demand for our programs and services remains high. In fact, many of our programs had given out all of their available rebate funding well before the end of the fiscal year.

This year, we gave out more than 1,400 rebates through four rebate programs—and had eight programs in total (including non-rebate programs). That compares to more than 3,000 rebates last year across nine rebate programs, with 12 programs in total.

As usual, the Energy Efficiency Incentive Program led the way in the number of rebates and the amount of greenhouse-gas savings. We gave out 1,390 rebates in that program. And the equipment that our clients purchased will save the NWT an estimated 400 tonnes of greenhouse gas emissions a year.

For the past two years, the Beaufort-Delta region has outpaced the North Slave region in the number of rebates received under the Energy Efficiency Incentive Program. And last year, the Sahtú region also received more rebates than the North Slave. This year, the Dehcho region saw more rebates than the North Slave for the first time ever. That's partly due to a decrease in the number of products that are eligible for rebates in hydro communities.

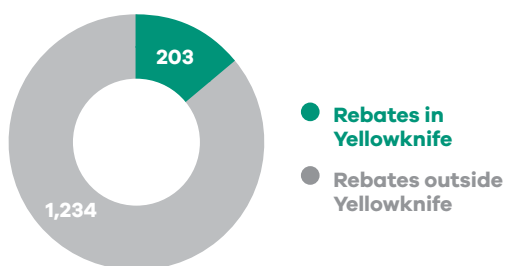
Our special projects this year included testing cold-climate air-source heat pumps, helping communities develop energy plans, developing energy literacy tools in Indigenous languages, and increasing access to firewood for home heating, among others.

And that's just the tip of the iceberg. The AEA touches every community in the NWT, and our team's commitment to promoting energy conservation and efficiency is stronger than ever. So read on, and see how we are partnering with communities, businesses and individual residents to build a resilient and sustainable NWT that supports everyone's well-being—and sets an example for the world.

## Overall results<sup>1</sup>

| Programs and projects                                                                                             |                                                      |             |
|-------------------------------------------------------------------------------------------------------------------|------------------------------------------------------|-------------|
| Number of programs                                                                                                |                                                      | 8           |
| Number of special projects                                                                                        |                                                      | 8           |
| Incentives                                                                                                        |                                                      |             |
| Total incentives                                                                                                  | Including Energy Efficiency Incentive Program (EEIP) | 1,437       |
|                                                                                                                   | Excluding EEIP                                       | 47          |
| Total value of incentives                                                                                         | Including EEIP                                       | \$630,000   |
|                                                                                                                   | Excluding EEIP                                       | \$450,000   |
| Average incentive                                                                                                 | Including EEIP                                       | \$440       |
|                                                                                                                   | Excluding EEIP                                       | \$9,500     |
| Payback*                                                                                                          |                                                      |             |
| Total capital cost                                                                                                |                                                      | \$2,700,000 |
| Estimated annual savings                                                                                          |                                                      | \$280,000   |
| Simple payback                                                                                                    | Before incentives                                    | 9.7 years   |
|                                                                                                                   | After incentives                                     | 7.4 years   |
| Energy savings                                                                                                    |                                                      |             |
| Estimated annual electricity savings                                                                              |                                                      | 270 MWh     |
| Equivalent to approximately 85 percent of the electricity consumed each year in the community of Jean Marie River |                                                      |             |
| Rebate cost per lifetime <sup>2</sup> kWh avoided                                                                 |                                                      | \$0.18      |
| Estimated power demand avoided/produced <sup>3</sup>                                                              |                                                      | 37 kW       |
| Equivalent to running 32 dishwashers at the same time                                                             |                                                      |             |
| Annual fossil fuel consumption avoided (oil, propane and gasoline)*                                               |                                                      | 4,300 GJ    |
| Equivalent to 110,000 L of heating oil (5,500 20-L jerry cans), or 130,000 L of gasoline (6,300 20-L jerry cans)  |                                                      |             |
| Greenhouse gas reduction                                                                                          |                                                      |             |
| Estimated annual greenhouse gases avoided                                                                         |                                                      | 460 tonnes  |
| Equivalent to greenhouse gases emitted by driving a passenger car 1,700,000 km                                    |                                                      |             |
| Rebate cost per lifetime tonne of greenhouse gases avoided                                                        |                                                      | \$82        |

\*Not counting fuel used for community-level electricity generation.



<sup>1</sup> Throughout this report, numbers greater than nine and those with decimals have been rounded to two significant digits, unless otherwise noted—except for the number of rebates provided and energy audits/evaluations completed, which are presented accurately. In some cases, numbers may not add up correctly due to rounding.

<sup>2</sup> The lifetimes of products and projects vary. For more information on assumed lifetimes see the sections on the individual programs.

<sup>3</sup> Power demand refers to the maximum amount of electricity that is used at any given time.

## Highlights

*The following are just a few of the highlights from our programs and projects over the past year.*

### PROGRAMS

#### **Commercial Energy Conservation and Efficiency Program**

Provides building energy audits, rebates and free advice to NWT businesses to make upgrades to conserve energy and improve their energy efficiency.

- Provided 6 rebates.
- All client projects combined will save an estimated 350 GJ of fossil fuels a year—equivalent to roughly 9,100 L of oil (or 460 20-L jerry cans).
- The average client project will pay for itself through energy savings in less than four years.

#### **Community Government Building Energy Retrofit Program**

Provides building energy audits and project coordination to help community governments across the NWT better manage their energy use.

- Completed 15 desktop “yardstick” building energy audits in three communities.
- Completed 9 on-site “targeted” audits in one community.
- The targeted energy audits identified roughly \$69,000 in potential annual savings on energy bills and 73 tonnes of potential annual greenhouse gas savings.

#### **Energy Efficiency Incentive Program**

Provides rebates on energy-efficient appliances and other products.

- Provided 1,390 rebates.
- The Beaufort–Delta, Sahtú and Dehcho regions all outpaced the North Slave region in the total number of rebates—the first year the Dehcho region has surpassed the North Slave. This is largely because fewer items were eligible for rebates this year in communities that use hydroelectricity.
- Combined, the energy-efficient products purchased will save the NWT 240 tonnes of greenhouse gases annually—more than any other AEA program this year.

#### **Energy Rating Service Support Program**

Provides home energy evaluations and advice.

- Completed 130 home energy evaluations.
- Performed evaluations on 89 existing homes and 41 new homes.
- Combined, all recommended upgrades could save homeowners \$190,000 and 220 tonnes of greenhouse gas emissions a year.

#### **Alternative Energy Technologies Program**

Provides incentives for NWT residents, businesses and community-based organizations to adopt renewable and alternative energy systems, such as solar, wind, wood and more.

- Provided 19 rebates.
- The 19 systems that our clients installed are expected to save roughly 160 tonnes of greenhouse gases a year.
- The average system is expected to pay for itself in less than four years.





Nicolene shows off one of our light box displays at the Northern store in Fort Providence. These displays show the difference in energy consumption between incandescent and LED light bulbs.

### **Biomass Energy Program**

Provides northerners with accessible technical advice on existing or potential biomass projects.

- Hosted a biomass boiler operator training course for 19 participants from nine communities.
- Hosted the NWT Biomass Week conference with more than 300 participants and 35 presenters.
- Completed the installation of a pellet boiler for the Village of Fort Simpson as part of a multi-year project.

### **Electric Transportation Incentive Program**

Provides rebates for electric vehicles and charging stations.

- Provided 22 rebates on 19 vehicles and three charging stations.
- All combined, these rebates will save approximately 33 tonnes of greenhouse gases annually.
- The 19 vehicles rebated will save an estimated 14,000 litres of gasoline a year.

## **COMMUNITY ENGAGEMENT**

Community engagement—through all six AEA offices—allows the AEA to keep a close connection to communities throughout the NWT.

- Each office is involved in every program and project the AEA undertakes, and AEA staff attend trade shows, events and other community engagement activities in every NWT community.

## **SPECIAL PROJECTS**

### **Cold-Climate Air-Source Heat Pumps**

Completed field monitoring of two mini-split cold-climate air-source heat pumps in Yellowknife to evaluate their performance, energy efficiency, and GHG reduction potential. Began a second phase of the project to test central-split heat pumps that tie into existing furnace systems.

### **Community Energy Planning**

Supported the Community Government of Whati and Town of Inuvik in developing community energy plans. Helped the Hamlet of Ulukhaktok implement part of their existing energy plan by assisting with a funding application for a proposed wind energy project.

### **Community Energy Profiles**

Produced updated profiles for 17 NWT communities, using data from 2023, to help communities understand their energy use and opportunities for saving energy and money, reducing their environmental footprints and making their communities more sustainable.



### **Energy Word Book**

Worked with local partners to hold energy terminology workshops with experts in the Tłıchǫ and Gwich'in languages, then used the resulting information to produce energy word books and flash cards with the goal of increasing energy literacy in Indigenous communities—specifically in their own languages.

### **EV/Hybrid Potential in Non-Hydro Communities**

Concluded a study that attempted to determine the potential for electric vehicles to reduce costs and greenhouse gas emissions in communities that do not use hydroelectricity, compared to vehicles with internal combustion engines.

### **Firewood Access**

Hosted a Chainsaw Operator course, small-business seminar and Burn-it-Smart workshop in Norman Wells, and produced a supplemental booklet. The goal was to increase awareness of how to properly use high-efficiency wood stoves, increase firewood harvesting capacity and knowledge of running a firewood-related small business, and ultimately to help community members use their stoves more often.

### **Home Winterization Walk-Throughs**

Conducted a pilot in Yellowknife and performed walk-through evaluations of 25 homes in Norman Wells, with the goal of finding relatively simple and inexpensive ways to save energy. Helped install winterization materials and educated homeowners on installing other materials.

### **Results Communication**

Developed a new sub-section of the AEA website that provides “energy reports,” showing the savings in costs, electricity, fossil fuels and greenhouse gases from AEA-related energy projects in every community in the NWT.



*A homeowner applies window plastic as part of our Home Winterization Walk-Through pilot in Yellowknife.*

Budget<sup>4</sup>

| Source                                                                                  | Funding            | Expenses           |                  |
|-----------------------------------------------------------------------------------------|--------------------|--------------------|------------------|
|                                                                                         |                    | Operations         | Incentives       |
| <b>Government of the Northwest Territories (GNWT) base &amp; core program funding</b>   | <b>\$2,796,000</b> | <b>\$2,163,000</b> | <b>\$633,000</b> |
| Base funding for Regional Office Program, administrative staff, offices, etc.           | \$1,496,000        | \$1,425,000        | \$0              |
| Addressing Energy Poverty                                                               | \$200,000          | \$165,000          | \$7,000          |
| Alternative Energy Technologies Program                                                 | \$300,000          | \$43,000           | \$235,000        |
| Biomass Energy Program                                                                  | \$100,000          | \$100,000          | \$0              |
| Commercial Energy Conservation and Efficiency Program                                   | \$200,000          | \$54,000           | \$114,000        |
| Community Energy Planning                                                               | \$50,000           | \$50,000           | \$0              |
| Community Government Building Energy Retrofit Program                                   | \$0                | \$33,000           | \$0              |
| Electric Transportation Program                                                         | \$100,000          | \$14,000           | \$102,000        |
| Energy Efficiency Incentive Program                                                     | \$200,000          | \$42,000           | \$176,000        |
| Energy Rating Services Support Program                                                  | \$150,000          | \$237,000          | \$0              |
| <b>GNWT – Other</b>                                                                     | <b>\$71,000</b>    | <b>\$71,000</b>    | <b>\$0</b>       |
| Addressing Energy Poverty                                                               | \$61,000           | \$61,000           | \$0              |
| Biomass Energy Program                                                                  | \$10,000           | \$10,000           | \$0              |
| <b>Crown-Indigenous Relations and Northern Affairs Canada – Northern REACHE funding</b> | <b>\$370,000</b>   | <b>\$370,000</b>   | <b>\$0</b>       |
| Addressing Energy Poverty                                                               | \$41,000           | \$41,000           | \$0              |
| AEA Administration                                                                      | \$148,000          | \$148,000          | \$0              |
| Biomass Energy Program                                                                  | \$14,000           | \$14,000           | \$0              |
| Cold Climate Air-Source Heat Pump Project                                               | \$39,000           | \$39,000           | \$0              |
| Community Energy Planning                                                               | \$129,000          | \$129,000          | \$0              |
| <b>Membership dues</b>                                                                  | <b>\$228,000</b>   | <b>\$228,000</b>   | <b>\$0</b>       |
| Government of the Northwest Territories                                                 | \$150,000          | \$150,000          | \$0              |
| GNWT – Crown corporations                                                               | \$68,000           | \$68,000           | \$0              |
| Other members                                                                           | \$10,000           | \$10,000           | \$0              |
| <b>Other source income</b>                                                              | <b>\$109,000</b>   | <b>\$612,000</b>   | <b>\$0</b>       |
| <b>TOTAL</b>                                                                            | <b>\$3,574,000</b> | <b>\$3,443,000</b> | <b>\$633,000</b> |

<sup>4</sup> Numbers are rounded to the nearest thousand, and may not add up correctly due to rounding. Some programs were under or over budget, so in some cases funding was moved between programs for operations and incentives.

# Introduction

## About the Arctic Energy Alliance

The Arctic Energy Alliance (AEA) is a not-for-profit society, based in the Northwest Territories (NWT), that helps Northerners find ways to conserve energy, become more energy efficient, and adopt alternative and renewable sources of energy. These actions reduce the North's carbon footprint, while helping our clients save money in the process.

The AEA was formed in 1997 to consolidate the activities of several organizations with an interest in energy. The intent was to eliminate duplication and overlap between the various departments and agencies, provide a single point of contact for the public, and allow for a more coordinated approach to public education and the delivery of energy conservation services.

Over the past 28 years, the scope of our work has grown substantially. Today, we help residents, businesses, non-profit organizations, community governments and Indigenous governments throughout the NWT to lower energy costs, improve building efficiencies and comfort, reduce greenhouse gas emissions, and more. We have become the leading northern organization in bringing together communities, consumers, producers, regulators and policymakers to reduce the cost and environmental impacts of energy use in the NWT.

In fact, bringing people together is critical to how we operate. Forming partnerships is at the core of our work—whether establishing official community partnerships on an individual project, or building and strengthening relationships with vendors, contractors and clients across the territory every day.



*Participants at a Chainsaw Operator course in Norman Wells learn how to maintain chainsaws as part of our Firewood Access project.*

With our main office in Yellowknife and five regional offices throughout the Northwest Territories, our team of 19 dedicated staff members reaches every community in the NWT.

Thanks to generous funding from the Government of the Northwest Territories, we offer a suite of core programs focused on energy efficiency and conservation, building evaluations, and alternative and renewable energy sources. We also conduct a broad range of shorter-term energy-related special projects devised by AEA staff.

This report highlights our programs and projects from the 2024/25 fiscal year—including their results—so readers can see the positive impacts we have made.

# Charting our course

## An overview of our strategic plan

*The Arctic Energy Alliance's strategic plan shapes where we want to go and what we want to achieve as an organization. It defines everything we do. Understanding the core of our strategic plan—our vision, mission, goals, objectives and values—will provide context on the programs and projects we do and the results we achieve.*

In early 2024, the AEA adopted a new five-year strategic plan, which is summarized below.

### Our vision: our ultimate goal

Through its activities, the AEA seeks to realize a vision in which:

The NWT transforms its energy systems and practices to achieve a sustainable future

### Our mission: why we exist

The AEA is responsible:

To lead and facilitate the integration of efficient, renewable and sustainable energy practices in the NWT

### Our goals: what we will achieve

1. The NWT will achieve a sustainable energy future by reducing the cost and environmental impacts of its energy systems and practices.
2. Support the NWT's transition towards secure, affordable and sustainable energy systems.
3. Improve the AEA's organizational capacity and prepare for the future.

### Our objectives: how we will achieve our goals

Each objective is tied to a specific goal, which is reflected in the numbering.

- 1.1. Promote and provide inclusive, quality and evidence-based education about energy use and the transition to a sustainable future.
- 1.2. Motivate and support NWT clients and communities to use efficient, sustainable energy practices.
- 1.3. Offer programs and services that are accessible and meet the needs of NWT clients and communities.
- 2.1. Provide advice and support on best practices for regional/community energy planning.
- 2.2. Help increase Indigenous and local participation in clean energy projects, build local capacity and increase community ownership and economic benefits.
- 2.3. Provide support for the NWT to adopt suitable new technologies.
- 3.1. Strengthen its regional presence.
- 3.2. Improve staff attraction and retention.
- 3.3. Look ahead and prepare for the future.

## Our values: how we operate

### *Mutual respect*

We celebrate diversity and show genuine respect for each other, our clients, our partners and our communities. We treat everyone with understanding and appreciation through fairness, equality and healthy dialogue. We listen carefully to what people say, remain open to all suggestions and questions and respect others' point of view.

### *Service and partnership*

We believe it is important to work together. We view all clients and communities as equal and valued partners and are dedicated to ensuring they get top-quality service.

### *Learning*

We respect traditional and scientific knowledge and are committed to continuous improvement and innovation. We build on good ideas, learn from our experiences and challenge ourselves and the status quo.

### *Results*

We are results-oriented. We focus our resources to achieve our objectives.

### *Honesty and integrity*

We say what we believe and we lead by example.

### *Positive work environment*

We take pride in our professional work ethic, our "can-do" attitude and our inclusive and flexible work environment. We recognize a job well-done.

### *High-quality work*

We are dedicated to detail. We strive to provide top-quality and unbiased advice, based on solid, evidence-based research. We review each other's work to make sure we get things right.



Plenty of people stopped by our table at the Yellowknife Farmers Market to try our "Energy Pyramid" game.



## Core programs

*A significant amount of the work we do is tied to eight core programs that are directly funded by the Government of the Northwest Territories (GNWT) Department of Infrastructure.*

These programs provide a range of services and support to residents, businesses, community governments, Indigenous governments and non-profit organizations throughout the territory.

The eight programs can be grouped into three categories: energy efficiency and conservation, renewable and alternative energy, and regional offices.

### Energy efficiency and conservation programs

Reducing energy use and increasing energy efficiency are the easiest and most cost-effective ways to reduce greenhouse gas emissions and lower energy bills. This is why the AEA has four programs geared toward energy efficiency and conservation across the Northwest Territories.

**FOR**  
businesses

**AEA FUNDING**  
\$200,000 (from GNWT  
Department of Infrastructure)

### Commercial Energy Conservation and Efficiency Program

The Commercial Energy Conservation and Efficiency Program provides rebates to NWT businesses that make upgrades to conserve energy and improve their energy efficiency. The program is open to businesses both on-grid and off-grid.

Through this program, the AEA also offers businesses building energy audits and free advice to find the greatest savings in energy, greenhouse gases and money. If a business wants to investigate potential savings before taking on a project, the first step is to conduct a desktop “yardstick” audit, which analyzes utility bill data. Next would be an on-site “targeted” audit, in which an AEA Energy Management Specialist will evaluate a building in person.

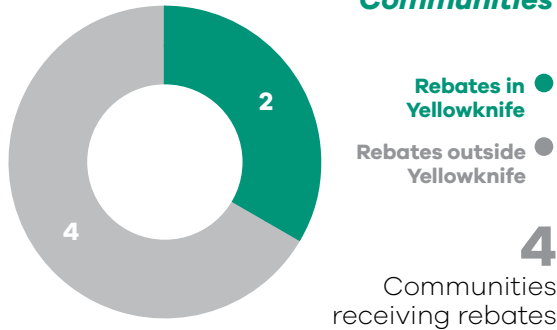
### Results

**Audits**  
Building energy audits completed:

**1** yardstick audit

### Completed projects

Total rebates: **6**  
 Total value of rebates: **\$110,000**  
 Average rebate: **\$19,000**



### Payback

Capital cost (all projects, before rebates):  
**\$370,000**  
 Estimated annual savings (all projects):  
**\$70,000**  
 Simple payback (all projects, after rebates):  
**3.7 years**

### Greenhouse gases

Annual greenhouse gases avoided:  
**25 tonnes**  
*(equivalent to the greenhouse gases emitted by driving a passenger car 93,000 km)*  
**\$230**  
 Rebate cost per lifetime<sup>5</sup> tonne reduced

### Energy savings

Annual electricity consumption avoided:  
**15,000 kWh**

*(equivalent to approximately five percent of the electricity consumed each year in the community of Jean Marie River)*

**\$0.39** Rebate cost per lifetime kWh avoided

**4 kW** Power demand avoided  
*(equivalent to running three dishwashers at the same time)*

**350 GJ** Annual fossil fuel consumption avoided (oil and propane)  
*(equivalent to 9,100 L of heating oil [460 20-L jerry cans], or 10,000 L of gasoline [520 20-L jerry cans])*

### Why does fossil fuel consumption increase in some communities?

Many businesses are converting their lighting to LEDs. LED lights use less electricity than other forms of lighting, but also produce less heat. This means that when the lighting in a building is converted to LEDs, the heating system will have to do a little more work to make up the difference. The situation can be similar for some other electricity-saving technologies such as lighting controls or ECM pumps.

The money saved by using less electricity for lighting is often greater than the extra spent on heating fuel. One of our business clients completed lighting retrofits this year and is expected to save an estimated \$4,200 a year, even after taking additional heating fuel into account.

This business is located in a community that uses hydroelectricity, which does not produce greenhouse gases. Using less hydroelectricity and burning more heating fuel means that greenhouse gas emissions increase slightly. On the other hand, our clients in communities that produce electricity by burning fuel such as diesel, natural gas or propane can sometimes both save money and reduce their overall greenhouse gas emissions.

The AEA promotes energy efficiency, regardless of the energy source, due to the many benefits of energy efficient practices.

<sup>5</sup> Assuming a lifetime of 20 years for all upgrades.



**Greenhouse gas and energy savings by community**

| Community    | No. of rebates | Annual GHGs avoided/increased (tonnes) | Rebate cost/lifetime tonne of GHGs reduced | Annual electricity consumption avoided/increased (kWh) | Rebate cost/lifetime kWh avoided | Power demand avoided/increased (kW) | Annual fossil fuel consumption avoided/increased (GJ) |
|--------------|----------------|----------------------------------------|--------------------------------------------|--------------------------------------------------------|----------------------------------|-------------------------------------|-------------------------------------------------------|
| Fort Smith*  | 1              | ↓ 1                                    | \$370                                      | 0                                                      | N/A                              | 0                                   | ↓ 11                                                  |
| Hay River*   | 2              | ↓ 1                                    | \$460                                      | ↓ 15,000                                               | \$0.03                           | ↓ 4                                 | ↓ 8                                                   |
| Sahtú Remote | 1              | ↓ 15                                   | \$150                                      | 0                                                      | N/A                              | 0                                   | ↓ 210                                                 |
| Yellowknife* | 2              | ↓ 8                                    | \$330                                      | 0                                                      | N/A                              | 0                                   | ↓ 120                                                 |

\* Hydro community

**Greenhouse gas and energy savings by region**

| Region      | No. of rebates | Annual GHGs avoided/increased (tonnes) | Rebate cost/lifetime tonne of GHGs reduced | Annual electricity consumption avoided/increased (kWh) | Rebate cost/lifetime kWh avoided | Power demand avoided/increased (kW) | Annual fossil fuel consumption avoided/increased (GJ) |
|-------------|----------------|----------------------------------------|--------------------------------------------|--------------------------------------------------------|----------------------------------|-------------------------------------|-------------------------------------------------------|
| North Slave | 2              | ↓ 8                                    | \$330                                      | 0                                                      | N/A                              | 0                                   | ↓ 120                                                 |
| Sahtú       | 1              | ↓ 15                                   | \$150                                      | 0                                                      | N/A                              | 0                                   | ↓ 210                                                 |
| South Slave | 3              | ↓ 2                                    | \$420                                      | ↓ 15,000                                               | \$0.05                           | ↓ 4                                 | ↓ 19                                                  |

**Greenhouse gas and energy savings by hydro vs. non-hydro communities**

| Community type | No. of rebates | Annual GHGs avoided/increased (tonnes) | Rebate cost/lifetime tonne of GHGs reduced | Annual electricity consumption avoided/increased (kWh) | Rebate cost/lifetime kWh avoided | Power demand avoided/increased (kW) | Annual fossil fuel consumption avoided/increased (GJ) |
|----------------|----------------|----------------------------------------|--------------------------------------------|--------------------------------------------------------|----------------------------------|-------------------------------------|-------------------------------------------------------|
| Hydro          | 5              | ↓ 10                                   | \$350                                      | ↓ 15,000                                               | \$0.24                           | ↓ 4                                 | ↓ 100                                                 |
| Non-hydro      | 1              | ↓ 15                                   | \$150                                      | 0                                                      | N/A                              | 0                                   | ↓ 210                                                 |

## Community Government Building Energy Retrofit Program

Through the Community Government Building Energy Retrofit Program, the Arctic Energy Alliance supports community governments across the NWT to better manage their energy use and save money in the process.

The first step is to conduct a “yardstick” energy audit of community government buildings, which looks at utility bill data. Next is a “targeted” energy audit, in which an AEA Energy Management Specialist will evaluate a building in person. Both audits are subsidized by the AEA. They identify ways to save electricity, heating fuel, water, greenhouse gas emissions and money. From there, we help the community government make the recommended changes, including offering project coordination services for a fee. In past years, we also offered rebates through this program for community governments that made energy-efficiency-related upgrades to their buildings, but funding was not available for rebates this year.

**FOR**  
community governments

### AEA FUNDING

allocated from \$1,500,000  
base funding (from GNWT  
Department of Infrastructure)

## Results

### Audits

#### Building energy audits completed:

**15** yardstick audits (in 3 communities)

**9** targeted audits (in 1 community)

*The targeted energy audits identified roughly \$69,000 in potential annual savings on energy bills and 73 tonnes of potential annual greenhouse gas savings.*

### Progress to date

Since the AEA's targeted work with community governments began in the 2015/16 fiscal year...

- 29 of the 33 community governments in the NWT have had targeted energy audits done by the AEA on most or all of their buildings.
- All of the community governments in the Tłı̄ch̄ territory and the Dehcho region have had audits completed.
- 21 NWT community governments have accessed or applied for funding to implement their energy management opportunities, which were recommended by the AEA as a result of their targeted energy audits. Most have accessed funding for more than one building or project in more than one year.
- 16 community governments have used the AEA's project coordination services to help them complete their projects.
- 61 percent of the community governments that have had targeted energy audits completed by the AEA have received a rebate and/or project coordination services from us to implement some of the audit recommendations.

### The importance of project coordination

One of the services that the AEA offers through its Community Government Building Energy Retrofit Program is project coordination. It's an important facet of the program. Community governments have limited resources, especially in the smaller communities, and administrative staff can be pulled in many directions at once. Taking on a building energy retrofit can be a big job; if community government staff were to handle project coordination duties, it could add to an already substantial workload.

That's why the AEA offers this service. We can help our clients determine which energy upgrades to make, determine the technical specifications, issue requests for proposals, select contractors, draft contracts and ensure the work is being done according to specifications.

More than anything, this offers our clients peace of mind, as evidenced by the fact that 16 of the 26 community governments that have benefitted from this program have also used our project coordination service. And considering we offer a \$3,750 subsidy, it's easy to take advantage.

Helping people save energy and money isn't always as simple as providing a rebate. Without effective project coordination in place, many of these projects couldn't happen. We're happy we can offer our clients a way to make those projects a reality.

## Energy Efficiency Incentive Program

The Energy Efficiency Incentive Program provides rebates on the purchase of new, energy-efficient appliances and other products, with the goal of reducing energy costs and greenhouse gas emissions by conserving or reducing energy use.

### FOR

residents, businesses,  
community governments,  
Indigenous governments,  
non-profit organizations

### AEA FUNDING

\$200,000 (from GNWT  
Department of Infrastructure)

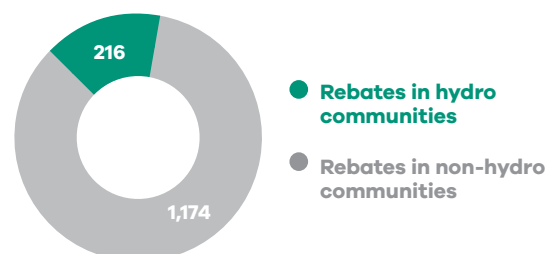
## Results

Total rebates: **1,390**

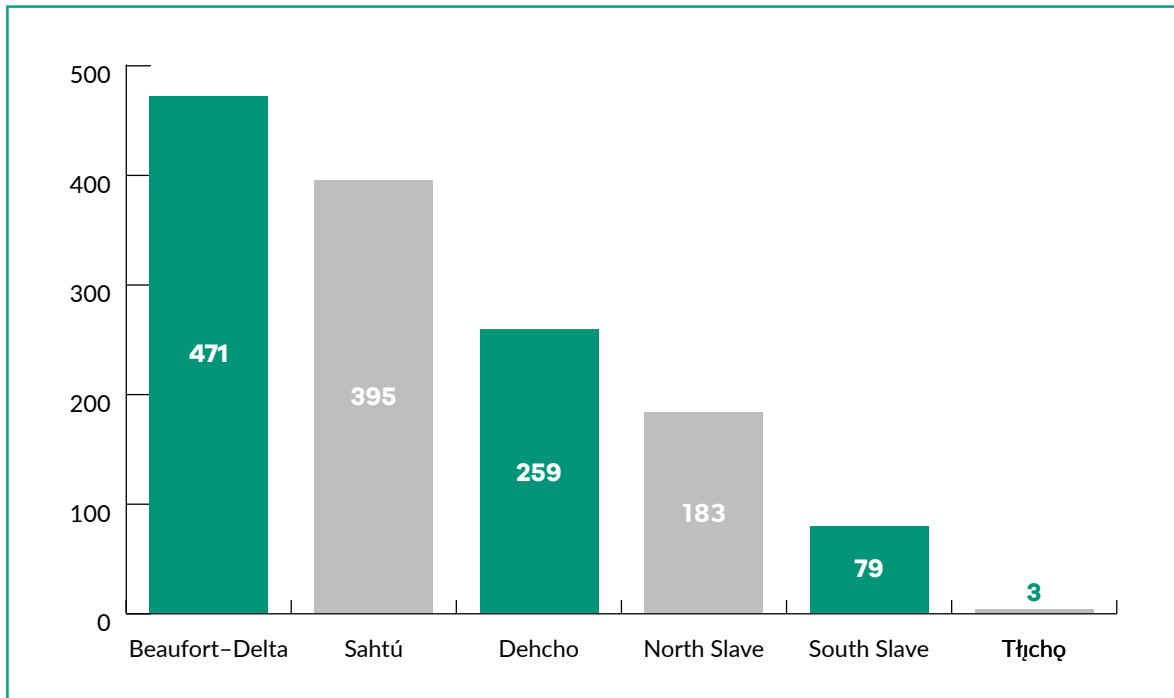
Total value of rebates: **\$190,000**

Average rebate: **\$130**

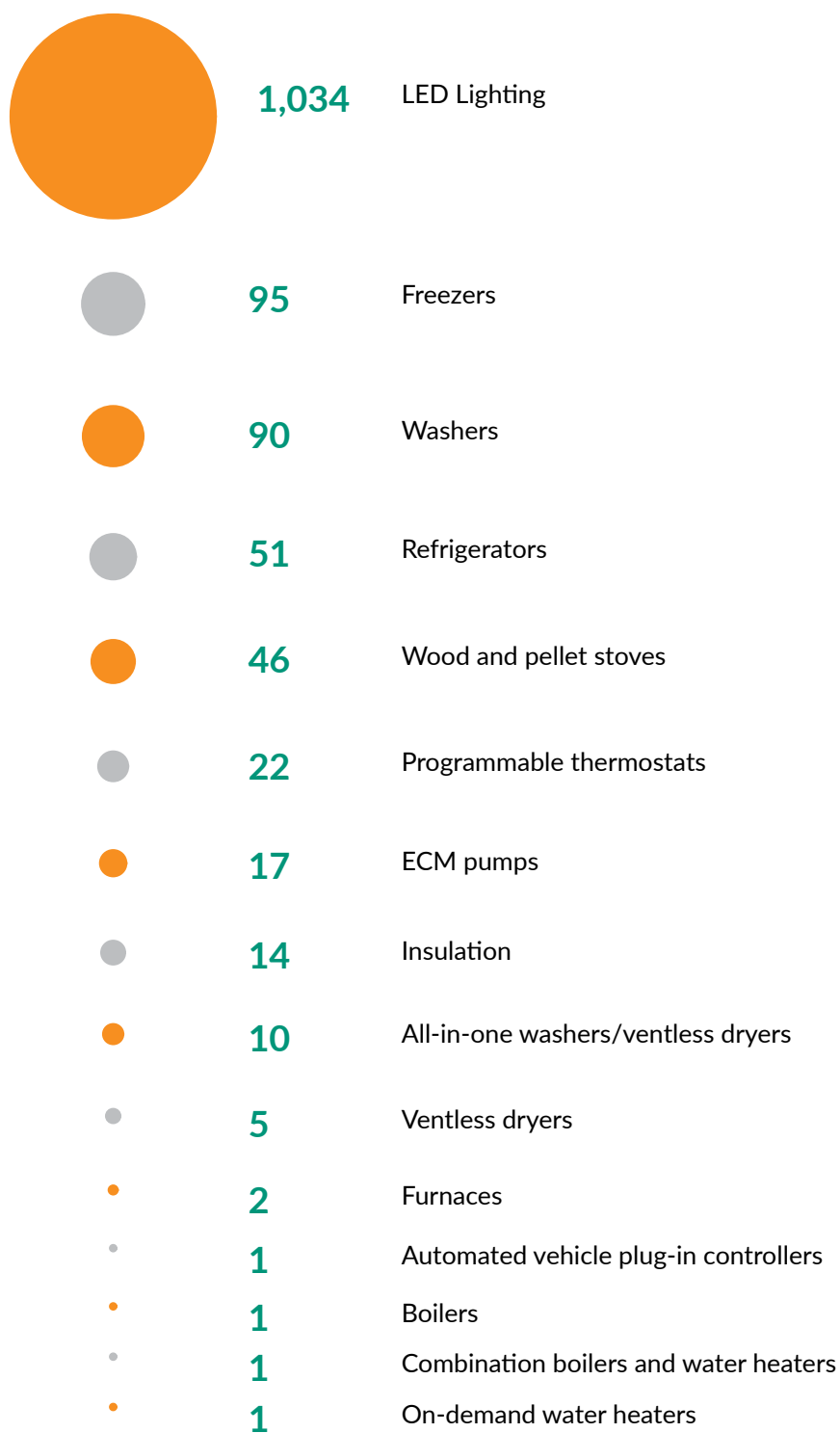
### Rebates by region<sup>6</sup>



<sup>6</sup> Hydro communities are those communities that typically receive most of their electricity from hydroelectric generators. This includes Behchokò, Dettah, Enterprise, Fort Resolution, Fort Smith, Hay River, Kát'odeeche, Ndilo and Yellowknife. All other communities in the NWT are "non-hydro," which receive most of their electricity from generators that burn fossil fuels.



Kevin and Taylor set up a booth at the NorthMart in Inuvik to talk to shoppers about saving energy.

*Rebates by type*

### Payback

Capital cost *(all products, before rebates):*

**\$670,000**

Estimated annual savings *(all products):*

**\$110,000**

Simple payback *(all products, after rebates):*

**4.3 years**

### Greenhouse gases

Annual greenhouse gases avoided:

**240 tonnes**

*(equivalent to the greenhouse gases emitted by driving a passenger car 890,000 km)*

Rebate cost per lifetime<sup>7</sup>  
tonne reduced:

**\$52**

### Energy savings

Annual electricity consumption avoided:

**260,000 kWh**

*(equivalent to approximately 82 percent of the electricity consumed each year in the community of Jean Marie River)*

Rebate cost per lifetime kWh avoided:

**\$0.06**

**1,900 GJ** Annual fossil fuel  
consumption avoided (oil and propane)

*(equivalent to 51,000 L of heating oil [2,500 20-L jerry cans],  
or 58,000 L of gasoline [2,900 20-L jerry cans])*

### Why are rebates in hydro communities so low?

You may have noticed that the number of rebates given out in hydro communities this year under the Energy Efficiency Incentive Program is quite low compared to non-hydro communities.

Many of the largest communities in the NWT use hydroelectricity—most notably, Yellowknife. In the past, communities that use hydroelectricity tended to receive more rebates, mainly because of their larger population. But over the past few years, non-hydro communities have seen more rebates than hydro communities. This is largely due to our partnership with the North West Company, which allows people to get instant rebates at the checkout on select items at Northern and NorthMart stores in non-hydro communities. LED light bulbs account for most of these rebates.

This year, the proportion of rebates in hydro communities is even lower than it has been in recent years. Some changes related to our agreements with our funders meant that we had to remove some things from the list of items eligible for rebates so we could focus more on incentivizing reductions in greenhouse gas emissions. Early in the fiscal year, we removed items that burn fossil fuels: furnaces, boilers and water heaters. We also removed LED light bulbs for hydro communities only.

Removing fossil fuel-based appliances reduced our total number of rebates across all communities. These items are especially popular in larger communities, such as many of those that use hydroelectricity. And limiting rebates on LED bulbs to non-hydro communities obviously reduced the number of rebates we gave out in communities that use hydro.

Although the number of rebates in hydro communities has gone down, we've seen that people in these communities are eager to choose energy-efficient heating appliances and lighting options, so we are confident that they will continue to make energy-wise choices even without rebates in place.

<sup>7</sup> The assumed lifetime of each product type under the Energy Efficiency Incentive Program varies. Lifetime data presented for this program is an average of the assumed lifetimes of all products rebated in the fiscal year.



## Greenhouse gas and energy savings by community

| Community          | No. of rebates | Annual GHGs avoided/increased (tonnes) | Rebate cost/lifetime tonne of GHGs reduced | Annual electricity consumption avoided/increased (kWh) | Rebate cost/lifetime kWh avoided | Annual fossil fuel consumption avoided/increased (GJ) |
|--------------------|----------------|----------------------------------------|--------------------------------------------|--------------------------------------------------------|----------------------------------|-------------------------------------------------------|
| Aklavik            | 67             | ↓ 4                                    | \$46                                       | ↓ 7,300                                                | \$0.03                           | ↑ 22                                                  |
| Behchokò*          | 3              | 0                                      | -\$120                                     | ↑ 4                                                    | \$0.01                           | ↑ 5                                                   |
| Délįę              | 47             | ↓ 4                                    | \$43                                       | ↓ 6,200                                                | \$0.03                           | ↑ 15                                                  |
| Fort Good Hope     | 80             | ↓ 5                                    | \$52                                       | ↓ 8,300                                                | \$0.03                           | ↑ 25                                                  |
| Fort Liard         | 56             | ↓ 2                                    | \$9                                        | ↓ 4,500                                                | \$0.00                           | ↑ 13                                                  |
| Fort McPherson     | 57             | ↓ 16                                   | \$63                                       | ↓ 7,700                                                | N/A                              | ↓ 140                                                 |
| Fort Providence    | 48             | ↓ 3                                    | \$36                                       | ↓ 5,000                                                | \$0.01                           | ↑ 15                                                  |
| Fort Simpson       | 203            | ↓ 26                                   | \$29                                       | ↓ 21,000                                               | \$0.06                           | ↓ 160                                                 |
| Fort Smith*        | 8              | ↓ 3                                    | \$100                                      | ↓ 3,700                                                | \$0.06                           | ↓ 37                                                  |
| Hay River*         | 23             | ↓ 28                                   | \$41                                       | ↓ 5,100                                                | \$0.29                           | ↓ 410                                                 |
| Inuvik             | 208            | ↓ 18                                   | \$54                                       | ↓ 28,000                                               | \$0.04                           | ↑ 31                                                  |
| Norman Wells       | 141            | ↓ 12                                   | \$36                                       | ↓ 17,000                                               | \$0.03                           | ↓ 7                                                   |
| North Slave Remote | 1              | ↓ 3                                    | \$33                                       | 0                                                      | N/A                              | ↓ 37                                                  |
| Paulatuk           | 39             | ↓ 3                                    | \$79                                       | ↓ 4,100                                                | \$0.05                           | ↑ 12                                                  |
| Tsiigehtchic       | 14             | ↓ 2                                    | \$47                                       | ↓ 2,100                                                | \$0.04                           | ↑ 3                                                   |
| Tuktoyaktuk        | 52             | ↓ 8                                    | \$40                                       | ↓ 9,800                                                | \$0.03                           | ↑ 9                                                   |
| Tulita             | 127            | ↓ 8                                    | \$25                                       | ↓ 14,000                                               | \$0.02                           | ↑ 41                                                  |
| Ulukhaktok         | 34             | ↓ 3                                    | \$39                                       | ↓ 4,300                                                | \$0.03                           | ↑ 9                                                   |
| Yellowknife*       | 182            | ↓ 95                                   | \$61                                       | ↓ 110,000                                              | \$0.06                           | ↓ 1,400                                               |

\*Hydro community

### Greenhouse gas and energy savings by region

| Region         | No. of rebates | Annual GHGs avoided/increased (tonnes) | Rebate cost/lifetime tonne of GHGs reduced | Annual electricity consumption avoided/increased (kWh) | Rebate cost/lifetime kWh avoided | Annual fossil fuel consumption avoided/increased (GJ) |
|----------------|----------------|----------------------------------------|--------------------------------------------|--------------------------------------------------------|----------------------------------|-------------------------------------------------------|
| Beaufort-Delta | 471            | ↓ 52                                   | \$57                                       | ↓ 63,000                                               | \$0.07                           | ↓ 54                                                  |
| Dehcho         | 259            | ↓ 29                                   | \$28                                       | ↓ 25,000                                               | \$0.05                           | ↓ 140                                                 |
| North Slave    | 183            | ↓ 97                                   | \$60                                       | ↓ 110,000                                              | \$0.06                           | ↓ 1,400                                               |
| Sahtú          | 395            | ↓ 28                                   | \$37                                       | ↓ 46,000                                               | \$0.03                           | ↑ 75                                                  |
| South Slave    | 79             | ↓ 33                                   | \$44                                       | ↓ 14,000                                               | \$0.15                           | ↓ 430                                                 |
| Tłıchǫ         | 3              | 0                                      | -\$120                                     | ↓ 3,200                                                | \$0.01                           | ↑ 5                                                   |

### Greenhouse gas and energy savings by hydro vs. non-hydro communities

| Community type | No. of rebates | Annual GHGs avoided/increased (tonnes) | Rebate cost/lifetime tonne of GHGs reduced | Annual electricity consumption avoided/increased (kWh) | Rebate cost/lifetime kWh avoided | Annual fossil fuel consumption avoided/increased (GJ) |
|----------------|----------------|----------------------------------------|--------------------------------------------|--------------------------------------------------------|----------------------------------|-------------------------------------------------------|
| Hydro          | 216            | ↓ 120                                  | \$57                                       | ↓ 130,000                                              | \$0.07                           | ↓ 1,800                                               |
| Non-hydro      | 1,174          | ↓ 110                                  | \$45                                       | ↓ 140,000                                              | \$0.05                           | ↓ 150                                                 |



Nicolinea and Louise with Arlene and Marc Evans, the new owners of the Northern store in Fort Providence. We set up a pop-up booth at the store in March to speak with community members about energy efficiency and how the AEA can help.

## Energy Rating Services Support Program

The Energy Rating Services Support Program provides homeowners across the NWT with access to affordable home energy evaluations.

The AEA's registered energy advisors evaluate new and existing homes under licence with Natural Resources Canada (NRCAN). Using NRCAN's EnerGuide Rating System for homes, the AEA can provide a measure of a home's performance according to a national standard. An evaluation also provides a homeowner with a detailed list of potential upgrades to use less energy.

By helping homeowners determine potential upgrades, this program supports other AEA rebate programs, such as the Energy Efficiency Incentive Program and the Alternative Energy Technologies Program.

**FOR**  
residents

### AEA FUNDING

\$150,000 (from GNWT Department of Infrastructure) + fee for service

In addition to conducting home evaluations, the AEA provides free, unbiased home energy efficiency advice to NWT homeowners. We also develop working partnerships with contractors and builders to increase their knowledge of residential energy efficiency, and how to create a healthy balance between envelope air tightness and adequate ventilation.

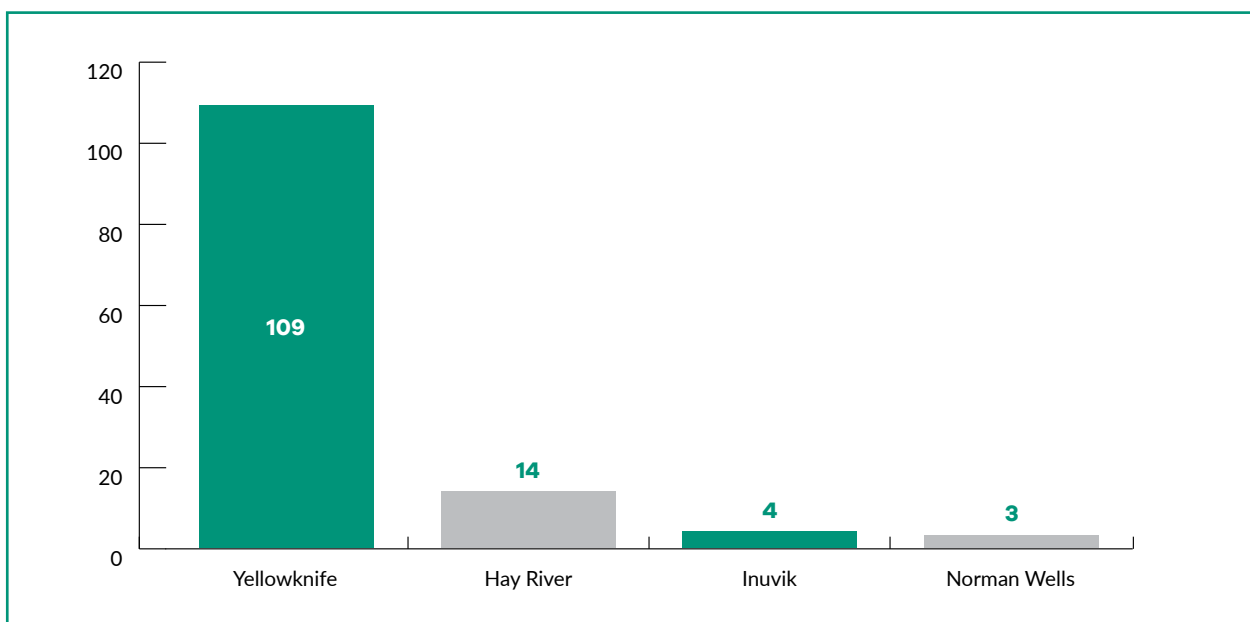
## Results

**89** Evaluations of existing homes

Evaluations of new homes: **41**

**130** Total evaluations

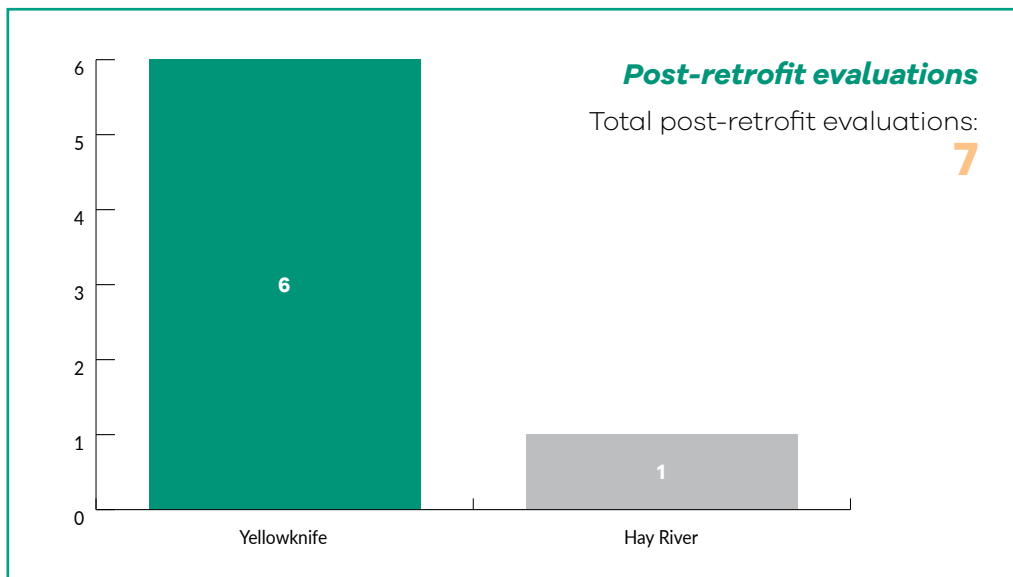
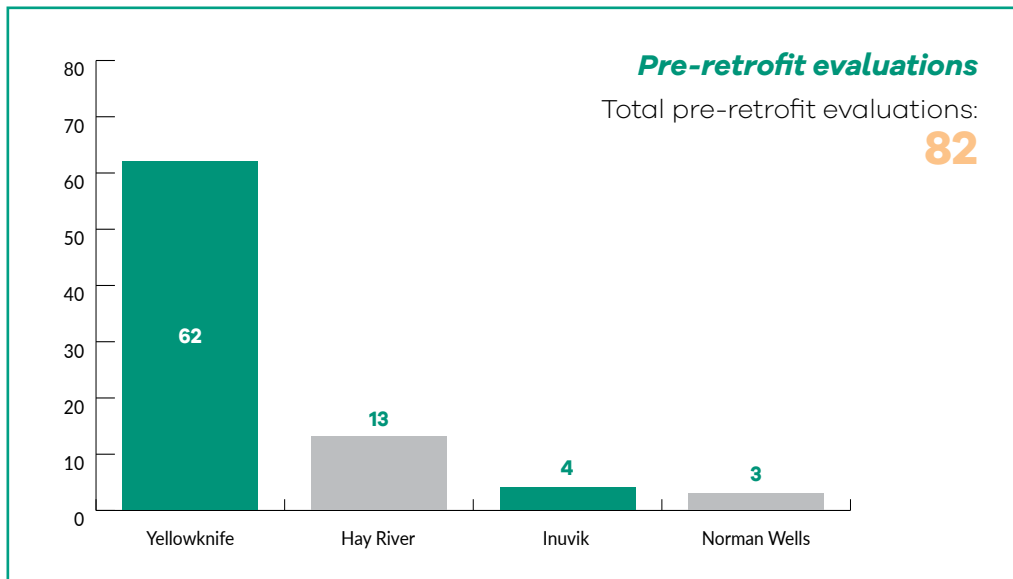
### Total evaluations by community



## EXISTING HOMES

For existing homes, the Arctic Energy Alliance provides two types of evaluations:

- Pre-retrofit: conducted before implementing energy-saving upgrades
- Post-retrofit: conducted after a homeowner implements recommended upgrades



## NEW HOMES

The AEA provides two types of evaluations for new home construction:

- **Blueprint:** conducted using building plans to calculate the expected energy use of a new home
- **New home final:** conducted when construction is complete

### Blueprint evaluations

**25**

Total blueprint evaluations

*All 25 blueprint evaluations were for homes in Yellowknife.*

### New home final evaluations

**16**

Total new home final evaluations

*All 16 new home final evaluations were in Yellowknife.*

### Payback<sup>8,9</sup>

**\$190,000**

Potential annual savings  
(all existing homes)

### Greenhouse gases<sup>9</sup>

**220 tonnes**

Potential annual greenhouse gases avoided

*(equivalent to the greenhouse gases emitted by driving a passenger car 830,000 km)*

### Energy savings<sup>9</sup>

**230,000 kWh**

Potential annual electricity  
consumption avoided

*(equivalent to approximately 70 percent of the electricity consumed each year in the community of Jean Marie River)*

**2,300 GJ**

Annual fossil fuel consumption  
avoided (oil and propane)

*(equivalent to 60,000 L of heating oil [3,000 20-L jerry cans], or 68,000 L of gasoline [3,400 20-L jerry cans])*

<sup>8</sup> Estimated capital costs are unknown, as the AEA does not ask for quotes on its recommended upgrades for homes.

<sup>9</sup> These numbers represent the estimated annual savings in money, greenhouse gases and energy that would result if all homeowners who had pre-retrofit evaluations done were to complete all of the AEA's recommended upgrades. Actual savings can be measured with a post-retrofit evaluation, but comparatively few homeowners choose to complete this process.

New home evaluations are not included in these numbers. Although new homes can be energy efficient, they cannot be considered to save energy unless they replace an older home.

### Potential greenhouse gas and energy savings by community

| Community    | Potential annual GHGs avoided/increased (tonnes) | Potential annual electricity consumption avoided/increased (kWh) | Potential annual fossil fuel consumption avoided/increased (GJ) |
|--------------|--------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------|
| Hay River*   | ↓ 28                                             | ↓ 10,000                                                         | ↓ 360                                                           |
| Inuvik       | ↓ 10                                             | ↓ 5,800                                                          | ↓ 80                                                            |
| Norman Wells | ↓ 14                                             | ↓ 17,000                                                         | ↓ 39                                                            |
| Yellowknife* | ↓ 170                                            | ↓ 190,000                                                        | ↓ 1,800                                                         |

\*Hydro community

### Potential greenhouse gas and energy savings by region

| Region         | Potential annual GHGs avoided/increased (tonnes) | Potential annual electricity consumption avoided/increased (kWh) | Potential annual fossil fuel consumption avoided/increased (GJ) |
|----------------|--------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------|
| Beaufort-Delta | ↓ 10                                             | ↓ 5,800                                                          | ↓ 80                                                            |
| North Slave    | ↓ 170                                            | ↓ 190,000                                                        | ↓ 1,800                                                         |
| Sahtú          | ↓ 14                                             | ↓ 17,000                                                         | ↓ 39                                                            |
| South Slave    | ↓ 28                                             | ↓ 10,000                                                         | ↓ 360                                                           |

### Potential greenhouse gas and energy savings by hydro vs. non-hydro communities

| Community type | Potential annual GHGs avoided/increased (tonnes) | Potential annual electricity consumption avoided/increased (kWh) | Potential annual fossil fuel consumption avoided/increased (GJ) |
|----------------|--------------------------------------------------|------------------------------------------------------------------|-----------------------------------------------------------------|
| Hydro          | ↓ 200                                            | ↓ 200,000                                                        | ↓ 2,200                                                         |
| Non-hydro      | ↓ 25                                             | ↓ 23,000                                                         | ↓ 120                                                           |

## Renewable and alternative energy programs

Replacing fossil fuels with renewable or alternative energy sources can greatly reduce greenhouse gas emissions. The Arctic Energy Alliance has three programs designed to help northerners adopt these technologies.

### Alternative Energy Technologies Program

The Alternative Energy Technologies Program provides incentives for northerners to adopt alternative energy systems, such as solar, wind, wood and more. The program is divided into three streams:

- For residents
- For businesses (including off-grid businesses)
- For community-based organizations (including community governments, non-profit organizations and Indigenous governments)

#### FOR

residents, businesses, community governments, Indigenous governments, non-profit organizations

#### AEA FUNDING

\$300,000 (from GNWT Department of Infrastructure)

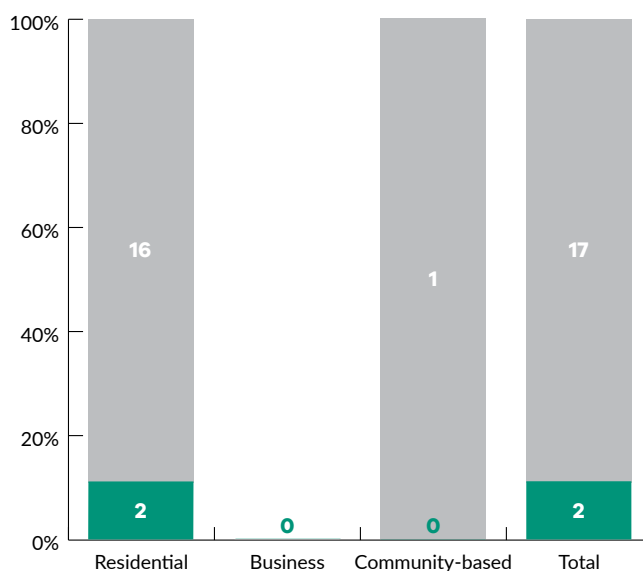
### Results

|                        | Residential | Business | Community-based | TOTAL     |
|------------------------|-------------|----------|-----------------|-----------|
| Total rebates          | 18          | 0        | 1               | 19        |
| Total value of rebates | \$190,000   | \$0      | \$50,000        | \$240,000 |
| Average rebate         | \$10,000    | \$0      | \$50,000        | \$12,000  |

### Project types

|          | Residential | Business | Community-based | TOTAL |
|----------|-------------|----------|-----------------|-------|
| Biomass  | 5           | 0        | 1               | 6     |
| Solar PV | 13          | 0        | 0               | 13    |

### Communities



● Rebates in Yellowknife

● Rebates outside Yellowknife



**Payback<sup>10</sup>**

|                                | Residential | Business | Community-based | TOTAL     |
|--------------------------------|-------------|----------|-----------------|-----------|
| Capital costs (before rebates) | \$420,000   | \$0      | \$120,000       | \$530,000 |
| Estimated annual savings       | \$49,000    | \$0      | \$35,000        | \$84,000  |
| Simple payback (after rebates) | 4.8 years   | N/A      | 1.9             | 3.6 years |

**Greenhouse gases**

|                                                      | Residential | Business | Community-based | TOTAL |
|------------------------------------------------------|-------------|----------|-----------------|-------|
| Annual greenhouse gases avoided (tonnes)             | 110         | 0        | 52              | 160   |
| Rebate cost per lifetime <sup>11</sup> tonne reduced | \$86        | N/A      | \$48            | \$74  |

**Energy savings**

|                                              | Residential | Business | Community-based | TOTAL  |
|----------------------------------------------|-------------|----------|-----------------|--------|
| Annual electricity avoided/produced (kWh)    | 33,000      | 0        | 0               | 33,000 |
| Rebate cost/lifetime kWh avoided/produced    | \$0.28      | N/A      | N/A             | \$0.35 |
| Power demand avoided (kW)                    | 33          | 0        | 0               | 33     |
| Annual fossil fuel consumption avoided (GJ)* | 890         | 0        | 600             | 1,500  |

\*Does not include fuel savings from solar PV systems

<sup>10</sup> These figures are based on estimates used to pre-approve rebate applications, and may not accurately reflect the final systems as installed.

<sup>11</sup> Assuming a lifetime of 20 years for all projects.

### Combined greenhouse gas and energy savings by community

| Community          | No. of rebates | Annual GHGs avoided (tonnes) | Rebate cost/ lifetime tonne of GHGs reduced | Annual electricity consumption avoided/ produced (kWh) | Rebate cost/ lifetime kWh avoided/ produced | Power demand avoided (kW) | Annual fossil fuel consumption avoided (GJ) <sup>†</sup> |
|--------------------|----------------|------------------------------|---------------------------------------------|--------------------------------------------------------|---------------------------------------------|---------------------------|----------------------------------------------------------|
| Dehcho Remote      | 2              | 7                            | \$150                                       | 5,600                                                  | \$0.20                                      | 6                         | 0                                                        |
| Fort Simpson       | 1              | 52                           | \$48                                        | 0                                                      | N/A                                         | 0                         | 600                                                      |
| Hay River*         | 2              | 22                           | \$90                                        | 0                                                      | N/A                                         | 0                         | 400                                                      |
| Inuvik             | 1              | 10                           | \$15                                        | 0                                                      | N/A                                         | 0                         | 140                                                      |
| North Slave Remote | 9              | 42                           | \$88                                        | 26,000                                                 | \$0.14                                      | 26                        | 0                                                        |
| Sahtú Remote       | 1              | 2                            | \$55                                        | 800                                                    | \$0.12                                      | 1                         | 0                                                        |
| South Slave Remote | 1              | 2                            | \$85                                        | 1,100                                                  | \$0.19                                      | 1                         | 0                                                        |
| Yellowknife*       | 2              | 23                           | \$89                                        | 0                                                      | N/A                                         | 0                         | 360                                                      |

\* Hydro community

<sup>†</sup> Does not include fuel savings from solar PV systems

### Combined greenhouse gas and energy savings by region

| Region         | No. of rebates | Annual GHGs avoided (tonnes) | Rebate cost/ lifetime tonne of GHGs reduced | Annual electricity consumption avoided/ produced (kWh) | Rebate cost/ lifetime kWh avoided/ produced | Power demand avoided (kW) | Annual fossil fuel consumption avoided (GJ) <sup>†</sup> |
|----------------|----------------|------------------------------|---------------------------------------------|--------------------------------------------------------|---------------------------------------------|---------------------------|----------------------------------------------------------|
| Beaufort-Delta | 1              | 10                           | \$15                                        | 0                                                      | N/A                                         | 0                         | 140                                                      |
| Dehcho         | 3              | 59                           | \$61                                        | 5,600                                                  | \$0.65                                      | 6                         | 600                                                      |
| North Slave    | 11             | 65                           | \$88                                        | 26,000                                                 | \$0.22                                      | 26                        | 360                                                      |
| Sahtú          | 1              | 2                            | \$55                                        | 800                                                    | \$0.12                                      | 1                         | 0                                                        |
| South Slave    | 3              | 25                           | \$90                                        | 1,100                                                  | \$2.00                                      | 1                         | 400                                                      |

<sup>†</sup> Does not include fuel savings from solar PV systems

### Combined greenhouse gas and energy savings by hydro vs. non-hydro communities

| Community type | No. of rebates | Annual GHGs avoided (tonnes) | Rebate cost/ lifetime tonne of GHGs reduced | Annual electricity consumption avoided/ produced (kWh) | Rebate cost/ lifetime kWh avoided/ produced | Power demand avoided (kW) | Annual fossil fuel consumption avoided (GJ) <sup>†</sup> |
|----------------|----------------|------------------------------|---------------------------------------------|--------------------------------------------------------|---------------------------------------------|---------------------------|----------------------------------------------------------|
| Hydro          | 4              | 45                           | \$90                                        | 0                                                      | N/A                                         | 0                         | 750                                                      |
| Non-hydro*     | 15             | 120                          | \$67                                        | 33,000                                                 | \$0.23                                      | 33                        | 740                                                      |

\* Includes off-grid locations near hydro communities.

<sup>†</sup> Does not include fuel savings from solar PV systems

## Biomass Energy Program

Through the Biomass Energy Program, the Arctic Energy Alliance provides northerners with accessible technical advice, project coordination, and education on existing or potential biomass projects. AEA staff also help clients by facilitating the development of partnerships with potential contractors and funders for projects.

There are several ways to use biomass energy, such as biomass heating (for example, a wood-pellet furnace or boiler), co-generation (heat and electricity from the same system) and district heating (using one heat source for several buildings).

In the 2024/25 fiscal year, the AEA continued our ongoing work by reviving our biomass boiler operator training course, hosting the NWT Biomass Week conference, facilitating the installation of pellet boilers for organizations and completing a pre-feasibility analysis. The Biomass Energy Program remains dedicated to promoting biomass heating technologies across the NWT, aiming to reduce greenhouse gas emissions and reliance on fossil fuels.

### FOR

residents, businesses,  
community governments,  
Indigenous governments,  
non-profit organizations

### AEA FUNDING

\$120,000 (from GNWT Department of  
Infrastructure and Government of Canada)

### BIOMASS BOILER OPERATOR TRAINING

There are several biomass boilers throughout the NWT. These boilers need regular maintenance, but the people tasked with maintaining them aren't always able to get all the training they need to keep their systems in good condition.

To address this gap, we decided to revive our biomass boiler operator training course, thanks to funding from Crown-Indigenous Relations and Northern Affairs Canada's Northern REACHE program, and partnerships with the GNWT departments of Infrastructure and Municipal and Community Affairs, Housing NWT and the Northwest Territories Association of Communities. Nineteen participants from nine communities attended a two-day training session in Yellowknife that combined classroom instruction with hands-on field experience.

### NWT BIOMASS WEEK CONFERENCE

For the past few years, we have hosted the Northwest Territories Biomass Week conference in partnership with the Wood Pellet Association of Canada and *Canadian Biomass Magazine*. This year's conference was again a virtual event and drew more than 300 participants and 35 presenters. The event aimed to explore the evolving role of biomass in Canada's North, engaging various stakeholders, including pellet producers, equipment manufacturers, installers, regulators, researchers, academia, and government representatives. The sessions during the conference covered topics such as biomass applications, district heating, forest health, and innovation. These sessions reinforced the potential for biomass as a sustainable energy source for the NWT.

### PELLET BOILER INSTALLATION PROJECTS

Since the 2021/22 fiscal year, we have been doing pellet boiler installation projects under the Biomass Energy Program to help organizations install new wood pellet boilers, with a focus on systems producing 100 kW or less. These projects can span more than one year, and the AEA helps with yardstick audits, prefeasibility analysis and project coordination. Whenever possible, we also provide rebates for completed systems.

We started a new iteration of the project in the 2023/24 fiscal year. At the time, we identified three potential locations for systems through an expression-of-interest process. One of those systems was completed this year: a boiler on the Village of Fort Simpson's water treatment plant. There is also potential that a second system could be installed in the coming fiscal year. The completed system is expected to save the Village roughly \$16,000 and 52 tonnes of greenhouse gas emissions a year.

## PRE-FEASIBILITY ANALYSIS

We completed a pre-feasibility analysis for a commercial system in Hay River.



*Participants in our biomass boiler operator training course check out a large boiler that heats the Łiwegòatì Building in Yellowknife.*

## Electric Transportation Incentive Program

The Electric Transportation Incentive Program provides rebates to reduce the cost of purchasing and using an electric vehicle (EV) in the NWT. Rebates were available on battery-electric vehicles (BEVs), plug-in hybrid vehicles (PHEVs) and Level 2 charging stations for homes.

Switching to electric transportation can help consumers reduce the amount of greenhouse gas emissions released to the atmosphere from vehicles that use fossil fuels.

Rebates on EVs and charging stations are only available to clients in communities that use hydroelectricity.

Due to funding limitations, rebates were only available for part of the year.

### FOR

residents, businesses,  
community governments,  
Indigenous governments,  
non-profit organizations

### AEA FUNDING

\$100,000 (from GNWT  
Department of Infrastructure)

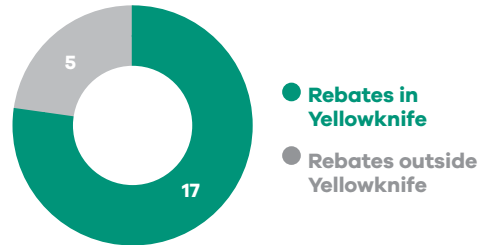
## Results

**22** Total rebates

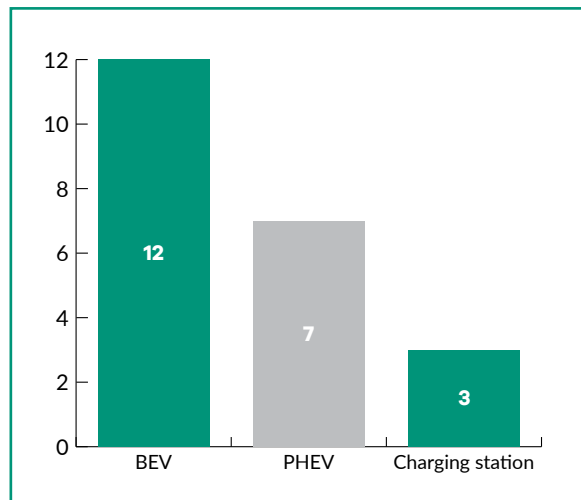
Total value of rebates: **\$97,000**

**\$4,400** Average rebate

### Communities



### Rebates by type



### Payback

Capital cost (all products, before rebates):

**\$1,100,000**

Estimated annual savings (all products):

**\$8,600**

**Greenhouse gases****33 tonnes**

Annual greenhouse gases avoided  
*(equivalent to the greenhouse gases emitted by driving a passenger car 120,000 km)*

**\$230**

Rebate cost per lifetime<sup>12</sup>  
 tonne reduced

**Energy savings****41,000 kWh**

Annual electricity consumption increased  
*(equivalent to 13 percent of the electricity consumed each year in the community of Jean Marie River)*

Rebate cost per lifetime kWh avoided:<sup>13</sup>

**-\$0.18****460 GJ**

Annual fossil fuel  
 consumption avoided (gasoline)

*(equivalent to 14,000 L of gasoline [680 20-L jerry cans])*

**Greenhouse gas and energy savings by community**

| Community   | No. of rebates | Annual GHGs avoided (tonnes) | Rebate cost/ lifetime tonne of GHGs reduced | Annual electricity consumption increased (kWh) | Rebate cost/ lifetime kWh avoided | Annual fossil fuel consumption avoided (GJ) |
|-------------|----------------|------------------------------|---------------------------------------------|------------------------------------------------|-----------------------------------|---------------------------------------------|
| Fort Smith  | 2              | 2                            | \$220                                       | 2,400                                          | -\$0.18                           | 27                                          |
| Hay River   | 3              | 3                            | \$250                                       | 4,200                                          | -\$0.19                           | 47                                          |
| Yellowknife | 17             | 28                           | \$230                                       | 34,000                                         | -\$0.18                           | 390                                         |

**Greenhouse gas and energy savings by region**

| Region      | No. of rebates | Annual GHGs avoided (tonnes) | Rebate cost/ lifetime tonne of GHGs reduced | Annual electricity consumption increased (kWh) | Rebate cost/ lifetime kWh avoided | Annual fossil fuel consumption avoided (GJ) |
|-------------|----------------|------------------------------|---------------------------------------------|------------------------------------------------|-----------------------------------|---------------------------------------------|
| North Slave | 17             | 28                           | \$230                                       | 34,000                                         | -\$0.18                           | 390                                         |
| South Slave | 5              | 5                            | \$240                                       | 6,500                                          | -\$0.19                           | 73                                          |

<sup>12</sup>Assuming a lifetime of 13 years for all vehicles and charging stations.

<sup>13</sup>In this case, the amount of electricity used every year will increase instead of decreasing. That is why we have chosen to style the rebate cost per lifetime kWh avoided as a negative number.

# Community engagement

*While the Arctic Energy Alliance is well known for its rebate and energy evaluation programs, community engagement is just as important. By engaging with community members, the AEA can provide education and advice, and promote and coordinate our programs across the NWT. When people are energy conscious, they are more likely to adopt efficient and renewable energy practices. Engagement is one of the main tools we use to foster that energy consciousness.*

## FOR

residents, businesses,  
community governments,  
Indigenous governments,  
non-profit organizations

## AEA FUNDING

allocated from \$1,500,000  
base funding (from GNWT  
Department of Infrastructure)

The AEA has offices in six communities across the NWT: Behchokò, Fort Simpson, Hay River, Inuvik, Norman Wells, and Yellowknife. These offices allow us to keep a closer connection to the communities throughout the territory. Who better to understand the needs of each region than the people who live there?

Each of the AEA's offices is involved in every program and project that we undertake, but also engage in their own work, unique to each region. In fact, we have a Regional Office Program to coordinate the work of our regional offices, and community engagement is a huge component.

One of the main ways we get involved in our communities is through trade shows, events and other community engagement activities. We partner with organizations throughout the NWT to help educate northerners on our programs and the importance of responsible energy use.

The following are highlights from just a few of those activities.

## Beaufort–Delta office (Inuvik)

### Community engagement activities in Inuvik

Although we typically have a regional office in Inuvik, that office has been vacant since 2023 for several reasons. Nevertheless, we're committed to maintaining a presence in the Beaufort–Delta region. Over the course of the year, we organized a few trips to Inuvik, and made sure to cram in as much community engagement as possible while we were there.



*Nicolinea talks to people about community energy profiles at a mini energy fair in Inuvik.*



At the end of April and beginning of May, we held a planning and training session in Inuvik for all of our regional office staff. While we were there, we also set up a pop-up booth at the local NorthMart, put on a mini energy fair, hosted presentations in school classrooms and held an open house.

In August, we visited Inuvik again for an energy terminology workshop as part of our Energy Word Book project (see page 39). We took advantage of the visit to also host an open house at the Beaufort-Delta office.

Our third visit came in December as part of our Community Energy Planning project (see page 37). Again, we held an open house at our Inuvik office, as well as an energy fair at the Inuvik Centennial Library, to engage with community members face-to-face.

## Dehcho office (Fort Simpson)

### Dehcho Business Development Centre Trade Show in Fort Simpson

In October, the Dehcho Business Development Centre hosted a trade show at the Fort Simpson Recreation Centre. The AEA was among 14 organizations that had tables at the show. We were glad to see a large turnout, with a surprising number of people visiting from outside the community.

### Visit to Wrigley

In January, our staff travelled to Wrigley to meet with community members and leadership of the Pehdzeh Ki First Nation. Community leaders there have been frustrated with increasing energy costs, so we discussed some options to explore to help reduce those costs.

## North Slave office (Yellowknife)

### Earth Week movie night in Yellowknife

Each April, Ecology North holds Earth Week activities throughout the NWT, and the AEA is a regular contributor. This year, we hosted a screening of the movie *The Lorax* at the Capitol Theatre in Yellowknife. Attendance was great, and enthusiastic volunteers even dressed up in costume. In addition to the Yellowknife show, we held additional screenings in Behchokǝ, Hay River and Norman Wells, in partnership with other organizations.

### Yellowknife Farmers Market table

In June, we set up a table at the Yellowknife Farmers Market. The sunny evenings always make for a great setting to talk to the crowds of marketgoers about our programs and services, and more general ways to save energy. We brought with us a revamped version of our “Energy Pyramid” game, and lots of people stopped by our table to try it out.



Volunteers dress in costume for a screening of *The Lorax* during Earth Week in Yellowknife.

## Sahtú office (Norman Wells)

### School energy presentation in Norman Wells

In May, we visited Mackenzie Mountain School in Norman Wells to talk about energy with students from Grades 5–9. Over two days, we gave presentations on the AEA and what we do, as well as on several energy-related topics, all designed to teach early energy literacy. It was a pleasure to share our knowledge and inspire the next generation.

### Solar electricity information session and school presentation in Délı̨ne

In June, we joined representatives from Gonezu Energy and Iron & Earth to travel to Délı̨ne as part of a project to install solar-electric systems on community members' cabins and the local school. Iron & Earth hosted a community training program so that interested community members and high-school students could learn about the design, installation, operations and maintenance of solar systems, and get involved in the actual installation process with Gonezu Energy. We joined the training program to deliver a short presentation on the rebates and other assistance that the AEA can provide for renewable energy systems.

## South Slave office (Hay River)

### Science Rendezvous in Fort Smith

Science Rendezvous bills itself as Canada's largest science festival. Every year in May, the organization holds STEM-related events in communities across the country, which are hosted by community partners. Aurora Research Institute has been a regular host, and this year the AEA joined the event in Fort Smith by setting up an information booth. We were thrilled to participate in the event, which was filled with information and science-based activities.



*Students learn about energy literacy during a visit to Mackenzie Mountain School in Norman Wells.*

### Gateway Jamboree in Enterprise

The Enterprise Gateway Jamboree has been a regular stop for the AEA over the years. With a forest fire devastating the community in 2023, we were overjoyed to see the community rebuild enough to hold the festival again in the summer of 2024. Folks from all over the South Slave region gathered for a wonderful community event filled with fantastic live music. The key feature of our booth was a solar-electric system, which sparked numerous conversations about the benefits of solar. Nicolinea's highlight was two-stepping to country tunes with an energetic Elder—she truly made her day!



*Chloé models a pair of AEA sunglasses at our Science Rendezvous booth in Fort Smith.*



*At a mini energy fair in Wekweètì, Taylor shows people how to use a moisture meter to check whether firewood is dry enough to burn in a wood stove.*

## Tłıchq̓ office (Behchok̓)

### Weekly open houses in Behchok̓

Early in the 2023/24 fiscal year, we moved our Tłıchq̓ regional office from Whatì to Behchok̓. By the start of the 2024/25 year, we realized we still had some work to do in getting residents of Behchok̓ familiar with the location of our office and the work that we do. So throughout the month of August, we held weekly open houses to encourage people to visit our office and learn more about our programs and services.

### Mini energy fair in Gamètì

In October, we organized a mini energy fair in Gamètì, with energy-related information stations and games, and a catered dinner for participants. An energy fair—or in this case, a mini fair—is a different sort of way to speak to people about saving energy and money, and it always prompts some great discussions.

# Special projects

*In addition to our core programs, the Arctic Energy Alliance undertakes special projects as opportunities arise. These projects can support residents, businesses, community or Indigenous governments, or non-profit organizations in the NWT.*

Over the 2024/25 fiscal year, the AEA conducted eight projects, with funding and support provided by the GNWT Department of Infrastructure (through its core funding to the AEA), GNWT departments of Education, Culture and Employment, and Industry, Tourism and Investment, Crown-Indigenous Relations and Northern Affairs Canada (through its Northern REACHE program), Naka Power and the Town of Norman Wells.

## Cold-Climate Air-Source Heat Pumps

The Cold-climate Air-Source Heat Pumps (ccASHP) project was designed to obtain credible field monitoring data on the performance of ccASHPs in Yellowknife. The objective was to gather sufficient information to make informed decisions regarding the promotion of this technology and potential rebates for it by studying the suitability of ccASHPs—including their operation in homes, their energy efficiency, and their potential for reducing greenhouse gases.

There has been growing public interest in heat pumps over the past several years. While the Yukon Government has been testing the technology in Whitehorse, Yellowknife experiences an even colder climate, necessitating localized testing to understand how ccASHPs perform under these conditions.

In the 2022/23 fiscal year, we had two mini-split ccASHPs and monitoring equipment installed in two units of a multi-unit building, with a third unit in the building serving as a control. Mini-split heat pumps operate independently, with one or more head units mounted inside a building. The two-year monitoring period for these pumps

finished in December 2024, and we expect to produce a final report on the results in the 2025/26 fiscal year.

This year we also started a second phase of the project: testing central-split heat pumps, which are tied into a central heating system, such as a furnace. We started the process of getting two central-split ccASHPs installed in two townhome-style units. Again, a third unit in the building was supposed to act as a control. Unfortunately, we ran into some challenges with getting the units installed and had to put the work on hold. We plan to reevaluate this phase of the project next year to determine if we want to continue. Nevertheless, we learned some valuable lessons on ccASHP technology from these challenges.

## Community Energy Planning

Since the AEA's inception it has engaged with a number of communities around the NWT on community energy planning. The exercise of community energy planning is about identifying and finding ways to implement local solutions to challenges around energy use (the types of energy that are used to heat and power a community), as well as energy conservation and



efficiency. In the process, it also aims to build local capacity and energy literacy, and hold true to local values.

This year, we started the community energy planning process with the Community Government of Whatì and the Town of Inuvik. Each of these organizations hired a community energy champion to help with planning activities. These champions are key to the success of the project. In addition to guiding the community engagement process, they ensure the project is grounded in Indigenous community traditions, and that local governance and protocols are respected.

The Community Government of Whatì is still in the planning stages, and we expect the process to be complete next year. The Town of Inuvik completed a draft community energy plan, which we expect will be formally adopted in the new fiscal year.



*Community members in Whatì take part in a community energy planning workshop.*

In addition to creating new community energy plans, we also help communities implement their existing plans. In the 2022/23 fiscal year, we helped the Hamlet of Ulukhaktok create a community energy plan, and have since been helping the community implement energy-related projects. One of the aspects of their plan was to create a Wind Energy Working Group. This year, we supported that group and helped them with a funding application for their proposed wind energy project.

In the coming year, we intend to work with the Nahanni Butte Dene Band to create an energy plan for their community.

## Community Energy Profiles

A community energy profile is a tool used by organizations such as the AEA, the GNWT, community governments and contractors to show how communities across the NWT are using energy. This includes the costs and amounts of various energy sources (such as petroleum products, wood and electricity), where and how those energy sources are used, and related greenhouse gas emissions. This information is useful so communities can understand their energy use and opportunities for saving energy and money, reducing their environmental footprints and making their communities more sustainable.

The AEA produced community energy profiles for the years 2003/04, 2007/08, 2014/15 and 2018/19 to show how communities across the NWT are using energy.

This year, we produced updated profiles for 17 communities across the territory, using data from 2023. As we have seen in the past, collecting sufficient data can be a challenge, so we were not able to complete new profiles for all of the communities.

## Energy Word Book

The primary goal of the Energy Word Book project is to increase energy literacy in Indigenous communities—specifically in their own languages. It aims to bridge language barriers by developing and sharing energy-related terminology in Indigenous languages, thereby fostering informed discussions about energy conservation, efficiency, and renewable energy use.

We started by holding workshops with language experts from Tłıchǫ and Gwich'in communities. These workshops were held in partnership with the Tłıchǫ Government and the Gwich'in Tribal Council, and facilitated the development of new energy terms in both Indigenous languages.

From there, we produced three resources for people to use:

- Printed word books, in English and both Indigenous languages covered by the project, containing 29 energy-related terms
- Flash cards, with ideas for possible games, to be used in schools and community spaces, enhancing the engagement and retention of energy-related terminology
- A short video for each Indigenous language workshop, where participants discuss their experiences developing the terminology

The resources will be ready to release to the public early in the 2025/26 fiscal year.

## EV/Hybrid Potential in Non-Hydro Communities

Back in 2016, the AEA produced a study that showed that electric vehicles (EVs) not only reduce greenhouse gas emissions but have the potential to be less expensive to operate in the NWT's hydroelectric communities than internal combustion engine (ICE) vehicles, even considering the cold northern winters. What we didn't yet know was how electric vehicles would fare in communities that use fossil fuels to generate electricity. For example, would they still be less expensive to operate than ICE vehicles? And would the greenhouse gases reduced by driving an EV offset the additional GHGs produced from generating the electricity needed to charge the vehicle?

In 2021/22 we conceived of a study to look into these questions, and spent the past few years refining the study and attempting to gather data. We found that collecting reliable data was harder than we anticipated, and had to go back to the drawing board a few times. By the end of this year, we collected enough information to put an end to the study but concluded that the data is not complete enough to produce a report that we feel confident putting out to the public. Nevertheless, we learned some invaluable information and feel like we are well-positioned to take on future studies and pilot projects.

## Firewood Access

Wood stoves are an important source of heat in homes throughout many of the NWT's communities. Not only can using a wood stove save money compared to relying solely on oil or propane, but it also reduces a home's greenhouse gas emissions. However, in some communities, sourcing a reliable supply of firewood can be a challenge. For example, a community may lack enough qualified or competent wood cutters. People may be trying to burn "green" (unseasoned) wood, which doesn't burn well in their stoves. Or a community may lack vendors to sell firewood to those who can't cut their own.

With these challenges in mind, the Firewood Access project aimed to increase awareness of how to properly use high-efficiency wood stoves, to increase firewood harvesting capacity and knowledge of running a firewood-related small business, and ultimately to help community members use their stoves more often.



*Participants learn how to operate chainsaws as part of a course in Norman Wells under our Firewood Access project.*

We were able to run the project in one community this year, and selected Norman Wells. The project involved four facets: a Chainsaw Operator course, run by Arctic Response; a small-business seminar; a Burn-it-Smart workshop, which teaches people how to use wood stoves effectively; and a supplemental booklet. We ran two sessions in the community—one in August and another in December—with support from the Tłegóhtł Got'ıne Government, and the GNWT departments of Education, Culture and Employment, and Industry, Tourism and Investment. We were able to open the second session to residents of all Sahtú communities and had participants from Délıne and Tulita, in addition to Norman Wells. The sessions went well, and have the potential to be replicated in other communities throughout the NWT.

## Home Winterization Walk-Throughs

Although the AEA regularly conducts formal home energy evaluations (see page 22), sometimes homeowners need specific advice without the detail of a formal evaluation. This is especially important given that the waiting time for a full evaluation can sometimes be quite long. A few years ago, during the COVID-19 pandemic, we developed a method for conducting walk-through evaluations. At the time, these allowed us to collect some important information and give homeowners advice without actually visiting a home and conducting all the measurements and tests required for a formal home evaluation.

This year we decided to expand on those walk-throughs by conducting them in person, performing some winterization tasks along with homeowners, and adding an educational component. During the pandemic, the purpose of the walk-throughs was to help homeowners meet the requirements of one of our rebate programs until we could complete formal evaluations again. This year, however, the goal was to help people reduce energy poverty by finding relatively simple ways to save energy through means such as home winterization.



We started by piloting the project in seven homes in Yellowknife to ensure that the processes would work as designed for the walk-throughs, the installation of winterization materials, and conversations with the homeowners. Following the success of the pilot, we expanded the project to 25 homes in Norman Wells.

In the fall of 2024, fuel prices in Norman Wells skyrocketed, largely due to historically low water levels on the Mackenzie River, which prevented barges from bringing additional fuel to the community over the summer. The sudden and massive change in fuel prices made Norman Wells a prime candidate for the home winterization walk-throughs, as a way to help residents reduce their energy costs.

Feedback from participants was overwhelmingly positive, and we plan to expand the project to up to three new communities next fiscal year.

## Results Communication

The AEA primarily communicates the results of our programs and projects through our annual reports. Each annual report contains a significant amount of information, but only for one year. And it's hard to determine the impact that our combined programs and projects have at the community level. So this year we created tools to help people easily see the difference that energy efficiency and renewable energy have made for each community in the territory, over multiple years.

The main tool is a sub-section of our website, which shows “energy reports” for all of the communities in the territory. These reports contain charts that summarize the cumulative savings from energy-efficiency and renewable-energy projects in four key areas over five years:

- Cost savings
- Electricity savings/production
- Fossil fuel savings
- Greenhouse gas savings



*Materials used for the Home Winterization Walk-Through project include caulking, LED light bulbs, hot water tank insulation blankets, pipe insulation, a variety of weatherstripping, smoke detectors, low-flow shower heads and window plastic.*

The savings in these areas reflect work done by people and organizations in the communities. The AEA provides rebates, advice and hands-on assistance to encourage Northerners to reduce their energy use, greenhouse-gas emissions and related costs, but it's the people in our communities who make the change happen.

In addition to the web tool, we also produced accompanying posters to display at our offices.

The web tool is available at <https://energymap.aea.nt.ca>.

# Operations management

*The Arctic Energy Alliance uses cash-based cost tracking, accrual accounting, and project resource-loading systems in our operations. Our cash-based project cost planning and tracking system, together with our accounting system, enables project- and ledger-level budgeting and expense tracking. These two systems are linked.*

We use timesheet and billing software that includes project setup, budgets, resources assignment, timesheets, and advanced reporting tools. Using this software, each staff member is allocated time for each project and task to which they are assigned. This enables us to plan and report on staff activity at project and task levels.

The AEA has an established financial system including policies, procedures, budgeting and expenditure control. The system requires all expenditures at the project and ledger levels be planned and budgeted for. Once project and ledger-level budgets are loaded into our tracking and accounting software, purchase orders can only be issued if they are budgeted for, and only within prescribed spending thresholds. All purchase orders are electronically generated and are used to track planned, in-progress and actual expenditures against budgeted expenditures.

Salary time expenditures are tracked using our timesheet software and paid using our accounting system. Every two weeks, staff members submit their timesheets to the

Executive Director for review and approval. This system restricts staff to only booking time against projects and tasks they are assigned. The approved timesheets are loaded into the accounting system and used to allocate staff costs to projects, and for payment purposes.

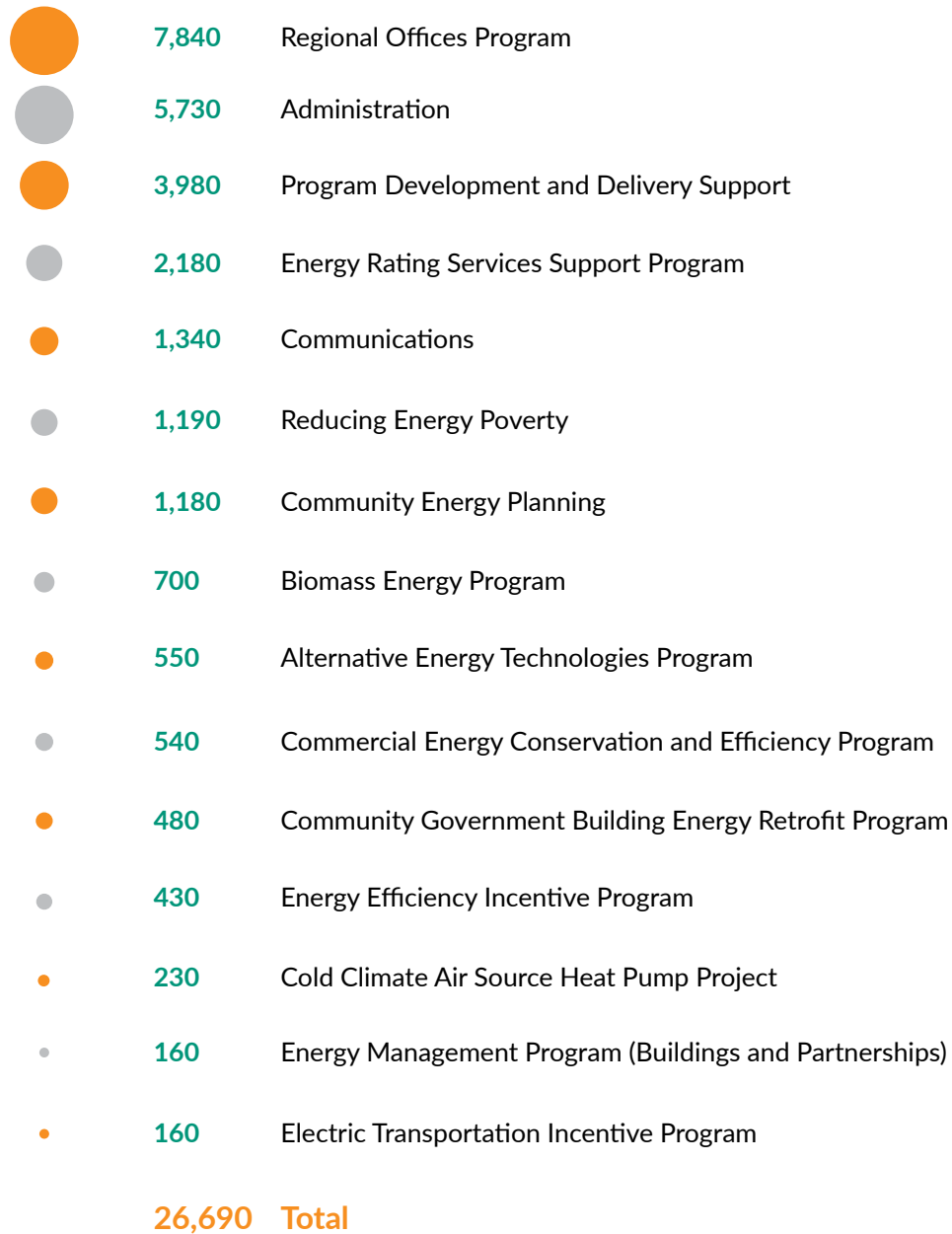
The AEA associates individual expenditures to vendors and projects. A single line-item amount can be allocated to one or more projects, or the AEA can allocate entire transactions to one or more projects. This provides us the flexibility to provide detailed project-level expenditures such as those provided in our quarterly reporting.

The table on the next page summarizes the outcome of the AEA's work, and the subsequent chart reports the total staff hours dedicated to achieving that outcome.

## Impact of AEA programs and projects

| Metric                                                                        | Commercial Energy Conservation and Efficiency Program | Community Government Building Energy Retrofit Program | Energy Efficiency Incentive Program | Energy Rating Services Support Program | Alternative Energy Technologies Program | Electric Transportation Incentive Program | Total       |
|-------------------------------------------------------------------------------|-------------------------------------------------------|-------------------------------------------------------|-------------------------------------|----------------------------------------|-----------------------------------------|-------------------------------------------|-------------|
| Total no. of incentives                                                       | 6                                                     | -                                                     | 1,390                               | -                                      | 19                                      | 22                                        | 1,437       |
| No. of incentives in Yellowknife                                              | 2                                                     | -                                                     | 182                                 | -                                      | 2                                       | 17                                        | 203         |
| No. of incentives outside Yellowknife                                         | 4                                                     | -                                                     | 1,208                               | -                                      | 17                                      | 5                                         | 1,234       |
| Total value of incentives                                                     | \$110,000                                             | -                                                     | \$190,000                           | -                                      | \$240,000                               | \$97,000                                  | \$640,000   |
| Average incentive                                                             | \$19,000                                              | -                                                     | \$130                               | -                                      | \$12,000                                | \$4,400                                   | \$450       |
| Total capital cost                                                            | \$370,000                                             | -                                                     | \$670,000                           | -                                      | \$530,000                               | \$1,100,000                               | \$2,700,000 |
| Est. annual savings                                                           | \$70,000                                              | -                                                     | \$110,000                           | -                                      | \$84,000                                | \$8,600                                   | \$270,000   |
| Est. annual electricity savings/increase (MWh)                                | ↓ 15                                                  | -                                                     | ↓ 260                               | -                                      | ↓ 33                                    | ↑ 41                                      | ↓ 270       |
| Incentive cost per lifetime kWh avoided/produced                              | \$0.39                                                | -                                                     | \$0.06                              | -                                      | \$0.35                                  | -\$0.18                                   | \$0.18      |
| Estimated power demand avoided/produced (kW)                                  | ↓ 4                                                   | -                                                     | -                                   | -                                      | ↓ 33                                    | -                                         | ↓ 37        |
| Est. annual fossil fuel savings/increase (GJ)                                 | ↓ 350                                                 | -                                                     | ↓ 1,900                             | -                                      | ↓ 1,500                                 | ↓ 460                                     | ↓ 4,300     |
| Est. annual greenhouse gases avoided/increased (tonnes)                       | ↓ 25                                                  | -                                                     | ↓ 240                               | -                                      | ↓ 160                                   | ↓ 33                                      | ↓ 460       |
| Incentive cost per lifetime tonne of greenhouse gas emissions reduced         | \$230                                                 | -                                                     | \$52                                | -                                      | \$74                                    | \$230                                     | \$82        |
| Total no. of desktop energy evaluations (blueprint and yardstick evaluations) | 1                                                     | 15                                                    | -                                   | 25                                     | -                                       | -                                         | 41          |
| No. of desktop energy evaluations in Yellowknife                              | -                                                     | -                                                     | -                                   | 25                                     | -                                       | -                                         | 25          |
| No. of desktop energy evaluations outside Yellowknife                         | 1                                                     | 15                                                    | -                                   | -                                      | -                                       | -                                         | 16          |
| Total no. of on-site energy evaluations                                       | -                                                     | 9                                                     | -                                   | 105                                    | -                                       | -                                         | 114         |
| No. of on-site energy evaluations in Yellowknife                              | -                                                     | -                                                     | -                                   | 84                                     | -                                       | -                                         | 84          |
| No. of on-site energy evaluations outside Yellowknife                         | -                                                     | 9                                                     | -                                   | 21                                     | -                                       | -                                         | 30          |

## Staff hours by program/project\*



# Financial management

## Highlights

### Results of operations for the year ending March 31, 2025

- Overall revenues totalled \$3.6 million and overall expenses totalled \$4.1 million.
- The AEA budgeted for an overall deficit of \$890,000 this year, and ended the year with an overall deficit of \$560,000, representing 16 percent of total revenues. This is a 260 percent decrease from the previous year's surplus of \$350,000, which represented 5 percent of total revenues.
- Net financial assets decreased \$530,000 over the course of the year, compared to a \$350,000 increase the previous year.

| Key revenues         | Value       | Increase/<br>decrease<br>from<br>2023/24 | Comparison<br>to budget |
|----------------------|-------------|------------------------------------------|-------------------------|
| GNWT contributions   | \$2,900,000 | ↓ 53%                                    | 100%                    |
| Canada contributions | \$370,000   | ↑ 1,300%                                 | N/A                     |
| Other source income  | \$81,000    | ↓ 71%                                    | 290%                    |

| Key expenses              | Value     | Increase/<br>decrease<br>from<br>2023/24 | Comparison<br>to budget |
|---------------------------|-----------|------------------------------------------|-------------------------|
| Rebates distributed       | \$620,000 | ↓ 78%                                    | 96%                     |
| Consulting fees           | \$260,000 | ↓ 12%                                    | 120%                    |
| Travel and accommodations | \$190,000 | ↓ 32%                                    | 100%                    |
| Advertising and promotion | \$29,000  | ↓ 70%                                    | 44%                     |

### Financial position on March 31, 2025

| Key assets                      | Value       | Increase/<br>decrease<br>from<br>2023/24 | Primary reasons                                 |
|---------------------------------|-------------|------------------------------------------|-------------------------------------------------|
| Total assets                    | \$2,600,000 | ↓ 6%                                     |                                                 |
| Cash and short-term investments | \$2,100,000 | ↑ 74%                                    | 2023/24 receivables paid and converted to cash  |
| Accounts receivable             | \$330,000   | ↓ 76%                                    | Received contribution funding owed from 2023/24 |

| Key liabilities                          | Value       | Increase/<br>decrease<br>from<br>2023/24 | Primary reasons                                                  |
|------------------------------------------|-------------|------------------------------------------|------------------------------------------------------------------|
| Total liabilities                        | \$1,000,000 | ↑ 64%                                    | Increase in deferred revenue and contributions payable           |
| Accounts payable and accrued liabilities | \$870,000   | ↑ 65%                                    | Increases to wages and benefits payable, and in deferred revenue |
| Deferred revenues                        | \$120,000   | ↑ 140%                                   | Deferred a portion of project funding to next year               |

| Key net assets                   | Value       | Increase/<br>decrease<br>from<br>2023/24 | Notes                                             |
|----------------------------------|-------------|------------------------------------------|---------------------------------------------------|
| Total net assets                 | \$1,500,000 | ↓ 27%                                    | Decrease in accumulated surplus                   |
| Internally restricted reserves   | \$1,200,000 | ↑ 6%                                     |                                                   |
| Unrestricted accumulated surplus | \$290,000   | ↓ 68%                                    | Used accumulated surplus to fund budgeted deficit |



*We always enjoy setting up a booth at the bike rodeo in Hay River, hosted by the local fire department. It's a fun event and a great way to talk to kids about the importance of saving energy.*

## Cash flow for the year ending March 31, 2025

- Gross cash from operations showed a deficit of \$530,000, compared to a surplus of \$380,000 the previous year.
- There was a net cash flow surplus of \$910,000, up 180 percent over the previous year, largely due to deferred project funding and to repayable contribution funding that will be repaid next fiscal year.

| Key cash receipts    | Value       | Increase/<br>decrease from<br>2023/24 |
|----------------------|-------------|---------------------------------------|
| GNWT contributions   | \$3,900,000 | ↓ 26%                                 |
| Canada contributions | \$490,000   | ↑ 410%                                |
| Other sources        | \$340,000   | ↑ 49%                                 |

## Management discussion and analysis

The Arctic Energy Alliance prudently manages its people and money to deliver quantifiable results in line with the organization's strategic plan. The organization is financially sound, has a three-month operating reserve and can respond to changes in our financial or operating environment quickly and effectively.

As evidenced in this annual report, the Arctic Energy Alliance delivered an outstanding variety and number of public services this year, and was able to do so effectively with the right balance of management and financial controls, thus ensuring an effective and prudent use of public money.

Despite a reduction in funding for the AEA for the 2024/25 fiscal year compared to recent years, the financial outlook for the organization is positive, primarily because of the GNWT's commitment to addressing climate change. Additionally, the high costs of heating and electricity in the Northwest Territories ensure that demand for the organization's services is expected to remain stable. Combined with the confidence the GNWT has in funding a fiscally and operationally sound organization like the Arctic Energy Alliance, it is reasonable to expect funding stability for the foreseeable future.



# Membership and governance

As on March 31, 2025.

## Board of directors

- Robert Sexton, President; Director, Energy, GNWT Department of Infrastructure
- Daniel Korver, Vice-President; Director, Infrastructure Services (Projects), Housing NWT
- Gordon Van Tighem, Treasurer; Chairperson, Northwest Territories Public Utilities Board
- Mark Heyck, Secretary; Executive Director, Arctic Energy Alliance
- Vic Barr, Manager, Naka Power
- Sara Brown, Chief Executive Officer, NWT Association of Communities
- Erin Ladouceur, Director, Customer Service, Northwest Territories Power Corporation
- Grace Lau-a, Director, Community Operations, GNWT Department of Municipal and Community Affairs
- Dennis Marchiori, Director, Climate Change, Cumulative Impacts and Knowledge, GNWT Department of Environment and Climate Change

## General members

- GNWT Department of Infrastructure
- GNWT Department of Environment and Climate Change
- GNWT Department of Municipal and Community Affairs
- Housing NWT
- NWT Association of Communities
- NWT Public Utilities Board

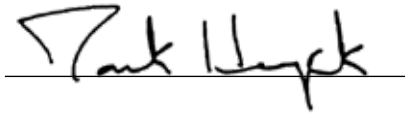
## Sustaining members

- Naka Power
- Northwest Territories Power Corporation

## Staff

- Taylor Arsenault, Program Coordinator
- Norm Como, Program Coordinator
- Kevin Corrigan, Program Coordinator
- Kevin Cull, Communications Coordinator
- Tobi Dawodu, Program and Administrative Assistant
- Derek Erasmus, Project Coordinator
- Marta Goodwin, Finance Manager
- Michael Goodwin, Senior Energy Management Specialist
- Mark Heyck, Executive Director
- Michelle Leger, Program Coordinator
- Shannon Mackenzie, Tłıchq Territory Energy Project Coordinator – Behchokō
- Dharshan Maheswaran, Energy Management Specialist
- Bilal Malik, Energy Management Specialist
- Nicolena Minakis, South Slave Regional Energy Project Coordinator – Hay River
- Abdul Mohammed, Energy Management Specialist
- Tanner Nygaard, Energy Management Specialist
- Louise Schumann, Program and Administrative Assistant
- Jennifer Wicks, Human Resources and Program Assistant
- Dorothy Wright, Sahtú Regional Energy Project Coordinator – Norman Wells

"I, Mark Heyck, Executive Director of the Arctic Energy Alliance, duly authorized on behalf of the board of directors of the Arctic Energy Alliance, represent and warrant that this annual report is true and accurate."



Mark Heyck,  
Executive Director  
August 13, 2025



*The large, white silo is a telltale sign of the new wood pellet boiler at the water treatment plant in Fort Simpson. This year, the Village of Fort Simpson won the Canadian Biomass Project of the Year award for their efforts in switching their community buildings over to biomass heating.*



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**SAHTÚ REGIONAL OFFICE**

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Fax: 867 587 2071

**SOUTH SLAVE REGIONAL OFFICE**

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Fax: 867 873 0303

**TŁİCHQ REGIONAL OFFICE**

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Kay Tay Whee Tili  
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Toll free: call collect  
Fax: 867 873 0303

**YELLOWKNIFE OFFICE**

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*The Arctic Energy Alliance is a non-profit, non-government agency whose vision is that "NWT Society will become a global leader in clean, efficient, sustainable energy practices." The Arctic Energy Alliance's mission is to promote and facilitate the adoption of efficient and renewable and energy practices by all members of NWT society.*