

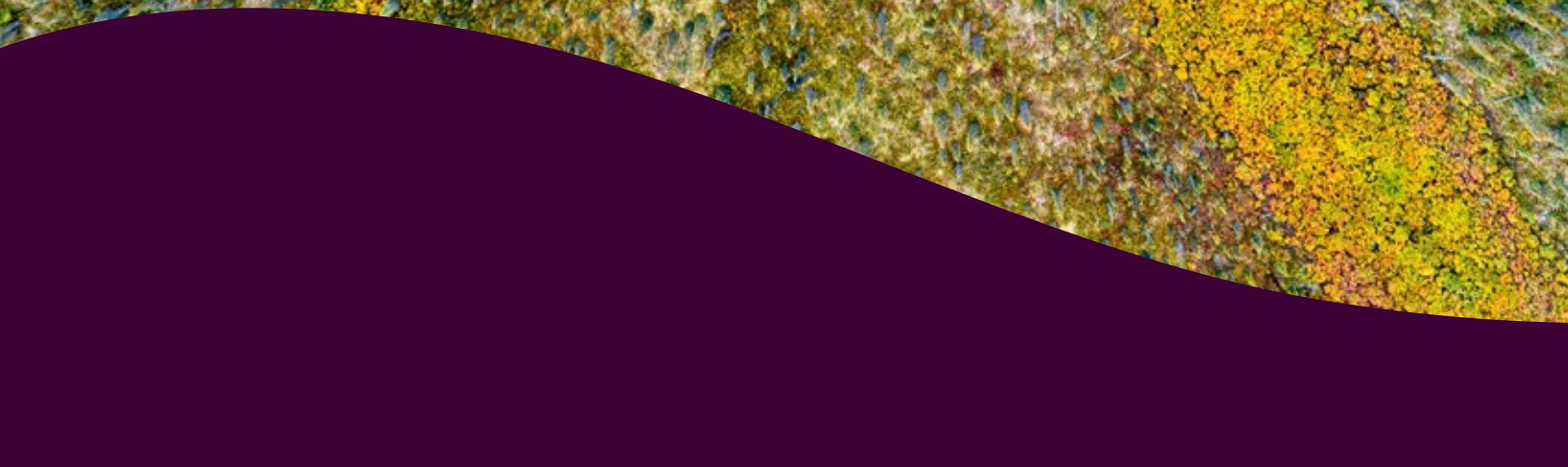
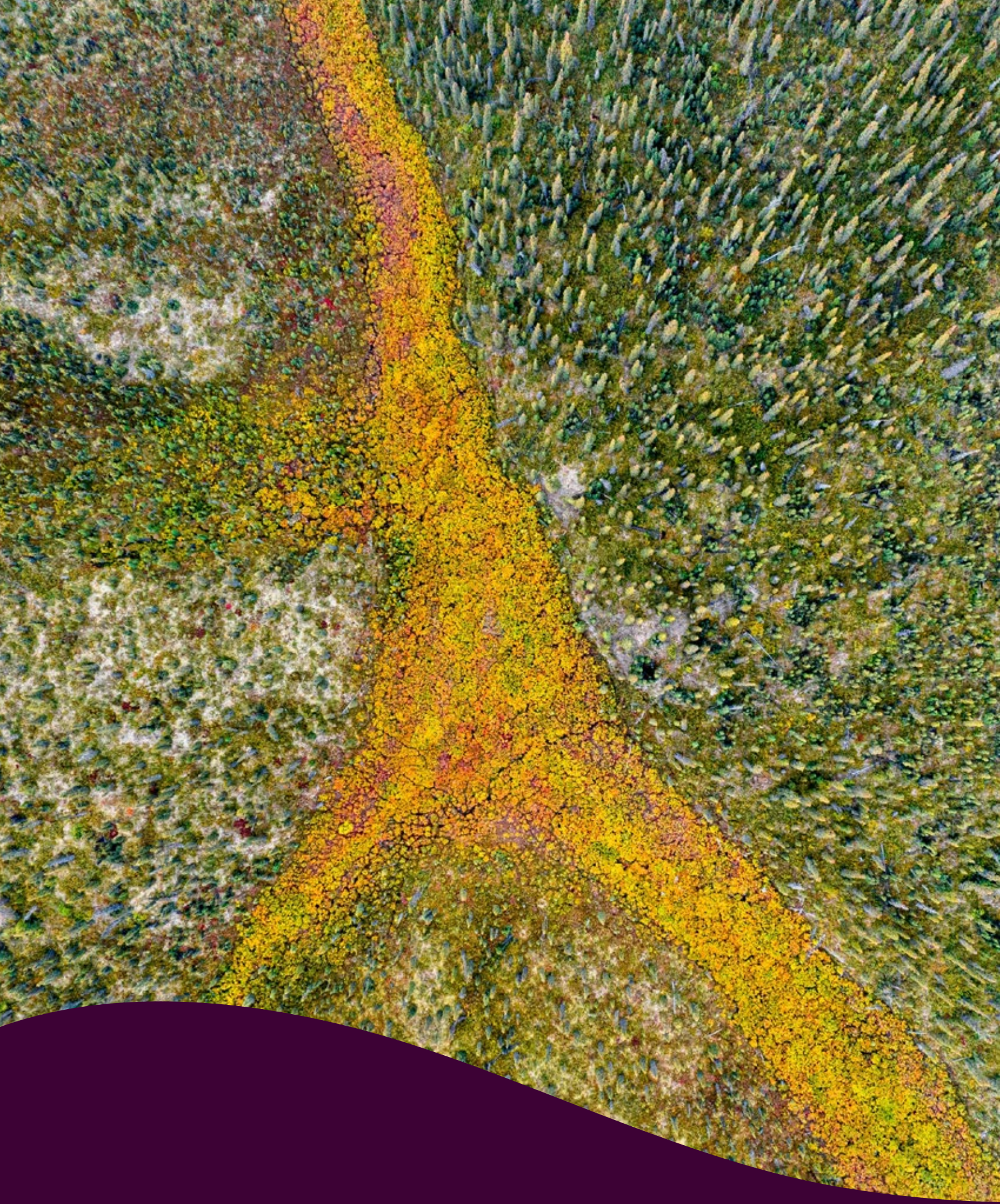


# Our Clean Future

2022 annual report











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# Acknowledgements

A special thank you to all individuals, businesses, organizations, governments and others who strive to build thriving, resilient and low-carbon communities in the Yukon and beyond. Carrying out Our Clean Future would not be possible without the generous participation and leadership from:

- Yukon First Nations;
- Transboundary Indigenous governments and groups;
- Yukon's municipalities;
- advisory groups and relationships including the Yukon Youth Panels on Climate Change, the Yukon Climate Leadership Council, Council of Yukon First Nations, Yukon University and other academic and community-based organizations from across Canada; and
- other governments, including First Nations governments, the Government of Nunavut, the Government of the Northwest Territories, the Government of British Columbia and Government of Canada.

We would like to respectfully acknowledge each of the Yukon First Nations and transboundary Indigenous governments and groups for their stewardship of this land since time immemorial.

We are grateful for the time and energy, passion and expertise many individuals and communities have contributed to this work and acknowledge the feedback that Our Clean Future has more to learn from Yukon First Nations worldviews to engage the root causes of climate change and to help foster a holistic and interconnected approach to climate action.

As we carry out this work, we are committed to continuing dialogues, to building and strengthening our relationships and deepening our understanding of what is needed to support all Yukoners.

# 2022 highlights

## Goal 1:



### Reduce Yukon's greenhouse gas emissions

**Target:** By 2030, Yukon's greenhouse gas emissions from transportation, heating, electricity and other areas will be 45 per cent lower than they were in 2010.

The Yukon's greenhouse gas emissions are calculated on a two-year delay. In 2021, the Yukon's greenhouse gas emissions, excluding emissions from mining, were

**588 kilotonnes of CO<sub>2</sub>e**

Compared to 2010 levels:  
**1% increase**



Compared to 2020 levels:  
**4% increase**



## Goal 2:



### Ensure Yukoners have access to reliable, affordable and renewable energy

**Target:** 93 per cent of the electricity we use on the main Yukon electricity grid will come from renewable energy on average. Our aspirational target is to have this number 97 per cent.

**91.9% of Yukon's main grid was generated by renewable sources during the reporting year.**

## Goal 3:



### Adapt to the impacts of climate change

**Target:** All Yukon communities will be highly resilient to the impacts of climate change by 2030.

In 2022, we published and began addressing priority areas identified in the Assessing Climate Change Risk and Resilience in the Yukon report.

**We completed actions in the areas of transportation resilience, preparedness for floods and fires, permafrost thaw and impacts to fish and wildlife.**

## Goal 4:



### Build a green economy

**Target:** By 2030, we will see reductions in greenhouse gas emissions per capita and greenhouse gas emissions per unit of gross domestic product (GDP).

In 2021, the Yukon's per capita greenhouse gas emissions were:

**16.4 tonnes of CO<sub>2</sub>e per person**

Compared to 2010 levels:  
**13% decrease**



In 2021, the Yukon's greenhouse gas emissions per unit of GDP was:

**240 tonnes of CO<sub>2</sub>e per unit of real GDP**

This is down from 291 tonnes in 2010.



# Introduction

Climate change is the biggest challenge of our generation. Our Clean Future: a Yukon strategy for climate change, energy and a green economy is one of the many initiatives in the Yukon that contributes to our collective response to the climate emergency.



Across the North, we have a long history of coping with and adapting to changing conditions. The resilience of Yukoners stems from strong relationships, communities working together, ongoing connection to the land and making the most of limited resources. These values and relationships provide a strong foundation for climate action across the territory.

Our Clean Future is organized around specific, tangible actions that set us on the path to reaching our targets for greenhouse gas emissions, renewable energy, climate resilience and a green economy. At the heart of these efforts is the shared goal to address climate change in the North and to be responsible stewards of this land for the generations to come.

## Reporting our progress: staying accountable to Our Clean Future

Each year, the Government of Yukon reports on the implementation of Our Clean Future as part of our commitment to transparency and accountability to Yukoners. This report is the third annual report, covering progress made during the 2022 calendar year.

We know that continuous action is needed to keep up with the many climate changes already underway. As we've carried out the actions in 2022, we've had the opportunity to deepen our internal and external relationships and to learn more about what is needed to reach our 2030 goals and targets. Our Clean Future is an adaptive strategy. We continue to evaluate and adjust the actions in it to reduce risks, build capacity over time and remain responsive to emerging information and opportunities.

The text of this report draws attention to achievements in the 2022 calendar year. Please refer to Appendix A for a status update on all existing Our Clean Future commitments.

# Goals and targets

Our Clean Future outlines four goals that will help us achieve our vision for a clean future with healthy people, communities and ecosystems. We have set ambitious targets for these goals to keep us on track.



Reduce Yukon's greenhouse gas emissions



Ensure Yukoners have access to reliable, affordable and renewable energy



Adapt to the impacts of climate change



Build a green economy



# Reduce Yukon's greenhouse gas emissions

The following three targets support this goal:

**Target:** By 2030, Yukon's greenhouse gas emissions from transportation, heating, electricity and other areas will be 45 per cent lower than they were in 2010.

**Status:** In 2021, our non-mining emissions were 588.2 kt CO<sub>2</sub>e. This is 1 per cent higher than in 2010 (Figure 1).

**Target:** We will work with industry to set a separate intensity-based target for mining by 2022.

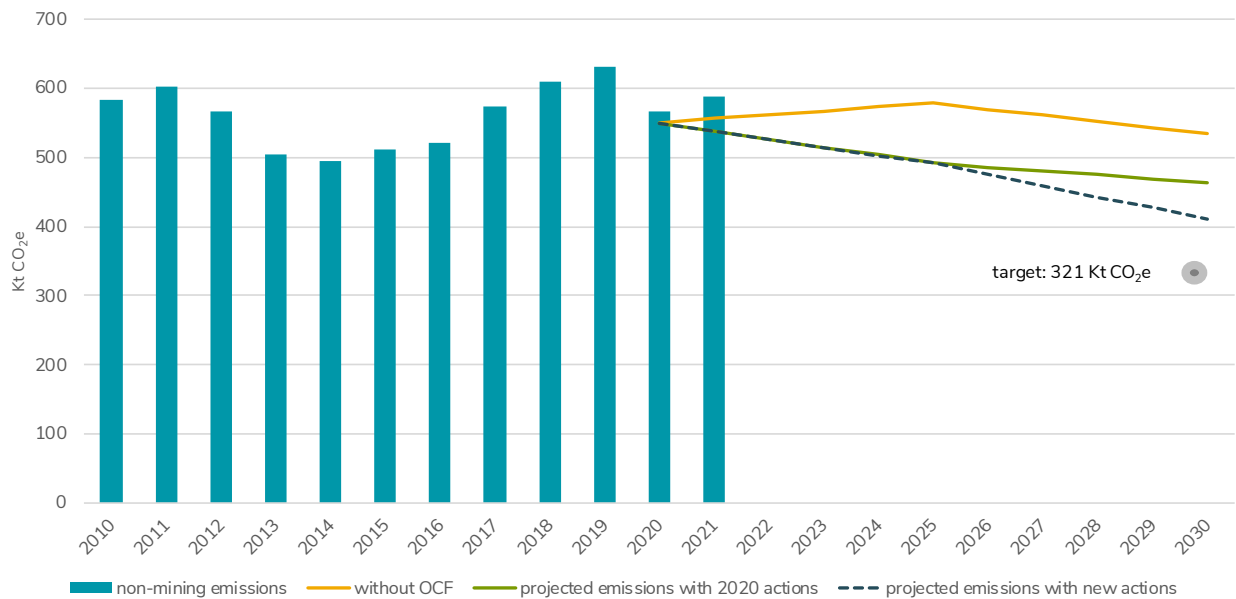
**Status:** Public engagement took place in fall 2022, and a what we heard report was produced. Findings from this process will inform the development of the Mining Intensity target.

**Target:** The Yukon's total greenhouse gas emissions will be net zero by 2050.

**Status:** In 2021, our total greenhouse gas emissions were 705.3 kt CO<sub>2</sub>e. The Government of Yukon will continue working with experts and stakeholders to identify and implement actions to reduce greenhouse gas emissions and remove carbon dioxide from the atmosphere.

The Yukon's greenhouse gas emissions are calculated on a two-year delay. We calculate total emissions and total emissions excluding mining and emissions from various sectors. For more information on the Yukon's greenhouse gas emissions and how they are calculated please refer to the detailed backgrounder: [Greenhouse gas emissions in Yukon](#).

### The Yukon's non-mining greenhouse gas emissions



**Figure 1.**

The Yukon's non-mining emissions from 2010 – 2021. Modelling provided by Navius Research Inc. has estimated that with the actions released in 2020 we will reduce emissions by 20.6 per cent. Adding new actions will bring us closer to our target with reductions of 29.6 per cent.





# Ensure Yukoners have access to reliable, affordable and renewable energy

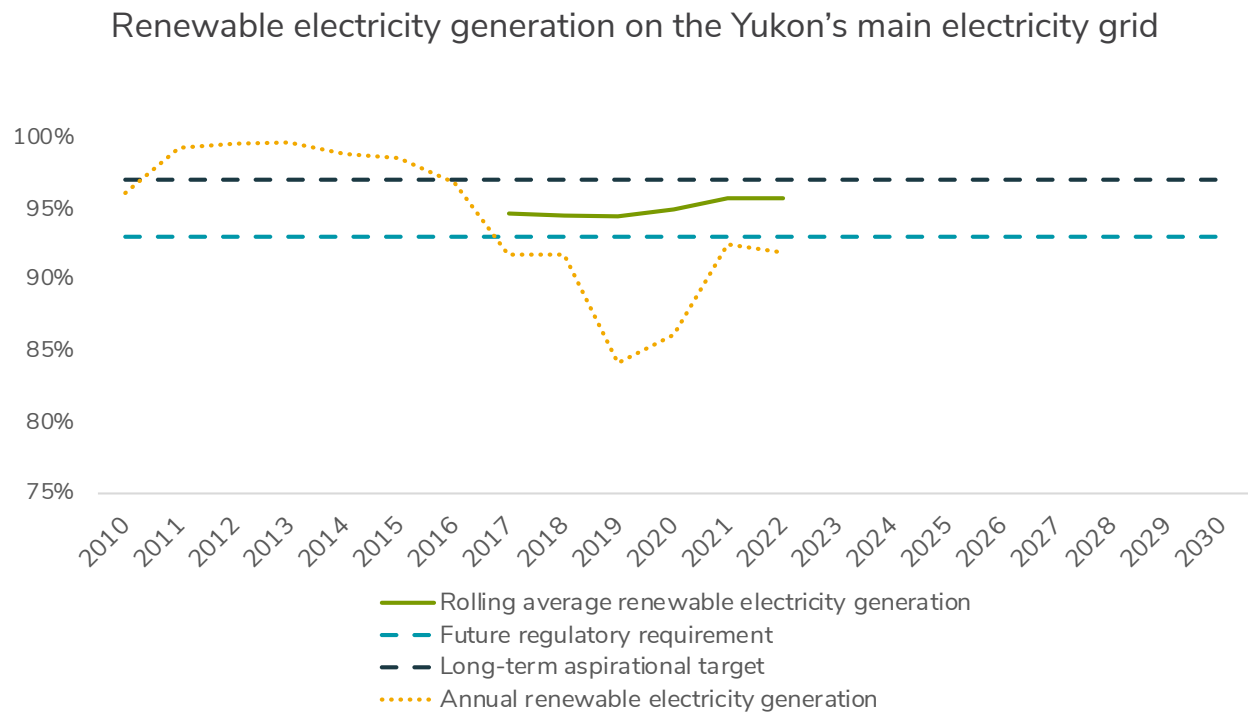
The following two targets support this goal:

**Target:** To reach our renewable electricity targets on the Yukon's main grid by 2030, we expect an average of at least 93 per cent of on-grid electricity to be generated from renewables each year, gradually increasing to an aspirational target of 97 per cent by 2030.

**Status:** In 2022, 91.9 per cent of the electricity on Yukon's main grid was generated from renewable sources, while the 25-year rolling average is 95.7 per cent (Figure 2).

**Target:** By 2030, we will use 30 per cent less diesel for electricity generation in off-grid communities.

**Status:** In 2022, 5.8 million litres of diesel were burned to generate electricity in the Yukon's four off grid communities. In order to reach this target, we need to be using less than 3.6 million litres of diesel in the communities, annually.



**Figure 2.**  
Percentage of renewable electricity generation on the Yukon's main electricity grid.



# Adapt to the impacts of climate change

*The following target supports this goal:*

**Target:** All Yukon communities will be highly resilient to the impacts of climate change by 2030.

**Status:** In 2022, we released and began addressing the findings of our climate risk assessment, called **Assessing Climate Change Risk and Resilience in the Yukon**. We are taking action on priority areas to improve Yukon's resilience to climate change.

In 2022, we launched and completed actions that address several of these priority areas: transportation resilience, preparedness for floods and fires, permafrost thaw and impacts to fish and wildlife.







# Build a green economy

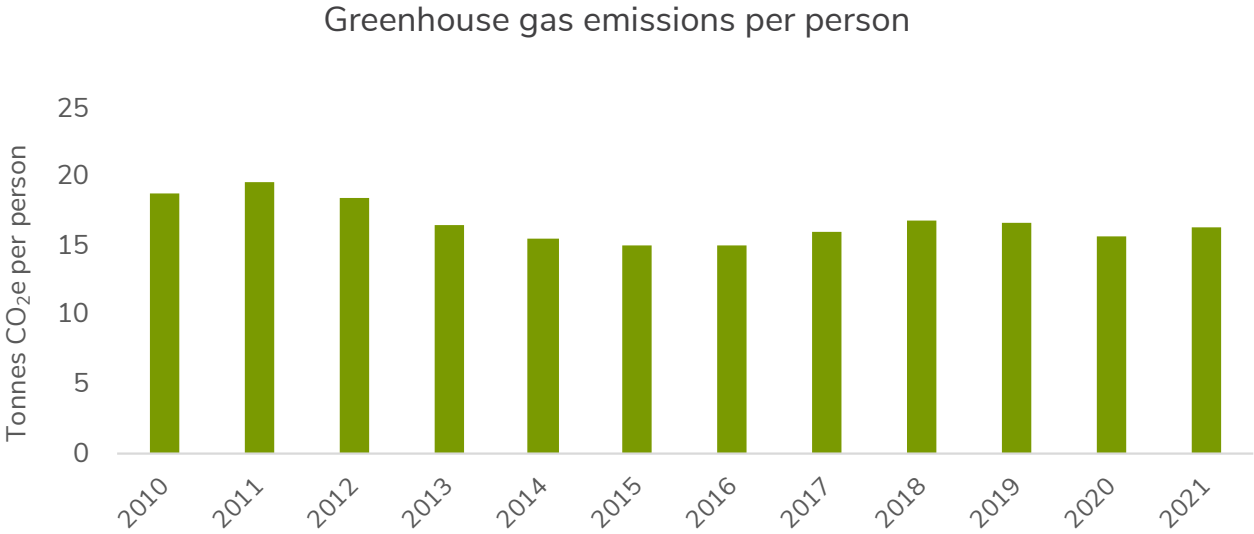
The following two targets support this goal:

**Target:** By 2030, we will see a reduction in greenhouse gas emissions per capita.

**Status:** In 2021, each Yukoner produced 16.4 tonnes of emissions on average per person, down from 18.8 tonnes in 2010 (Figure 3). This is based on the Yukon's total greenhouse gas emissions and the number of people living in the territory.

**Target:** By 2030, we will see a reduction in greenhouse gas emissions per unit of GDP.

**Status:** In 2021, the Yukon's economy generated 240 tonnes of carbon dioxide equivalent (CO<sub>2</sub>e) per unit (millions chained dollars) of real gross domestic product, down from 291 tonnes in 2010. This measure tracks the amount of greenhouse gas emissions (measured in CO<sub>2</sub>e) produced for each unit of economic output, which is measured in millions of dollars adjusted for inflation. Tracking carbon dioxide equivalent per unit (millions chained dollars) of real gross domestic product allows us to determine whether Yukon's economy is becoming more efficient in terms of the greenhouse gas emissions we generate.



**Figure 3:** Average greenhouse gas emissions per person from 2010 to 2021. Our target is to see this number continue to decline.



# Progress on Our Clean Future actions in 2022

This part of the report describes progress toward the specific objectives and actions in Our Clean Future. In this section, you will find information on which actions have been completed and data on key progress indicators.



## Overview of 2022 actions

Addressing climate change is a collaborative effort that impacts all areas of our society and requires key partners to work together. To achieve the goals and targets of Our Clean Future, we have set out tangible and specific actions. Each action contributes to reaching one of the objectives in Our Clean Future, which are organized into seven areas (right).

The Government of Yukon department or agency responsible for leading the implementation of each action is listed beside each action in Appendix A, Status of all Our Clean Future actions.

We recognize that actions in Our Clean Future need to apply to both urban and rural contexts. Some of the actions that are successful in Whitehorse may not be relevant in the communities. Municipalities, Yukon First Nations and transboundary Indigenous governments and groups have created and undertaken actions that are innovative and tailored to their needs. Appendix B highlights the actions undertaken by our partners in municipalities and Yukon First Nations and transboundary Indigenous governments and groups.

On the following pages, we list all actions completed in 2022. To learn more about all of the actions in Our Clean Future, please see Appendices A, C and D.



Transportation



Homes and buildings



Energy production



People and the environment



Communities



Innovation



Leadership



# Transportation

## Overview

Transportation is consistently the largest source of emissions in the Yukon. The Government of Yukon has a number of initiatives in place to increase the use of public transportation, such as buses, and of active transportation, such as walking and cycling. We also aim to increase the uptake of zero emissions vehicles, and to explore actions to make travel more efficient to reduce the carbon intensity of fossil fuels.

At the same time, the Assessing Climate Change Risk and Resilience in the Yukon report found that continuing to build the resilience of the Yukon's transportation infrastructure is a priority. Interruptions and damage to the Yukon's roads and highways affects all facets of Yukoners' lives, including transportation of food, connections among communities, operation of businesses, decarbonization of transportation and travel for essential services such as healthcare.

## Completed actions

In 2022, we completed four transportation actions:

- Train the Government of Yukon's heavy equipment operators on efficient driving techniques for all new equipment by 2022 (Action T16).
- Expand the Government of Yukon's video and teleconferencing systems and require employees to consider these options when requesting permission for work travel by 2022 (Action T17).
- Implement new policies to enable Government of Yukon employees in suitable positions to work from home for the longer term by 2022 (Action T18).
- Establish a geohazard mapping program for major transportation corridors and prioritize sections for targeted permafrost study by 2022 (Action T26).

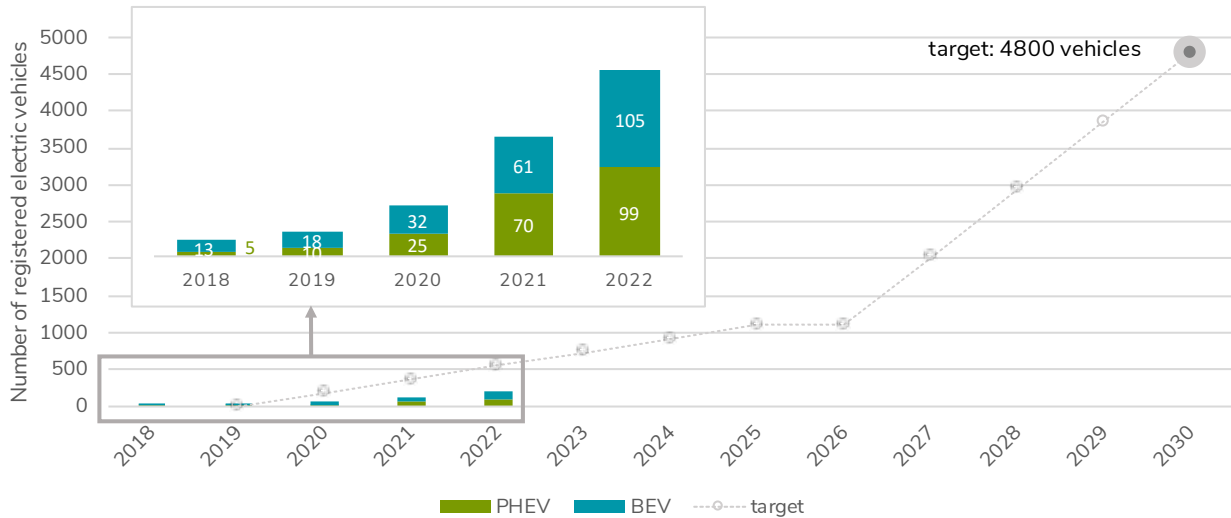
## Progress

In 2022, we made progress in reducing our emissions from the transportation sector and ensuring our transportation infrastructure is resilient to the impacts of climate change:

- We began offering rebates for light-duty electric trucks (under action T3) and medium- and heavy-duty electric vehicles (under action T15).
- We invested in the infrastructure necessary to support long-distance travel by electric vehicle. As a result of these efforts and the leadership of Yukoners, the number of light-duty zero emission vehicles (ZEVs) registered in the Yukon has been growing exponentially and has reached 204 (Figure 4).
- We issued 329 rebates for electric bicycles, our highest annual number yet. This brings the total number of e-bikes supported through Good Energy rebates to 755, offsetting emissions from commuting. Based on feedback from Yukoners, we also expanded the Good Energy e-bike rebate to include full suspension bikes.
- We completed six federal Climate Lens assessments for major capital highway projects planned within the next decade. These assessments will help build resilience for climate change into our infrastructure and understand the impacts of our projects on greenhouse gas emissions.



## Zero emission vehicles registered



**Figure 4:**

Uptake of light duty electric vehicles in the Yukon. Bars show the cumulative number of battery electric (BEV) and plug-in hybrid (PHEV) vehicles registered each year. Circle indicates target of 4,800 vehicles by 2030.



### Action highlight

T4. In 2022, the Government of Yukon continued to expand the network of public fast-charging stations. We installed an additional seven fast charging stations throughout the Yukon in 2022, bringing the total number of fast chargers to 12. In addition, installation of fast chargers was near completion in Beaver Creek, Burwash Landing, Ross River, Faro and Mendenhall at the end of 2022, with two more chargers in Whitehorse also close to completion. This means in 2023, zero-emission vehicle drivers are able to charge their vehicle in all 13 road accessible communities.



# Homes and buildings

## Overview

Our homes and buildings provide spaces for us to live, learn, work and play. How we design, use and heat these buildings affects our comfort, safety, productivity, health and finances. At the same time as we make our buildings more efficient, we are working to ensure they are designed to be more resilient to fires, floods, permafrost thaw and heat stress. This will reduce long-term repair and maintenance costs, health risks like mold and improve public safety.

The Assessing Climate Risk and Resilience in the Yukon report emphasized that local buildings are very important to all aspects of community life, especially in smaller and more remote places. They serve as gathering spaces, provide shelter in case of emergencies and host neighbouring communities during special events.

## Completed actions

In 2022, we completed the following four actions:

- Provide low-interest financing to support energy efficiency retrofits to homes and buildings beginning in 2021 (Action H3).
- Provide low interest financing to install smart electric heating devices in residential, commercial and institutional buildings in collaboration with the Yukon's public utilities beginning in 2021 (Action H18).
- Provide low-interest financing to install biomass heating systems in commercial and institutional buildings beginning in 2021 (Action H19).
- Complete the Peak Smart pilot project by 2022 to evaluate the use of smart devices to shift energy demand to off-peak hours (Action H28).

The other action due in 2022 is in progress:

- Identify regulatory improvements that could support the growth of Yukon's biomass energy industry during the review of the Forest Resources Act by 2022 (Action H23).



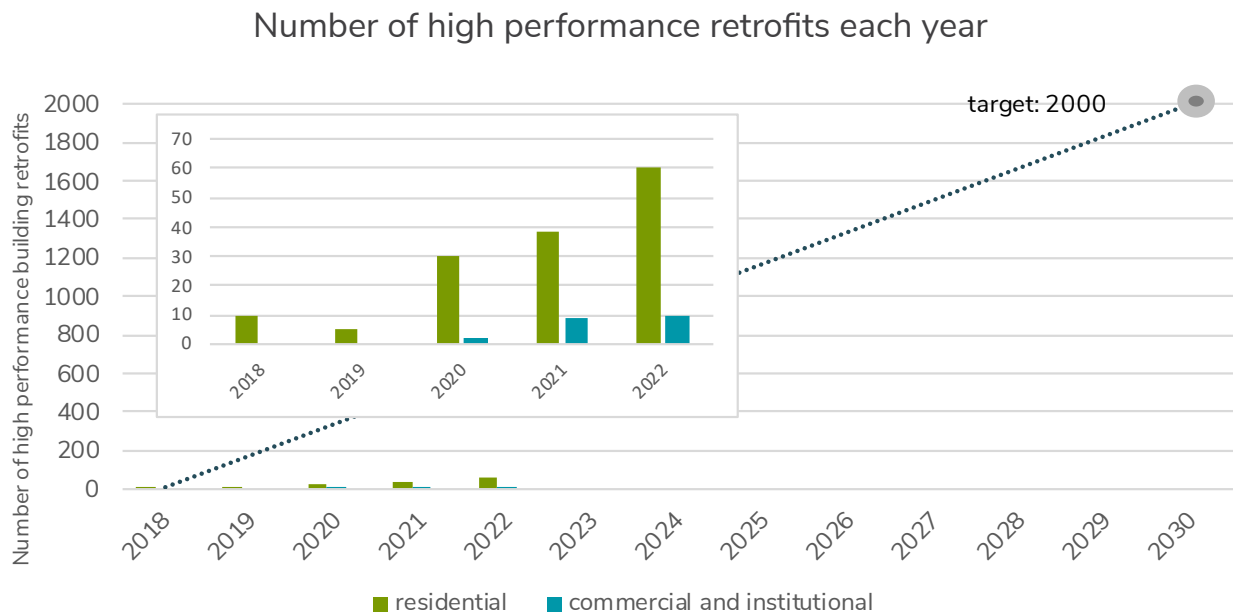


## Progress

In 2022, we made progress in reducing our emissions from the buildings sector and ensuring our homes and buildings are resilient to the impacts of climate change:

- We provided rebates and financial support to Yukoners and First Nations and municipal governments to complete upgrades to homes and buildings that reduce greenhouse gas emissions and energy use (Actions H4, H8 and H21). In 2022, 117 residential buildings or housing units were retrofitted along with 30 commercial and institutional buildings. Of these projects, 70 were high performance retrofits expected to make a significant reduction to the building's greenhouse gas emissions (Figure 5).
- We also provided rebates and funding to install smart electric heating systems in homes and buildings (Action H21). In 2022, we supported 21 homeowners to install heat pumps in their homes and provided funding for 4 heat pumps in commercial and institutional buildings.
- For new homes, we provide rebates through the ZeroPath program, which encourages builders and purchasers to design the home to be at least 50 per cent better than code (Action H16). In 2022, we issued 153 new home rebates. We also provided rebates for 5 heat pumps installed in new homes.
- We continue to improve energy efficiency and reduce greenhouse gas emissions from Government of Yukon buildings. In 2022, we completed 9 retrofits to Government of Yukon buildings (Action H1) and initiated 30 energy assessments that will inform future retrofits (Action H2). In addition, we began installing a biomass heating system at Elijah Smith Elementary School (Action H17).

As shown in Figure 5, the number of high performance retrofits each year is growing. However, we have work to do to reach the Our Clean Future target of 2,000 by 2030.



**Figure 5:**  
Number of high performance retrofits.



# Energy production

## Overview

As Yukoners increasingly invest in electric vehicles and electric heating technologies, demand for electricity will continue to grow. Through Our Clean Future and the Yukon Energy Corporation's **10-year renewable electricity plan**, we will continue to support reliable renewable electricity sources, especially those that add winter capacity to our grid.

These efforts, combined with electricity grid investments, will ensure our electricity infrastructure is climate resilient and suited to new patterns of electricity generation and use. Community-based renewable electricity generation also contributes to climate resilience, by building self-sufficiency and reducing our reliance on southern fuel imports.

## Completed actions

In 2022, the following actions were completed:

- Evaluate the potential to generate renewable electricity at remote historic sites co-managed by the Government of Yukon and Yukon First Nations by 2022 (Action E5).
- Develop a climate change adaptation plan for the Yukon Energy Corporation by 2022 that will identify risks and appropriate responses to ensure Yukon's main electrical grid is resilient to the impacts of climate change (Action E14).
- Continue to deliver the Micro-Generation Program in collaboration with Yukon's public utilities, targeting 7 megawatts (MW) of installed renewable electricity capacity by 2030 (Action E10).

The other action due in 2022 is in progress:

- Develop a framework by 2022 for First Nations to economically participate in renewable electricity projects developed by Yukon's public utilities (Action E9).

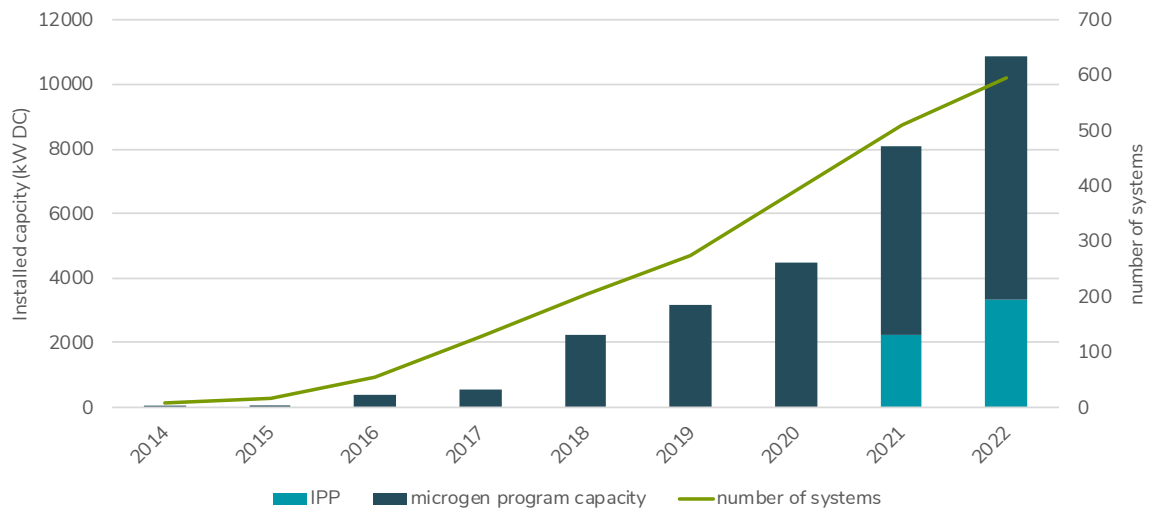
## Progress

In 2022, we made progress in increasing our renewable energy supply, and ensuring our electricity infrastructure is resilient to the impacts of climate change:

- Two Independent Power Production (IPP) projects came online in 2022, bringing the total up to four projects. Two of the four operating IPP projects in the Yukon are owned by First Nations: the Old Crow solar project and Klondike Development Organization solar project in Dawson City. The IPP projects currently operating have a combined installed capacity of just over 2.8MW and could contribute an estimated 0.4 per cent of all electricity consumed in the Yukon. Installations in off-grid communities are small yet lead to significant reductions in greenhouse gas emissions.
- Under the Micro-Generation Program, 653 systems were connected to the grid as of the end of 2022, accounting for 8 MW of installed renewable electricity capacity. These micro-generation installations account for about 1.6 per cent of the Yukon's annual electricity generation. The majority of the installed systems are in communities connected to the Yukon Integrated System, with a smaller amount located in off-grid communities.



## Non-utility installed renewable energy capacity



**Figure 6:**

Non-utility renewable energy capacity installed each year through the Micro-Generation Program, the Independent Power Production (IPP) program and number of new systems connected to the grid (right axis).



### Action highlight

E7. The amount of electrical capacity installed by Independent Power Producers, entities that own independent facilities to generate electric power for sale, also increased from 0 megawatts (MW) in 2020 to 1.86 MW in 2022 on the main grid and 0.94 MWDC in Old Crow. Half of these operating Independent Power Producer projects are owned by Yukon First Nations.

### Action highlight

E5. Tourism and Culture evaluated the potential to generate renewable electricity at remote historic sites co-managed by the Government of Yukon and Yukon First Nations in 2022. Forty Mile, Ch'edähdëk (Forty Mile) and Rampart House, three remote historic sites that are co-managed by Government of Yukon and Yukon First Nations, were evaluated for the potential to generate renewable electricity. As a result, solar systems were installed at two of the three sites in summer 2022. This action demonstrates innovative use of our resources to support social and ecological resilience in the Yukon.



# People and the environment

## Overview

Our Clean Future's People and the environment actions respond to the impacts of climate change on wild species and their habitats, and people's ability to practice traditional and cultural activities on the land. This area also focuses on protecting and enhancing human health and wellbeing as the climate changes.

Participants who supported the development of the Assessing Climate Change Risk and Resilience in the Yukon report emphasized that Yukoners have a close relationship to the land, water, plants and animals. Yukon First Nations people and transboundary Indigenous peoples stressed that cultural identity is inseparable from the land. Throughout the assessment, participants emphasized that environmental health is closely linked to human health and wellbeing. They made it clear that climate change is affecting places and species that are important for Yukon communities, cultures, health and wellbeing and food security.

## Completed actions

In 2022, we completed the following two actions:

- Establish a standardized method to determine the health status of wetland ecosystems and complete a pilot study to measure the baseline conditions of various reference wetlands by 2022 to better understand future changes (Action P1).
- Work with Yukon First Nations to develop a tailored hunter education program by 2023 that can be adapted and delivered by Yukon First Nations for First Nations citizens (Action P7).

### Action highlight

P7. In 2022, we continued to expand our hunter education program by working with Yukon First Nations to develop a tailored hunter education program that can be adapted and delivered by Yukon First Nations for First Nations citizens. We delivered four First Nations Hunter Education and Ethics Development (HEED) courses and trained an instructor to deliver this program. We also built partnerships with First Nations and schools to deliver this training.









# Communities

## Overview

Through Our Clean Future, we are taking steps to ensure our communities will be strong and resilient into the future. We envision that our communities will increasingly be places where people walk, cycle and use public transportation to get around and where local businesses thrive. We are increasing local food production in ways that are low-carbon and contribute to climate resilience.

To help us prepare for change, we are completing geohazard and flood maps for all at-risk communities to inform infrastructure and community design decisions. The Assessing Climate Change Risk and Resilience in the Yukon report emphasized the importance of ensuring that all orders of government work together for local planning, with particular attention to the combined capacity for emergency response. We are also developing and implementing emergency management plans and wildfire protection plans in all Yukon communities with participation from local First Nation and municipal representatives.

## Progress

For 2022, progress was made on the following actions:

- Complete hazard identification and risk assessments (HIRAs) for all Yukon communities by 2022 that include climate change risks (Action C11).
- Work with First Nations and municipalities to complete emergency management plans for all Yukon communities by 2022 informed by community HIRAs (Action C12).
- Develop a territorial disaster financial assistance policy by 2022 to support recovery from natural disasters that result in extensive property damage or disruption to the delivery of essential goods and service (Action C13).

### Action highlight

C11 and C12. The Emergency Measures Organization within the Community Services department advanced two actions focused on conducting workshops with First Nations and municipalities to carry out joint Hazard Identification and Risk Assessments as well as deliver emergency training and update emergency management plans. While they were initially planned to be completed in 2022, the groups involved adapted their timeline and extended the actions to accommodate emergency response to COVID-19, flood and fire events and carry out the actions successfully.





In 2022, we made progress in ensuring our communities are low carbon, resilient and prepared for emergencies:

- We assisted two First Nations and municipal governments with their agriculture and husbandry projects, undertook two projects that supported agriculture producers in adapting to climate impacts and supported one community greenhouse project. Supplying more of what we eat through local food production supports resilience, and decreases the need for us to truck in food.
- We continued to increase the capacity of our wildland fire response teams.
- We collected data and began engagement to develop flood maps.

### **Action highlight**

**C1.** The Yukon Geological Survey continued to expand geohazard map coverage to all Yukon communities with a high risk of permafrost thaw. In 2022, they focused on four communities, they continued working in Beaver Creek, and began observing the Moosehide and the Sunnydale landslides in the Dawson region via near real-time monitoring instruments. They also published reports on the Sunnydale landslide (Dawson), geomorphology of Nordenskiöld River (Carmacks), permafrost (Whitehorse area) and geohazards (Whitehorse area).



# Innovation

## Overview

Innovation is finding new and improved ways of doing something, whether it is how we interact with each other, how we generate and use energy, how we manage waste, or how we access resources.

Our Clean Future will see more Yukoners participating in the green economy, reduced emissions intensity in the Yukon's mining industry, enhanced sustainability of our tourism industry and improved waste management.

## Completed actions

In 2022 we completed four Innovation actions:

- Incorporate greenhouse gas emissions into the decision-making process for Department of Economic Development funding programs by 2022 (Action I1).
- Create an award program by 2022 to recognize the achievements of local green businesses and organizations (Action I5).
- Include new provisions in quartz mine licenses by 2022 that will ensure critical mine infrastructure is planned, designed and built to withstand current and projected impacts of climate change (Action I6).
- Require quartz mines to project their anticipated greenhouse gas emissions, identify measures to reduce emissions, and annually report greenhouse gas emissions through the quartz mine licensing process beginning in 2022 (Action I7).

The following action is in progress:

- Establish an intensity-based greenhouse gas reduction target for Yukon's mining industry and additional actions needed to reach the target by 2022 (Action I9).

### Action highlight

I9. Public engagement took place in fall 2022 related to the Government of Yukon's goal to establish an intensity-based greenhouse gas reduction target for Yukon's mining industry. This work was led by the Energy Branch and Mineral Resources Branch in the Department of Energy, Mines and Resources. The document, ***Mining intensity target: What We Heard***, contains a comprehensive summary of feedback from Yukon First Nations, transboundary Indigenous governments and groups, Yukon organizations and Yukoners working in Yukon's mining industry. Establishing this target will reduce the carbon intensity of mining in the Yukon and ensure that mining projects are prepared for the impacts of climate change.









# Leadership

## Overview

Our Clean Future aims to empower every government, business and individual to take a leadership role in building a healthy, prosperous Yukon for years to come.

## Completed actions

In 2022, we completed the following four actions:

- Create a *Clean Energy Act* by 2023 that legislates our greenhouse gas reduction targets and our commitments to energy efficiency to hold the Government of Yukon accountable (Action L1).
- Incorporate climate change risks into Government of Yukon departmental planning processes by 2022 (Action L3).
- Develop and offer climate change training for Government of Yukon employees by 2022 (Action L5).
- Begin participating in the National Forest Inventory monitoring program in 2022 to gather information about forest carbon stocks, potential biomass energy supply, pest and forest fire risks, and climate impacts on Yukon's forests (Action L11).

### **Partner highlight: Reconnection Vision**

It has been three years since the 2020 Yukon First Nations' Climate Action Gathering, where Yukon First Nations Leadership signed a Climate Change Emergency Declaration and called for a Youth-led Yukon First Nations Climate Vision and Action Plan. This led to the creation and launch of the Yukon First Nations Climate Action Fellowship. Thirteen youth took part in the fellowship that began in January 2021, reconnecting with their culture and identity as they developed this Vision and Action Plan – the Reconnection Vision.

During the Together Today for Our Children Tomorrow 50th Anniversary celebrations, the youth officially graduated from the Fellowship, and presented the Reconnection Vision to First Nations Leadership and the public at the Kwanlin Dün Cultural Center. This graduation marked a celebration of the next generation of Yukon First Nations climate leaders and united Yukon First Nations in a shared vision for the future. It was a beautiful ceremony with family and loved ones. Following the celebrations, First Nations leadership officially endorsed the Reconnection Vision as the First Nations' approach to climate action in the Yukon.

*This partner highlight was shared by Council of Yukon First Nations and Assembly of First Nations – Yukon region.*



### **Action highlight**

L5. Department of Environment worked collaboratively with Yukon University to develop two introductory climate change training courses which are now available online to all Yukoners, including Government of Yukon staff. They also delivered specialized courses on risk management for climate adaptation and resilience. This action will help to ensure that Yukoners have the information needed to make evidence-based decisions about climate adaptation and to ensure the goals of this strategy are incorporated into government planning and operations.

### **Action highlight**

L11. The Forest Management Branch of Energy, Mines and Resources began participating in the National Forest Inventory (NFI) monitoring program in 2022 to gather information about forest carbon stocks, potential biomass energy supply, pest and forest fire risks and climate impacts on Yukon's forests. Work began in summer 2021 to connect Yukon to the NFI monitoring program. In the summer of 2022 the first NFI ground plots in the Yukon were established. There are now 11 NFI ground plots in the Yukon and additional plots will be established in the years to come. This robust forest monitoring system supports ecological resilience in the the Yukon and enables us to carry out our own leading research on biomass energy. It empowers evidence-based decision-making with local data, allowing us to leverage cutting-edge research in using biomass energy effectively.



An aerial photograph of a wide, flat landscape with a winding river. The river flows from the background towards the foreground, curving through a lush green area. The surrounding land is a mix of brown and green, suggesting a natural wetland or tundra. In the distance, there are large, rugged mountains under a cloudy sky. The overall scene is a vast, open natural environment.

# Building on our progress

**We've evaluated our actions in order to best chart a path to our 2030 goals and targets. Part of this evaluation process has involved re-examining the criteria for the actions and analyzing it through reconciliation as well as gender and social equity lenses. Through the evaluation process we have revised existing actions and developed new emergent actions altogether.**

Likewise, while undertaking this work, cross-cutting areas that require innovative and collaborative approaches to climate resilience have emerged. For example, strengthening food security systems in the Yukon to ensure reliable access to locally grown and harvested foods and store-bought foods in times of stress due to climate impacts such as flooding will require collaboration between many partners.

This evaluative process informs how we have revised current actions as well as the inclusion of new actions. In addition to our current actions, 42 new actions have been introduced, bringing the Government of Yukon's total actions under Our Clean Future to 178. For a complete list of all new Our Clean Future actions, please see Appendix D.



# Appendix A: Status of all Our Clean Future actions

#	Action name	Department	Status
<b>TRANSPORTATION</b>			
T1	Work with local vehicle dealerships and manufacturers to establish a system by 2024 to ensure zero emission vehicles are 10 per cent of light duty vehicle sales by 2025 and 60 per cent by 2030. Revised	EMR	In progress
T2	Continue the electrification of Government of Yukon's vehicle fleet and by 2025 develop vehicle lifecycle management practices that incorporate emissions or greenhouse gas emissions reductions into vehicle replacement decision-making. Revised	HPW	In progress
T3	Provide a rebate to Yukon businesses and individuals who purchase eligible zero emission vehicles beginning in 2020.	EMR	Complete
T4	Continue to install fast-charging stations across Yukon to make it possible to travel between all road-accessible Yukon communities by 2027 and work with neighbouring governments and organizations to explore options to connect Yukon with BC.	EMR/HPW	In progress
T5	Provide rebates to support the installation of smart electric vehicle charging stations at residential, commercial and institutional buildings in collaboration with Yukon's public utilities beginning in 2020.	EMR	Complete
T6	Require new residential buildings to be built with the electrical infrastructure to support Level 2 electric vehicle charging beginning on April 1, 2021.	CS	Complete
T7	Draft legislation by 2024 that will enable private businesses and Yukon's public utilities to sell electricity for the purpose of electric vehicle charging.	EMR	In progress
T8	Continue to run public education events and campaigns to raise awareness of the benefits of electric vehicles and how they function in cold climates.	EMR	Ongoing
T9	Require all diesel fuel sold in Yukon for transportation to align with the percentage of biodiesel and renewable diesel by volume in leading Canadian jurisdictions beginning in 2025.	EMR	In progress
T10	Require all gasoline sold in Yukon for transportation to align with the percentage of ethanol by volume in leading Canadian jurisdictions beginning in 2025.	EMR	In progress
T11	Provide rebates to encourage the purchase of electric bicycles for personal and business commuting beginning in 2020.	EMR	Complete
T12	Continue to support municipalities and First Nations to make investments in public and active transportation infrastructure.	CS	Ongoing
T13	Develop Yukon-specific design guidance and a plan for active transportation facilities by 2024 to guide investments in active transportation infrastructure into corridors near communities.	HPW	Not started

#	Action name	Department	Status
T14	Update the Government of Yukon's heavy-duty vehicle fleet by 2030 to reduce greenhouse gas emissions and fuel costs.	HPW	In progress
T15	Begin a pilot project in 2021 to test the use of short-haul medium and heavy-duty electric vehicles for commercial and institutional applications within Yukon.	EMR	Complete
T16	Starting in 2022 and continuing on an annual basis, ensure that YG staff have efficient driving training to reduce emissions from ongoing operations. Revised	HPW	Complete
T17	Expand the Government of Yukon's video and teleconferencing systems and require employees to consider these options when requesting permission for work travel by 2022.	HPW	Complete
T18	Implement new policies to enable Government of Yukon employees in suitable positions to work from home for the longer term by 2022.	HPW	Complete
T19	Change how and where Government of Yukon employees work by 2024 through creating healthier and more sustainable office spaces that reflect the reality of increasingly digital, flexible and collaborative work. Revised	HPW	In progress
T20	Develop and implement a system by 2023 to coordinate carpooling for Government of Yukon staff travelling by vehicle for work within the Yukon.	HPW	In progress
T21	Develop and implement guidelines for Government of Yukon's fleet by 2023 to ensure appropriate vehicles are used for the task at hand, including prioritizing zero-emission vehicles and other low-carbon transportation options.	HPW	In progress
T22	Incorporate fuel efficiency into purchasing decisions for Government of Yukon fleet vehicles beginning in 2020 to reduce greenhouse gas emissions and fuel costs.	HPW	Complete
T23	Expand virtual health care services by 2023 with a focus on equitable access in order to improve access to healthcare while reducing greenhouse gas emissions. Revised	HSS	In progress
T24	Continue to operate the Yukon Rideshare program to make carpooling and other shared travel easier.	ENV	Ongoing
T25	Complete a climate change vulnerability study of the road transportation network by 2023 to inform the prioritization of improvements to existing infrastructure being impacted by climate change.	HPW	In progress
T26	Establish a geohazard mapping program for major transportation corridors by 2022, and continue to monitor prioritized sections to enable geohazard prediction and support maintenance planning. Revised	EMR	Complete
T27	Analyze flood risk along critical transportation corridors at risk of flooding by 2023.	ENV	In progress
T28	Continue to conduct climate risk assessments of all major transportation infrastructure projects above \$10 million, such as through the federal Climate Lens assessment.	HPW	Ongoing

#	Action name	Department	Status
<b>HOMES AND BUILDINGS</b>			
H1	Conduct retrofits to Government of Yukon buildings to reduce energy use and contribute to a 30 per cent reduction in greenhouse gas emissions by 2030.	HPW	In progress
H2	Develop and implement an ongoing energy assessment program by 2023, and continue to assess all high-emitting Government of Yukon buildings every 10 years. <i>Revised</i>	HPW	In progress
H3	Provide low-interest financing to support energy efficiency retrofits to homes and buildings beginning in 2021.	CS	Complete
H4	Continue to provide financial support to assist First Nations and municipalities to complete major energy retrofits to institutional buildings across Yukon, aiming for 30 retrofits by 2030.	EMR	In progress
H5	Continue to provide financial support for municipal and First Nations energy efficiency projects.	CS	Ongoing
H6	Continue to work with Yukon First Nations to retrofit First Nations housing to be more energy efficient.	YHC	Ongoing
H7	Continue to retrofit Government of Yukon community housing to reduce greenhouse gas emissions in each building by 30 per cent.	YHC	Ongoing
H8	Continue to provide rebates for thermal enclosure upgrades and energy efficient equipment to reduce energy use in homes and commercial buildings.	EMR	In progress
H9	Assess ways to ensure Yukoners can access adequate insurance for fires, floods and permafrost thaw by 2023.	CS	In progress
H10	Develop and implement a plan by 2024 to conduct routine monitoring of the structural condition of Government of Yukon buildings located on permafrost.	HPW	In progress
H11	Assess options to provide financial support for actions to improve the climate resiliency of homes and buildings by 2023.	ENV	Complete
H12	Work with the Government of Canada to develop and implement building codes suitable to northern Canada that will aspire to see all new residential and commercial buildings be net zero energy ready by 2032.	CS	In progress
H13	Continue to require all new Government of Yukon buildings to be designed to use 35 per cent less energy than the targets in the National Energy Code 2017 for Buildings, in accordance with the Government of Yukon's Design Requirements and Building Standards Manual. <i>Revised</i>	HPW	Ongoing
H14	Adopt and enforce relevant building standards by 2030 that will require new buildings to be constructed to be more resilient to climate change impacts like permafrost thaw, flooding and forest fires.	CS	Not started
H15	Continue to conduct climate risk assessments of all major building projects over \$10 million that are built or funded by the Government of Yukon.	CS	Ongoing
H16	Continue to provide rebates for new homes that are net zero energy ready, aiming for 500 homes by 2030.	EMR	In progress



#	Action name	Department	Status
H17	Install renewable heat sources such as biomass energy in Government of Yukon buildings by 2030 to create long-term demand for renewable heating and contribute to a 30 per cent reduction in greenhouse gas emissions.	HPW	In progress
H18	Provide low-interest financing to install smart electric heating devices in residential, commercial and institutional buildings in collaboration with Yukon's public utilities beginning in 2021.	CS	Complete
H19	Provide low-interest financing to install biomass heating systems in commercial and institutional buildings beginning in 2021.	CS	Complete
H20	Continue to assist First Nations to complete feasibility studies for the installation and operation of biomass heating systems.	EMR	Ongoing
H21	Continue to provide rebates for residential, commercial and institutional biomass heating systems and smart electric heating devices and increase the current rebate for smart electric heating devices beginning in 2020.	EMR	In progress
H22	Work with local industry to install and test 25 electric heat pumps with backup fossil fuel heating systems or utility-controlled electric thermal storage from 2020 to 2023.	EMR	In progress
H23	Identify regulatory improvements that could support the growth of Yukon's biomass energy industry during the review of the Forest Resources Act by 2022.	EMR	In progress
H24	Amend the Air Emissions Regulations by 2025 in order to regulate air emissions from commercial and institutional biomass burning systems to minimize the release of harmful air pollutants.	ENV	In progress
H25	Analyze and compare the climate benefits of different types of biomass harvesting and use in Yukon by 2021 in order to identify recommended forest management practices to guide sustainable and low-carbon biomass use.	ENV	Complete
H26	Provide direction to the Yukon Utilities Board in 2020 to allow Yukon's public utilities to partner with the Government of Yukon to pursue cost-effective demand-side management measures.	YDC	Complete
H27	Establish a partnership between the Government of Yukon, Yukon Energy Corporation and ATCO Electric Yukon by 2021 that will collaborate on the delivery of energy and capacity demand-side management programs.	EMR	Complete
H28	Complete the Peak Smart pilot project by 2022 to evaluate the use of smart devices to shift energy demand to off-peak hours.	YEC	Complete
H29	Implement an education campaign for Government of Yukon building occupants and visitors by 2026 to encourage more energy efficient behaviours.	HPW	In progress
H30	Work with partners to contribute to net 30 per cent greenhouse gas reductions from the Government of Yukon's building portfolio by 2030.	HPW	In progress

#	Action name	Department	Status
<b>ENERGY</b>			
E1	While aiming for an aspirational target of 97 per cent by 2030, develop legislation by 2023 that will require at least 93 per cent of the electricity generated on the Yukon Integrated System to come from renewable sources, calculated as a long-term rolling average.	EMR	In progress
E2	Require some of the diesel used to generate electricity on the Yukon Integrated System and in off-grid communities to be substituted with clean diesel alternatives like biodiesel and renewable diesel beginning in 2025, aiming for around 20 per cent.	EMR	In progress
E3	Update the Public Utilities Act by 2025 to ensure an effective and efficient process for regulating electricity in Yukon.	JUS	In progress
E4	Install renewable electricity generation systems in 5 Government of Yukon buildings in off-grid locations by 2025 to reduce reliance on diesel-generated electricity.	HPW	In progress
E5	Evaluate the potential to generate renewable electricity at remote historic sites co-managed by the Government of Yukon and Yukon First Nations by 2022.	TC	Complete
E6	Continue to provide financial and technical support for Yukon First Nations, municipalities and community organizations to undertake community-led renewable energy projects.	YDC	Ongoing
E7	Work with Yukon's public utilities to continue to implement the Independent Power Production Policy that enables independent power producers, including Yukon First Nations and communities, to generate and sell electricity to the grid.	EMR	Ongoing
E8	Increase the limit of the Standing Offer Program under the Independent Power Production Policy from 20 gigawatt hours (GWh) to 40 GWh by 2021 to support additional community-based renewable energy projects on Yukon's main electrical grid.	EMR	Complete
E9	Develop a framework by 2022 for First Nations to economically participate in renewable electricity projects developed by Yukon's public utilities.	YDC	In progress
E10	Continue to deliver the Micro-generation Program in collaboration with Yukon's public utilities, targeting 7 megawatts (MW) of installed renewable electricity capacity by 2030.	EMR	Complete
E11	Develop legislation by 2023 to regulate geothermal energy development in Yukon.	EMR	In progress
E12	Research the potential to use geothermal energy for heating and electricity, with a focus along Yukon fault systems, by 2025.	EMR	In progress
E13	Improve modelling of the impacts of climate change on hydroelectricity reservoirs by 2021 and incorporate this information into short, medium, and long-term forecasts for renewable hydroelectricity generation.	YEC	Complete
E14	Develop a climate change adaptation plan for the Yukon Energy Corporation by 2022 that will identify risks and appropriate responses to ensure Yukon's main electrical grid is resilient to the impacts of climate change.	YEC	Complete
E15	Implement a glacier monitoring program in 2020 and continue to work with academic partners to improve our ability to track the impacts of glacier melt on hydrological systems and hydroelectricity generation. Revised	EMR	Complete

#	Action name	Department	Status
PEOPLE AND ENVIRONMENT			
P1	Establish a standardized method to determine the health status of wetland ecosystems and complete a pilot study to measure the baseline conditions of various reference wetlands by 2022 to better understand future changes.	ENV	Complete
P2	Adapt existing surface and groundwater monitoring networks by 2026 to be able to track long-term trends in water quality and quantity in a changing climate.	ENV	In progress
P3	Continue to lead and participate in projects that improve our understanding of how climate change is affecting ecosystems, wild species and their habitats.	ENV	Ongoing
P4	Report annually on monitoring of key species that will provide an indication of the impacts of climate change on Yukon ecosystems and expand monitoring to more taxonomic groups. Revised	ENV	Ongoing
P5	Establish a network of protected and managed areas that is ecologically representative and well connected using landscapes conservation science and Indigenous knowledge in order to allow native species, assemblages and ecosystems, to move adapt and survive in the face of climate change. Revised	ENV	Ongoing
P6	Conduct a climate vulnerability assessment to inform an invasive species management strategy for the Yukon, and develop a centralized data repository to track new and invasive species to Yukon by 2027. Revised	ENV	Ongoing
P7	Work with Yukon First Nations to develop a tailored hunter education program by 2023 that can be adapted and delivered by Yukon First Nations for First Nations citizens.	ENV	Complete
P8	Work collaboratively with First Nations and the Inuvialuit to document information from historic sites and culturally important places on the North Slope that are at risk due to climate change by 2024.	TC	In progress
P9	Provide training to healthcare providers beginning in 2023 to be better able to identify and treat the physical and mental health impacts of climate change.	HSS	In progress
P10	Develop a system to enable tracking of climate-related illnesses such as heat stroke, respiratory illness, and vector-borne diseases in the Yukon by 2023.	HSS	In progress
P11	Expand monitoring of concentrations of particulate matter in the air from biomass burning and forest fires to all Yukon communities by 2023.	ENV	In progress
P12	Identify existing buildings in communities that can be used as clean air spaces to protect public health during wildfire smoke events and if necessary, improve existing air filtration systems by December 2023	HSS	In progress
P13	Provide financial support to vulnerable Yukoners to install cleaner air spaces in their homes and buildings beginning in 2023 to provide protection from wildfire smoke.	YHC	Not started



#	Action name	Department	Status
P14	Analyze existing information on food insecurity in Yukon by 2023 to inform the development of a system to gather food insecurity data into the future.	HSS	In progress
<b>COMMUNITIES</b>			
C1	Expand geohazard map coverage to all Yukon communities with a high risk of permafrost thaw by 2025, in order to monitor community geohazards to better predict events, support adaptation and emergency response. Revised	EMR	In progress
C2	Develop flood probability maps for all Yukon communities at risk of flooding by 2023 that incorporate climate change projections.	ENV	In progress
C3	Develop detailed guidelines by 2025 that can be used by the Government of Yukon and partners to develop walkable, bike-friendly and transit-oriented communities.	ENV	Not started
C4	Continue to develop, encourage and apply applicable climate resiliency standards to community design and infrastructure development projects built by or receiving capital funding from the Government of Yukon.	CS	Ongoing
C5	Continue to conduct detailed climate change risk assessments of all major community infrastructure projects over \$10 million that are built or funded by the Government of Yukon.	CS	Ongoing
C6	Upon review and updating of Land Use Plans, ensure that the climate change-related information is up-to-date and if consensus reached with First Nations partners incorporated into the plans. Revised	EMR	Ongoing
C7	Continue to provide technical and administrative support to Yukon First Nations and municipalities to prepare integrated asset management plans.	CS	Ongoing
C8	Expand monitoring networks and improve modelling tools to generate reliable daily flood forecasts and relevant warnings for all at-risk Yukon communities by 2024.	ENV	In progress
C9	Work with First Nations and municipalities to develop Wildfire Protection Plans for all Yukon communities by 2026 and to complete the forest fuel management activities outlined in the plans by 2030.	CS	In progress
C10	Increase the capacity in Yukon Wildland Fire to prevent wildfires and respond to extended fire seasons by investing in staffing in 2020.	CS	Complete
C11	Complete hazard identification and risk assessments (HIRAs) for all Yukon communities by 2022 that include climate change risks.	CS	In progress
C12	Work with First Nations and municipalities to complete emergency management plans for all Yukon communities by 2022 informed by community hazard identification and risk assessments (HIRAs).	CS	In progress
C13	Develop a territorial disaster financial assistance policy by 2022 to support recovery from natural disasters that result in extensive property damage or disruption to the delivery of essential goods and services.	CS	In progress
C14	Incorporate support, where possible, for local food producers into Government of Yukon procurement processes beginning in 2020.	HPW	Complete
C15	Continue to provide funding for community gardens and greenhouses, especially in rural communities.	EMR	Ongoing

#	Action name	Department	Status
C16	Continue to provide technical advice to assist First Nations and municipal governments with their agricultural and animal husbandry projects.	EMR	Ongoing
C17	Continue to conduct and provide access to funding for research on how climate change could affect local agriculture.	EMR	Ongoing
C18	Continue to support agricultural producers to adapt to the impacts of climate change, adopt low-carbon practices and use surface water and groundwater efficiently.	EMR	Ongoing
<b>INNOVATION</b>			
I1	Incorporate greenhouse gas emissions into the decision-making process for Department of Economic Development funding programs by 2022.	EcDev	Complete
I2	Develop procurement guidance, operational requirements, and a collection of evaluation criteria to better support sustainable and local procurement, by 2024.	HPW	In progress
I3	Identify and develop options to address potential regulatory and policy barriers to the growth of green businesses in Yukon by 2023.	EcDev	In progress
I4	Expand the range of relevant professional development offerings by 2023 to enable more Yukoners to participate in the green economy.	EMR	In progress
I5	Create an award program by 2022 to recognize the achievements of local green businesses and organizations.	EcDev	Complete
I6	Include new provisions in quartz mine licenses by 2022 that will ensure critical mine infrastructure is planned, designed and built to withstand current and projected impacts of climate change.	EMR	Complete
I7	Require quartz mines to project their anticipated greenhouse gas emissions, identify measures to reduce emissions, and annually report greenhouse gas emissions through the quartz mine licensing process beginning in 2022.	EMR	Complete
I8	Increase the Government of Yukon's participation in intergovernmental initiatives related to mine resiliency, low-carbon mining, and innovation by 2021.	EMR	Complete
I9	Establish an intensity-based greenhouse gas reduction target for Yukon's mining industry and additional actions needed to reach the target by 2022.	EMR	In progress
I10	Establish and implement a framework to measure the sustainability of tourism development in Yukon by 2021.	TC	Complete
I11	Develop and implement a system to track greenhouse gas emissions from Yukon's tourism industry by 2021.	TC	Complete
I12	Assess options for establishing a comprehensive waste diversion system in Government of Yukon buildings, including reuse, recycling, compost and e-waste collection by 2030.	HPW	In progress
I13	Develop legislation enabling the Government of Yukon to restrict or prohibit the production, supply or distribution of appropriate single use bags by 2021.	ENV	Complete
I14	Design and implement a system for Extended Producer Responsibility by 2025 that will make producers responsible for managing materials through the lifecycle of a product.	ENV	In progress
I15	Develop and implement a system by 2023 to promote the reuse of government assets throughout the Government of Yukon.	HPW	In progress

#	Action name	Department	Status
<b>LEADERSHIP</b>			
L1	Create a <i>Clean Energy Act</i> by 2023 that legislates our greenhouse gas reduction targets and our commitments to energy efficiency and demand-side management to hold the Government of Yukon accountable.	EMR	Complete
L2	Incorporate a climate change lens into the decision-making process for major Government of Yukon policies, programs, and projects by 2021.	ENV	Complete
L3	Incorporate climate change risks into Government of Yukon departmental planning processes by 2022.	ENV	Complete
L4	Incorporate greenhouse gas emissions, energy efficiency into the process for identifying and prioritizing Government of Yukon infrastructure retrofits projects by 2023, with additional considerations for climate adaptation starting in 2025. Revised	HPW	Complete
L5	Launch a suite of climate change training to offer to Government of Yukon employees, including decision makers, by 2025. Revised	ENV	Complete
L6	Create a Youth Panel on Climate Change in 2020 that will provide advice and perspectives to the Government of Yukon on climate change, energy and green economy matters that reflects the diversity of Yukon youth.	ECO	Complete
L7	Provide mentorship and engagement opportunities for Yukon youth, including participating in territorial and major international climate change and energy events with Government of Yukon staff beginning in 2023. Revised	ENV	In progress
L8	Continue to support land-based programs in the Yukon school curriculum that teach First Nations ways of knowing and doing to youth.	EDU	Ongoing
L9	Assess climate hazards and vulnerabilities to those hazards across Yukon every three to four years between 2020 and 2030 to prioritize climate change adaptation actions.	ENV	In progress
L10	Support the Government of Canada's work to develop a pan-territorial climate hub by 2030 that will support access to climate data and projections for the North.	ENV	In progress
L11	Begin participating in the National Forest Inventory monitoring program in 2022 to gather information about forest carbon stocks, potential biomass energy supply, pest and forest fire risks, and climate impacts on Yukon's forests.	EMR	Complete
L12	Create easy access to technical information and lessons learned about climate change, energy and green economy for governments and stakeholders by 2021.	ENV	Complete
L13	Launch a Yukon-wide information or social marketing campaign in 2021 that will educate Yukoners on greenhouse gas emissions, renewable energy, climate change adaptation, and other topics and highlight what Yukoners can do to support climate change initiatives.	ENV	Complete
L14	Develop and implement new guidelines for addressing climate change hazard, including opportunities for safe community centres, in all major Government of Yukon infrastructure projects in the Yukon by 2024. Revised	HPW	In progress
L15	Develop and implement a framework to incorporate greenhouse gas emissions and climate risk into government infrastructure investments in 2024.	HPW	In progress
L16	Align the Government of Yukon's energy management program with an internationally standardized energy management system by 2025.	HPW	In progress



# Appendix B: Status of all partner actions

Action	Lead organization	Progress update
Develop a Yukon First Nations Climate Vision and Action Plan (YFNCVAP)	AFN - CYFN	<p><b>Complete</b> - It has been three years since the 2020 Yukon First Nations' Climate Action Gathering, where Yukon First Nations Leadership signed a Climate Change Emergency Declaration and called for a Youth-led Yukon First Nations Climate Vision and Action Plan. This led to the creation and launch of the Yukon First Nations Climate Action Fellowship. Thirteen youth took part in the fellowship that began in January 2021, reconnecting with their culture and identity as they developed this Vision and Action Plan – the Reconnection Vision.</p> <p>During the Together Today for Our Children Tomorrow 50th Anniversary celebrations, the youth officially graduated from the Fellowship, and presented the Reconnection Vision to First Nations Leadership and the public at the Kwanlin Dün Cultural Center. This graduation marked a celebration of the next generation of Yukon First Nations climate leaders and united Yukon First Nations in a shared vision for the future. It was a beautiful ceremony with family and loved ones. Following the celebrations, First Nations leadership officially endorsed the Reconnection Vision as the First Nations' approach to climate action in the Yukon.</p>
Installation of three Level two Electric Vehicle chargers	Town of Faro	<b>In progress</b> - An electrician has begun the installation of chargers. One is being installed at the Town Office and two are being installed at the Community Services Building.
Pilot of enzymatic sewage lagoon treatment to reduce cost and emissions of diesel-powered lagoon cleaning equipment	Town of Faro	<b>In progress</b> - Treatment was applied in 2022 and is working well. The application will last for 3 years with estimated cost savings of approximately \$250,000.

Action	Lead organization	Progress update
Implementation of Climate Change Strategy for the Inuvialuit Settlement Region	Inuvialuit Regional Corporation	<p><b>In progress</b> – The Inuvialuit Regional Corporation (IRC) is working to implement the goals and actions outlined in the Inuvialuit Settlement Region (ISR) Climate Change Strategy. Two of the ongoing projects (ISR Climate Watch and Climate Change and Clean Energy Terminology) advance IRC’s Education and Awareness theme in the strategy. These initiatives expand community-based environmental monitoring programs to include all ISR communities and support the continued development of climate change terminology that promotes language revitalization in all three ISR dialects, respectively.</p> <p>The IRC Climate Change Action Map website advances the “Ecosystem Health and Diversity” theme, by increasing data accessibility by creating an ISR data platform that can easily be accessed by communities.</p> <p>Work also remains ongoing to identify avenues of funding to support the implementation of the other goals and actions outlined in the strategy. One of the themes they are currently seeking funding for is “Food and Wellness” through a food-borne disease and climate change project.</p>
Implementation of the Inuvialuit Settlement Region Energy Action Plan	Inuvialuit Regional Corporation	<p><b>In progress</b> - Inuvialuit Regional Corporation (IRC) is working to implement the goals and actions related to five thematic areas outlined in the Inuvialuit Settlement Region (ISR) Energy Action Plan. For example, IRC’s current Powered by Youth project and Youth-focused public survey are actions related to the “Capacity &amp; Engagement” and “Education and Energy Literacy” themes of the plan.</p> <p>The “Energy Coordination in the ISR” project is another ongoing action to achieve the goal of “Education &amp; Energy Literacy” themes.</p>
Develop an Energy Action Plan for the Inuvialuit Settlement Region	Inuvialuit Regional Corporation	<p><b>Complete</b> – The Inuvialuit Settlement Region (ISR) Energy Action Plan was launched in October 2022. The plan provides a scheme of each ISR community’s energy landscape and proposes actions to confront challenges related to energy availability and cost by providing practical solutions to attain a more sustainable, inclusive and healthy future to benefit residents. The plan is available at <a href="#">Inuvialuit Settlement Region Energy Action Plan.pdf</a>.</p>
Develop a Climate Change Strategy for the Inuvialuit Settlement Region	Inuvialuit Regional Corporation	<p><b>Complete</b> – The Climate Change Strategy was launched to the public in February 2022, and is available at <a href="#">ISR_Climate_Change_Strategy.pdf</a> (Inuvialuit.com).</p>
Inuvialuit Energy & Climate Children’s Book Series	Inuvialuit Regional Corporation	<p><b>New action, in progress</b> – Inuvialuit Regional Corporation (IRC) published its first Children’s Book on Energy called, Energy from Our Environment. IRC has been actively engaging with Inuvialuit since 2019 to write, illustrate, and translate IRC’s first storybook on energy and the environment. This storybook teaches children about Inuvialuit tradition, language and culture while increasing energy literacy. The children’s book presents the engaging story in English, Uummarmiutun, Kangiryuarmiutun/Inuinnaqtun, and Sallirmiutun, with accompanying audiobooks. IRC introduced and distributed the book in November and December 2022 to school students and facilitated multiple Inuvialuit Elder book reading sessions where students listened to the story in English and Inuvialuktun.</p>

Action	Lead organization	Progress update
Energy-driven STEM Programs for Youth & Community	Inuvialuit Regional Corporation	<b>New action, in progress</b> – Inuvialuit Regional Corporation (IRC) worked with the Canadian Centre for Climate Services (CCCS) and the Innovation and Youth Engagement Division (IYED) at Environment and Climate Change Canada to host its second virtual session for Powered by Youth group in May 2022. A pre-recorded event was posted on the Powered by Youth Facebook page (approx. 60 minutes) that focused on careers in climate-related job sector (opportunities and in-demand skills) and addressed climate related concerns from youth.
Update the Inuvialuit Regional Corporation Climate Change Action Map Website	Inuvialuit Regional Corporation	<b>Complete</b> – Inuvialuit Regional Corporation (IRC) updated and upgraded the Inuvialuit Settlement Region (ISR) Climate Change Action Map and the associated Innovation, Inuvialuit Science and Climate Change (ISCC) research web services on the IRC website. The Climate Action Map informs and engages Inuvialuit and research partners by highlighting climate change research activities in the ISR and has served as a starting point for discussion around current and future initiatives in the region – especially towards the development of the 2022 ISR Climate Change Strategy.  At the completion of this project, IRC has accomplished the following objectives: <ol style="list-style-type: none"> <li>1. Consolidated IRC research related sites, making it easier to find and communicate our research content.</li> <li>2. Update the contents of the Climate Action Map.</li> <li>3. Added a new Climate Action Story Map.</li> </ol>
Development of Energy units in K-12 Curriculum	Inuvialuit Regional Corporation	<b>New action</b> – In partnership with the Beaufort Delta Education Council, Inuvialuit Regional Corporation (IRC) will guide, influence, and develop the clean energy science units in the K-12 curriculum. This action will ensure that students have the necessary tools and resources to understand the fundamentals of clean energy, innovative technology, and how energy plays a role in their lives at personal, community, national and global levels.
Purchase an electric or hybrid vehicle and install an electric vehicle charging station in Mayo	Village of Mayo	<b>Not started</b> – The Village of Mayo is gathering more information on the right vehicle for our needs. We are hoping to learn from others in the Yukon on which vehicle charging station would work best for our climate; the Government of Yukon installed a charging station in the community in 2021. We are hoping to obtain more information about the cost to install, operate and maintain the charging station when it gets installed and operated, as well as how reliable hybrid vehicles are in our climate (very cold for six months and very hot for the rest of the year).
Retrofit the Village of Mayo Community Centre to be more energy efficient based on an energy assessment completed for the facility.	Village of Mayo	<b>In progress</b> –To improve the energy efficiency of their Community Centre, in 2022, the Village of Mayo replaced lighting with LED lights and installed weather stripping to better seal doors during the winter. Upgrades to the buildings systems for better energy efficiency are planned for May-August 2023.



Action	Lead organization	Progress update
Continue to heat the Village of Mayo swimming pool using solar energy	Village of Mayo	<b>In progress</b> – To reduce emissions and spending on fossil fuels, the Village of Mayo is using solar energy for a portion of heating their outdoor pool water.
Drill two geothermal wells in order to heat drinking water. Currently, the system relies on a propane boiler. This conversion will reduce greenhouse gas emissions and operating costs.	Village of Mayo	<b>In progress</b> – As of May 2023, drilling of two new warm water wells was underway. Both warm water wells are scheduled to be tied into a new heat exchanger at the Mayo water treatment Plant this fall/winter and will be used to preheat the drinking water before it is sent through the water system, as well as used to heat the Water Treatment Plant. This will significantly reduce our consumption of propane at the Water Treatment Plant.
Reduce diesel use for heating Tr'ondëk Hwëch'in buildings by designing and installing alternative heating sources.	Tr'ondëk Hwëch'in	<b>In progress</b> – Participated in a Council of Yukon First Nations supported community energy audit, with the City of Dawson. The report is now being reviewed to determine next steps.  Tr'ondëk Hwëch'in also continues to investigate renewable community energy systems, with the City of Dawson.  Solar panels have been installed at the new Tr'ondëk Hwëch'in Jëje Zho men's shelter. The facility relies primarily on renewable energy.
Carry out detailed planning for energy and engineering for retrofits for Tr'ondëk Hwëch'in buildings. Prepare construction drawings.	Tr'ondëk Hwëch'in	<b>In progress</b> – Building assessments and retrofits continue for all Tr'ondëk Hwëch'in properties (including homes) and locations.
Identify possible Electric Vehicles use to replace some of the current fleet	Tr'ondëk Hwëch'in	<b>In progress</b> – Project requires further research to determine the type, performance and suitability of vehicles for our climate.
Start a program to change oil furnaces to high efficiency electric in homes	Tr'ondëk Hwëch'in	<b>New action</b> – This action is in development.
Begin roof replacements and insulation/ventilation upgrades on homes	Tr'ondëk Hwëch'in	<b>New action</b> – This action is in development.
Replacement of pre 1982 single family dwelling with new duplex build – electric heat	Tr'ondëk Hwëch'in	<b>New action</b> – This action is in development.
Achievement for Tr'ondëk Hwëch'in	Tr'ondëk Hwëch'in	<b>In progress</b> – Funding obtained for our Ninä'nkäk hozo wëk'ä'tr'ë'no'hcha: Tr'ondëk Hwëch'in Land Stewardship Framework for Indigenous Protected and Conserved Areas (IPCA Establishment) project.
Explore opportunities to replace diesel heat in Old Crow with fast-growing, locally harvested willow, distributed through a district heat system	Vuntut Gwitchin Government	<b>In progress</b> – The Vuntut Gwitchin government has begun work on a forest resources harvest management plan to explore opportunities for sustainable willow harvest, and to support local fuel wood harvest.

Action	Lead organization	Progress update
Build a solar farm in Old Crow that will meet 24 per cent of Old Crow's electricity demand and enable the diesel generators to be turned off for 2,200 hours each year	Vuntut Gwitchin Government	<b>Complete</b> – The Old Crow Solar Project began producing electricity in the spring of 2021 at reduced capacity until the microgrid controller and battery energy storage system are installed. The project has been fully commissioned since August 2021.
Set up a wind measurement tower in summer 2020 to investigate the potential for a wind energy project to meet Old Crow's electricity demand in the winter months	Vuntut Gwitchin Government	<b>Complete</b> –The wind measurement tower was installed in late fall 2020. Data collection at the Crow Mountain site is ongoing.
Develop a Community Energy and Implementation Plan for Old Crow that will identify activities to reduce reliance on fossil fuels and achieve the 2019 Vuntut Gwitchin First Nation General Assembly resolution to reach carbon neutrality by 2030	Vuntut Gwitchin Government	<b>In progress</b> – This project is currently at the data gathering stage, which will include a community energy survey conducted during the summer of 2021.

# Appendix C: Reporting on the Clean Energy Act

The Clean Energy Act (2022) commits to reporting annually on the Yukon’s total greenhouse gas emissions and greenhouse gas emissions, excluding mining. The legislation also requires that the Government of Yukon reports on the actions being undertaken or planned to meet:

- a. The 45 per cent and net-zero greenhouse gas reduction targets:
  - The target for total greenhouse gas emissions in Yukon, including mining sector emissions, for 2050 and subsequent years is net-zero emissions.
  - The reduction target for total greenhouse gas emissions in Yukon, not including mining sector emissions, for 2030 and subsequent years is a reduction of 45 per cent from the total greenhouse gas emissions in Yukon in 2010.
- b. Renewable heating sources target: The target for the amount of energy used to heat buildings in Yukon that is sourced from renewable energy sources for 2030 and subsequent years is 50 per cent.
- c. Zero-emission vehicles targets: The following are the targets for new light duty motor vehicles sold or leased in Yukon in a year that are to be zero-emission vehicles: a) from 2025 to 2029, at least 10 per cent; (b) in 2030 and each subsequent year, at least 30 per cent.

Commitment	Status	How it connects to the target
<b>Greenhouse gas emissions targets</b>		
Greenhouse gas emissions in Yukon, including mining sector emissions	705.3 kilotonnes of carbon dioxide equivalent (in calendar year 2021)	Total emissions are currently seven per cent higher than in 2010. All emissions will need to be eliminated or otherwise offset by 2050.
Greenhouse gas emissions in Yukon, not including mining sector emissions	588.2 kilotonnes of carbon dioxide equivalent (in calendar year 2021)	Non-mining emissions are currently 0.8 per cent higher than in 2010. Emissions will need to be reduced to 321 kilotonnes by 2030.
<b>Renewable heating sources target</b>		
The amount of energy used to heat buildings in Yukon that is sourced from renewable energy sources for 2030 and subsequent years is 50 per cent	26 per cent	In 2009, we estimate that 26 per cent of the Yukon’s heating needs were met from renewable sources like electricity and biomass. That amount will increase to 50 per cent by 2030. Note, the Government of Yukon is finalizing the methodology for the renewable heating target. Fulsome reporting on the renewable heating target under the Clean Energy Act will be published by the end of 2023.
<b>Zero-emission vehicles targets</b>		
Percentage of light-duty zero emission vehicle sales relative to total light-duty vehicle sales during the reporting year.	4.3 per cent	85 battery electric or plug-in hybrid vehicles were newly registered in the Yukon in 2022. 1961 total light-duty vehicles were registered in 2022.



## Methodology for calculating greenhouse gas emissions

The Government of Yukon reports the Yukon's emissions in terms of carbon dioxide equivalent. This metric includes all greenhouse gases weighted in terms of their potency relative to CO<sub>2</sub>.

The Yukon's emissions are measured using two main data sources in order to source the best available data for all sectors. The first source is the **National Inventory Report**, which is produced annually by the Government of Canada and reports the greenhouse gas emissions of all provinces and territories.

The second data source is the Yukon's fuel tax databases, which track the total volume of fuel purchased in the Yukon based on the amount of tax paid. The Yukon Bureau of Statistics uses this information to calculate greenhouse gas emissions from different types of fuel.

For more information on how the Yukon's emissions are calculated, see the **Greenhouse gas emissions in the Yukon: 2021 report on Yukon.ca**.

# Appendix D: New Our Clean Future actions

#	Department	Action
<b>TRANSPORTATION</b>		
T29	EMR	By 2025 review the electric vehicle regulatory regime and create a regulatory roadmap for Yukon zero emissions vehicle legislation.
T30	EMR	Introduce additional rebates for low-speed electric vehicles and electric vehicles that support access to the land by 2025.
T31	EMR/HPW	Initiate a set of pilot projects by 2025 to test the use of renewable fuels for transportation, electricity generation, and heating in private and Government of Yukon assets.
T32	EMR	Reduce the life cycle carbon intensity of on-road transportation sold in Yukon, aiming for 30% by 2030 and align emissions intensity with BC's Low Carbon Fuel Standard.
T33	EMR	Begin providing a rebate for medium-duty electric vehicles by 2024.
T34	HPW	By 2025, undertake a climate adaptation study to understand the risks imposed on the Yukon's aviation infrastructure, operations, and maintenance from climate change.
T35	HPW	By 2025, develop a 20-year transportation network plan that incorporates emissions reductions and resilience in planning for future changes in transportation demand.
<b>ENERGY</b>		
E16	EMR	By the end of 2025, an updated development plan and alternatives analysis for the Yukon-British Columbia grid connect project will be completed.
E17	EMR	Research a green hydrogen fuel demonstration project with a construction start of 2027 and operating timeframe of 2029.
E18	EMR	Continue to support development of micro-generation capacity in collaboration with Yukon's public utilities.
E19	ENV	In collaboration with Yukon Energy Corporation, by 2027, undertake a study to improve understanding of groundwater in the Upper Yukon River Basin to inform decision-making related to hydro-electric generation.

#	Department	Action
<b>HOMES AND BUILDINGS</b>		
H31	HPW	Develop and implement a recommissioning program by 2025 that focuses on energy efficiency and staff education for lasting performance improvements in Yukon government buildings.
H32	EMR	By 2023, incentivize fuel switching for buildings regardless of other retrofit upgrades.
H33	EMR	Create a funding program by 2025 for low-income Yukoners to switch from fossil fuels to smart electric heating systems.
H34	CS	Ensure that legislative barriers are removed so that buildings constructed after 2025 and 2027 are required to meet Tier 3 and Tier 4, respectively of the National Building Code of Canada 2020.
H35	EMR	Reduce the life cycle carbon intensity of heating oil sold in Yukon, aiming for 30% by 2030 and align emissions intensity with BC's Low Carbon Fuel Standard.
<b>COMMUNITIES</b>		
C19	EMR	By 2027, establish a geohazard monitoring program for priority hazards identified through Our Clean Future around communities and along critical transportation corridors.
C20	CS	Identify and implement best practices and guidelines by 2027 to ensure community infrastructure is resilient to the impacts of climate change.
C21	CS	Plant 300,000 deciduous seedlings in high-priority forest fuel management areas throughout Yukon to transition landscapes to deciduous forest and reduce wildfire hazard by 2027.
C22	EcDev	By 2025, develop terms and conditions for business support programs, as well as departmental operating procedures, ready to be used in the event of a climate change-driven natural disaster in the Yukon.
C23	CS	By 2027, increase forecasting capacity by hiring a meteorologist and data scientist to improve available systems, digital tools and reporting structures for emergency preparedness and response in recognition of the increasing frequency, severity and impacts of fires, floods and weather.
C24	CS	Develop flood information platform(s) to inform emergency planning, response and other community needs, incorporating relevant data, advisories and local observations as needed, by 2028
C25	CS	Review and update emergency preparedness communications that support household resilience to climate-related hazards including flooding, fires, landslides and power outages by 2025.
C26	EMR	In partnership with the Governments of Northwest Territories and Canada, complete a research project during 2023-2028 to understand the different impacts land clearing methods have on greenhouse gas emissions and soil health.
C27	EMR	Complete a research project by 2025 that evaluates low carbon livestock management approaches such as agroforestry.
C28	EMR	Between 2023 and 2027, work with Yukon farmers and producers to complete at least three new or renewed Environmental Farm Plans per year.



#	Department	Action
<b>PEOPLE AND ENVIRONMENT</b>		
P15	EMR	By 2027, design remote sensing methods and conduct at least two remote sensing pilot projects for improved forest resources inventory and for forest health monitoring.
P16	ENV	By 2026, work with First Nations and communities to address a gap in lake-monitoring to capture changes in water in order to support fish habitat protection and community safety.
P17	ENV	Starting 2024, deliver a series of safety on the land and hunter safety course in communities on an annual basis.
P18	ENV	Undertake geohazard and/or flood risk hazard assessments for Yukon campgrounds and other key public infrastructure in territorial parks by 2030.
P19	HSS	Analyze the contribution of health and social services to Yukon's greenhouse gas emissions, including medical travel by 2027, to inform the basis of decarbonizing or reducing Yukon's health sector carbon footprint
P20	CS	Provide portable clean air shelters for use in remote locations by 2026 to reduce negative health impacts to firefighters.
<b>INNOVATION</b>		
I16	EMR/Finance	By 2025, establish a business incentive program that reallocates 100 per cent of proceeds from the federal Output-Based Pricing System to support industrial facilities in reducing their greenhouse gas emissions intensity.
I17	EMR/EcDev	By 2025, undertake a needs assessment and related analysis to include the green labour market in the Yukon Labour Market Development Strategy.
I18	EMR	Conduct research by 2026 evaluating possibilities for supporting and incentivizing use of lower embodied-carbon materials and locally produced materials in Yukon homes and buildings.
<b>LEADERSHIP</b>		
L17	ENV	By 2030, finalize a net-zero and just transition plan in collaboration with Indigenous and municipal and industry partners.
L18	HPW	Incorporate climate change considerations throughout Government of Yukon's asset management process for buildings by 2025.
L19	EDU	Integrate climate change into the current Yukon curriculum, and support educators in developing Yukon specific climate change courses by 2027.
L20	EDU	Implement a First Nations Credit Policy by 2024 to allow students to gain course credits for traditional and on-the-land activities to support connection to the land and the changing climate.
L21	ENV	Complete an assessment of wetland soil carbon reserves within priority watersheds by 2027.
L22	EMR	By 2027, establish at least 75 new forestry research plots to support research, planning and reporting on forest carbon stocks, potential biomass energy supply, forest health and forest fire risks.
L23	ENV	By 2024, work with various levels of Government to develop guidance on greenhouse gas emissions accounting practices that support consistent, simple and transparent reporting of emission reductions.

