Truro Community Energy and Emissions Plan

Key Insights and Highlights

prepared for the Town of Truro
September 2024

TRURO
make the connection

Mayor's Message

On behalf of Truro Town Council and the entire community, I'm excited to unveil Truro's Community Energy and Emissions Plan.

Across the globe, our communities are increasingly feeling the effects of climate change. The pressure is mounting, and it's crucial that we act swiftly. We must significantly cut our greenhouse gas emissions and rethink our approaches to tackle these challenges.

Our actions must involve shifting to more sustainable energy production and consumption, reimagining our transportation methods, ensuring our community's growth is both sustainable and minimal in its environmental impact, innovating in waste management, and maintaining our infrastructure to keep our air and environment clean.

Our new Community Energy and Emissions Plan is our first detailed strategy for achieving net-zero emissions.

It's essential that we collaborate with our community, as well as regional, provincial, and federal partners, to adopt cutting-edge solutions for combating climate change. This plan details our shared emissions and outlines the necessary community actions to reduce them. These targets cannot be met by the Town alone.

Now is the time for us to unite and seize the opportunity to reach net-zero. As you'll see in this plan, working together to meet these targets will not only mitigate the effects of climate change but will also enhance the vitality of our community, economy, resiliency, and our collective future.

I extend my gratitude to the Town's Climate Sustainability Stakeholder Group for their guidance on this plan, and to the many residents who contributed to its development. Thanks also to our Town Council and staff for their dedication in supporting and shaping this initiative. Most importantly, I appreciate everyone who will now join us in taking action.

WR (Bill) Mills
Mayor
Town of Truro

Acknowledgments

LAND ACKNOWLEDGMENT

The Town of Truro acknowledges our Indigenous peoples' past, present, and future as the rightful and traditional protectors and caretakers of this land as we sit in the ancestral and unceded territory of the Mi'kmaq People. We recognize that we must help protect and steward our lands to show our respect and gratitude. This land is governed by the treaties of Peace and Friendship and we recognize that we are all treaty people and have responsibilities to each other and this land.

We will use this Community Energy and Emissions Plan to continue our work and engagement in Mi'kma'ki, and further our work of truth, reconciliation, and equity.

PROJECT TEAM

This report was developed under the leadership of Truro Town Council, with funding provided by the Town of Truro and the Nova Scotia Department of Environment, Low Carbon Communities Program.

The Town of Truro's Climate Sustainability Committee was created to provide guidance and oversight through creation and development of the CEEP. Members of the Climate Sustainability Committee included Town Councillors, industry and organizational members, representatives from adjacent local governments, residents, and Town staff members.

On behalf of the Town of Truro, the project team would like to thank all groups, organizations, businesses and individuals who participated in the project's community engagement strategy, as well as those who answered or distributed the project's engagement survey.

CONSULTANT TEAM:

- **EastPoint:** *Prime Consultant*
  - Kirk Herman, P.Eng., CEM, LEED AP BD+C, Technical Lead
  - Julia Thompson, EIT, Lead Modeler
- **Rochelle Owen Consulting:**
  Community Engagement Lead
  - Rochelle Owen, B.Sc., MES, LEED GA, Senior Sustainability Advisor

Truro's Community Energy and Emissions Plan

SUSTAINABILITY VISION STATEMENT

In 2010, the Town of Truro launched a Community Sustainability Plan and adopted a Sustainability Charter. The vision statement for a sustainable Truro was developed in consultation with the citizens of the Town:

Truro is a just and vibrant community with a thriving economy and sustainable environment.

PARTNERS FOR CLIMATE PROTECTION

In 2021, the Town of Truro made a commitment to climate action by becoming a member of the Partners for Climate Protection (PCP) Program. This Community Energy and Emissions Plan (CEEP) marks the Town's submission for completing the first three milestones of the PCP Program:

1. **Creating a baseline greenhouse gas (GHG) Inventory;**
2. **Setting emissions reduction targets; and**
3. **Developing a local climate action plan.**

Plan development brought together key community members, including government officials, community leaders, business owners, and representatives from various local interest groups. The project's public engagement strategy facilitated open dialogue, allowing participants to share their insights, concerns, and aspirations for the community's future.

FIGURE 1: THE PCP MILESTONE FRAMEWORK
(https://www.pcp-ppc.ca/program)

A Steering Committee with Town staff, Councilors, and community members was created to provide advice on the Plan and the planning process. Committee members provided guidance on groups to connect with, strategy ideas, and communications.

Truro's Challenges

COMMUNITY-BASED EMISSIONS AND ENERGY USAGE

Over half of Canada's GHG emissions and energy use come from activities that take place in municipalities[1].

Municipalities with populations fewer than 30,000 residents make up more than 90% of Canadian communities and generate 27% of Canadian GDP.

Smaller municipalities have unique advantages that position them as leaders in climate action. Small and rural communities face fewer administrative barriers for implementation, have closer relationships with key partners, and can facilitate impactful roles for community champions.

Municipalities have several tools at their disposal to implement climate action:

- They can *enable* sustainable choices through **infrastructure development**.
- They can *shape* sustainable choices through **policy and regulation**.
- They can *support* sustainable choices through **engagement and outreach**.

MUNICIPAL SPHERE OF INFLUENCE

While the content of this plan focuses on areas where the Town of Truro has a level of direct control or indirect influence, it must be acknowledged that the goals of the CEEP cannot be achieved without action beyond its sphere of influence. Not only will residents and businesses need to take part, but successful climate action will also require long-term partnerships and commitments from senior levels of Canadian government.

[1] **source:** Municipalities for Climate Innovation Program, *Building a Legacy of Local Climate Action* (2016-2022).

A Community Plan

COMMUNITY ENGAGEMENT

The CEEP's community engagement strategies brought together key community members, including government officials, community leaders, business owners, and representatives from various interest groups. The purpose of the strategy was to facilitate open dialogue, allowing participants to share their insights, concerns, and aspirations for the community's future. This information helped to shape plan goals, principles, strategies and the assessment of strategies.

Information on specific strategy options was gathered through focused interviews and meetings. Town staff and planning team members attended the Nova Scotia Federation of Municipalities' Low Carbon Leadership Conference, hosted by Truro in June 2024 to workshop strategy ideas around transportation management and learn and engage with participants working on similar planning efforts.

A public survey was promoted from June 3 to 23 2024 through social media, organizational representatives, and town promotional efforts. Overall, 485 Responses were received with 55% from Truro, 40% from nearby communities, and 5% from other locations. Participants provided feedback on their knowledge, concern and strategy ideas. Survey results confirmed trends seen in organizational meetings while offering some additional insights.

Truro's Opportunities

ECONOMIC DEVELOPMENT

Implementing a CEEP offers a multitude of co-benefits that extend beyond its direct reductions in energy consumption, GHG emissions, and energy costs. From improving public health to enhancing social equity and boosting the local economy, these plans are foundational to building a sustainable, resilient, and thriving community.

- Total community spending on energy within the Town's boundaries was an estimated $111.5 million in 2021.
- Most energy spending currently leaves the community, representing an underutilized opportunity for local economic development.
- Based on methodology established by QUEST Canada, achieving the CEEP's targets should result in an estimated 15% reduction in energy consumption by 2035.
- Achieving the 2035 CEEP targets will require a total investment of approximately $133 million, resulting in $16.7 million staying in the local economy each year.
- Combined with energy cost reductions, this investment will create an expected 502 jobs during the CEEP investment phase (2025-2035), and an additional 134 person-years of employment for at least 20 years.

Investing in Truro's future: this plan keeps an extra $16.7 million in the local economy each year, and will create hundreds of jobs over the next two decades.

Truro's Targets

A PRACTICAL, DATA-DRIVEN APPROACH

In developing energy and greenhouse gas (GHG) emission reduction targets for 2030, 2035, 2040, and 2050, a ground-up approach was taken to model the estimated impact of actions the Town could feasibly take to reduce community energy consumption and GHG emissions.

Several concepts were central to the modeling process:

- *Targeted Influence:* Focus on ambitious yet achievable actions in areas that the Town can directly or indirectly influence.
- *Pragmatic Approach:* Actions should be based on municipal capacity, existing funding support, and identified partnership opportunities.
- *Informed Assumptions:* Based on analysis of current market trends or recent feasibility studies.

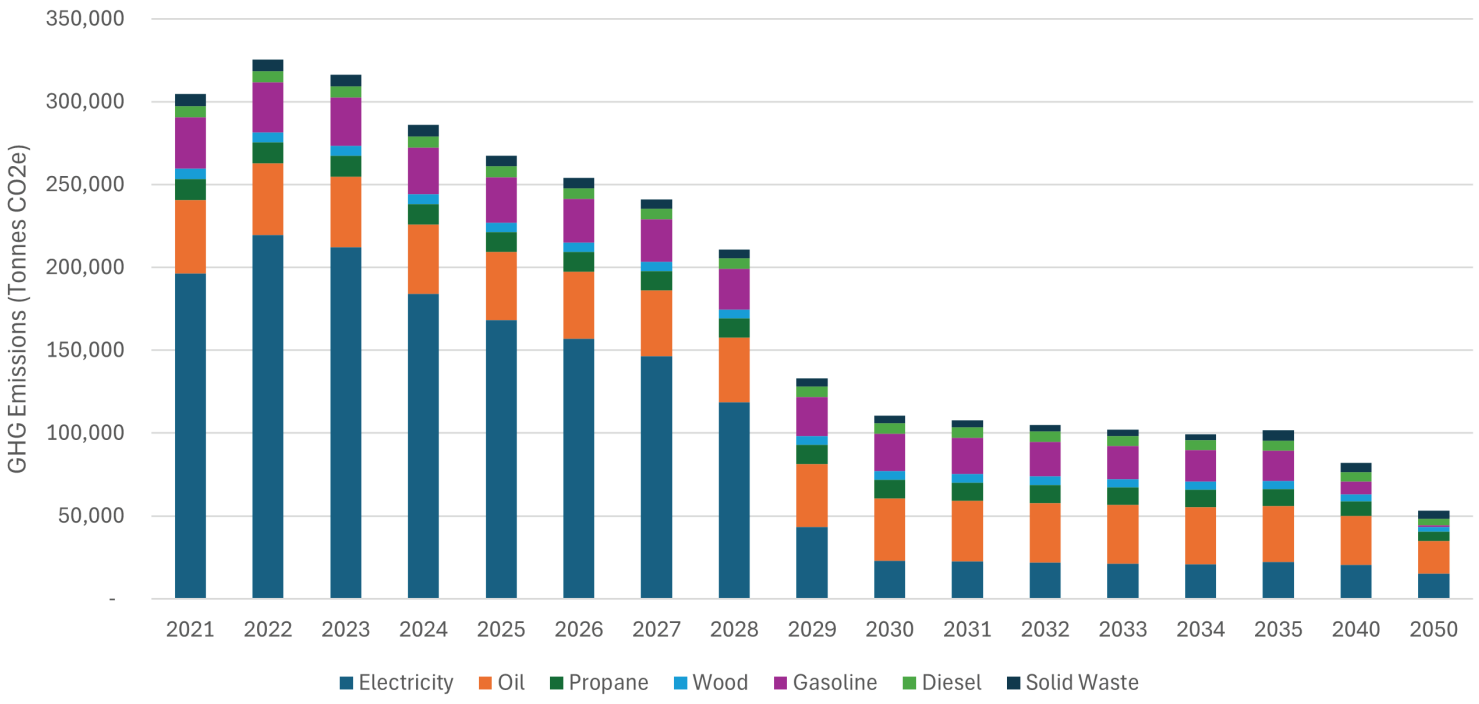
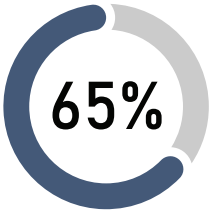


FIGURE 2: FORECASTED GHG EMISSIONS REDUCTIONS FOR TRURO'S AMBITIOUS CLIMATE ACTIONS

TARGETS TO ALIGN WITH PCP PROGRAM

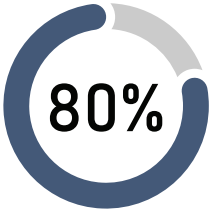
Milestone 2 of the PCP Program (Setting Emissions Reduction Targets) requires communities to set absolute reduction targets for both community and corporate emissions, and that these targets are formally adopted by a council resolution.

It is recommended that Truro set the following targets for compliance with Milestone 2 of the PCP Program:



65% reduction in community-wide emissions by 2035 compared to the 2021 baseline.

Net-Zero municipal operations by 2040.



Net-Zero community-wide by 2050, including 80% reduction in emissions by 2050 compared to the 2021 baseline.

NEXT STEPS: NET-ZERO COMMUNITIES ACCELERATOR PROGRAM

In August 2024, Truro was selected as one of 15 Atlantic Canadian communities to participate in QUEST Canada's Net-Zero Communities Accelerator (NCA) program2. The NCA program is funded through a $2 million contribution from Atlantic Canada Opportunities Agency (ACOA), and equips communities with the knowledge to develop and continuously implement their energy and emissions plans over the next three years.

Truro's participation in this program will help jump-start the implementation of the CEEP, as the Town moves from planning to implementation. The NCA will provide supports to help Truro embed the CEEP into its municipal operations and continue conversations with important partners and the broader community to accelerate Truro's transition to net zero.

Community Energy and Emissions Plan Goals

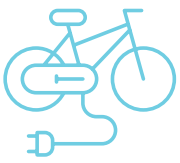
The CEEP focuses on a strategic plan for 2025-2035, which is a crucial period for climate action to put Truro on an ambitious path towards achieving net-zero emissions by 2050.

ENERGY EFFICIENCY IN THE BUILT ENVIRONMENT

The Town will help accelerate the rate of deep energy retrofits in residential and commercial buildings as well as encourage new developments to strive for sustainable design and construction strategies. By using its own buildings as demonstration projects, it will lead by example in its commitment to forward-thinking retrofit strategies.

TRANSITION TO RENEWABLE ENERGY

The Town will invest in renewable energy systems to supply affordable, clean electricity to its residents, businesses and municipally owned buildings, as well as reduce barriers for community members to access renewable energy. At the same time, the Town will work with new partners to support the broader community transition away from fossil-fuels.



REDUCE EMISSIONS FROM COMMUNITY TRANSPORTATION

The Town will take a multi-faceted approach, focusing on transitioning to low- and zero-emission vehicles, expanding public transit options, and supporting and encouraging active transportation like cycling and walking.

REDUCE COMMUNITY SOLID WASTE GENERATION

The Town will work with community partners to promote reduction, reuse and recycling of solid waste streams in the community.

ENHANCE TRURO'S NATURAL ENVIRONMENT

The Town will continue to identify and develop community green spaces in alignment with planned active transportation routes to create a network of amenity spaces that will sequester carbon, manage stormwater and help reduce the heat island effect.

EDUCATE AND ENGAGE THE COMMUNITY

The Town should facilitate connectivity between its residents, businesses, and the assortment of partners and service organizations that can help the community advance its energy and emissions reduction strategies while supporting affordability.

Community Co-benefits

From improving public health to enhancing social equity and boosting the local economy, CEEPs are an important part of building a sustainable, resilient, and thriving community. Below is a summary of some of the anticipated co-benefits of this plan.

AFFORDABILITY AND COST OF LIVING

Reducing energy costs directly translates to more affordable living, as households spend less on electricity, heating, and cooling.

ACCESS TO RENEWABLE ENERGY

Increasing access to renewable energy sources such as solar, wind, and geothermal, provides resiliency from price shocks that occur when fuel sources come from outside the community.

ACCESSIBILITY

Improved public transit and active transportation infrastructure also make it easier for all residents, including those without cars, to access essential services, work, and recreation, as well as improving mobility.

PUBLIC HEALTH

Lower levels of air pollution reduce the incidence of respiratory and cardiovascular diseases, leading to a healthier population. Additionally, initiatives that promote active transportation and green spaces contribute to physical and mental well-being, making the community a more vibrant and healthier place to live.

SOCIAL EQUITY

Addressing social equity by ensuring that all residents benefit from energy efficiency programs and clean energy initiatives, regardless of income level.

PRESERVATION OF THE NATURAL ENVIRONMENT

Protecting local biodiversity and natural resources enhances the natural environment and allows future generations to enjoy the benefits of a healthy and thriving ecosystem.

CLIMATE CHANGE ADAPTATION

By enhancing infrastructure resilience, diversifying energy sources, and restoring natural ecosystems, CEEPs can equip communities with the tools they need to withstand and thrive in the face of a changing climate.

Community Actions

Actions within the CEEP were selected to put Truro on an ambitious path towards achieving net-zero emissions by 2050. These actions are shown in relation to the overarching goals of the CEEP and related co-benefits. Community actions are activities that will reduce emissions generated within the community as a whole.

GOAL 1: Energy Efficiency in the Built Environment

TARGET: Double the current pace of deep energy retrofits, targeting 2% of buildings per year by 2030.

Action	Rationale	Timeline	Co-benefits
Partner with Colchester to expand their retrofit PACE Program (Cozy Colchester) to Truro *Homeowners are provided low-interest loans to reduce their upfront costs for energy projects.*	The residential sector accounts for approximately 34% of community emissions.	2025-2026	Affordability Equity Adaptation
Pilot an Energy Navigator Program *Provide expert advice and guidance for homeowners to navigate home energy retrofits.*	Accelerates the rate of retrofits/ raises the average total energy savings of homes in the program.	2025-2026	Affordability Equity Adaptation

TARGET: All new construction is net-zero energy ready by 2035.

Action	Rationale	Timeline	Co-benefits
Advocate for adoption of 2020 National Model Codes *Advocate for the adoption of the 2020 National Model Codes to accelerate the energy efficiency standards of new construction projects.*	2020 codes provide a pathway to make all new buildings consistent with national net zero goals.	Ongoing	Adaptation Environment Accessibility

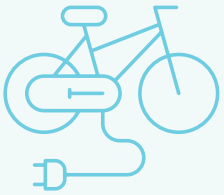
GOAL 2: Accelerate the Community Transition to Renewable Energy

OBJECTIVE: Reduce barriers for residents to access renewable electricity.

Action	Rationale	Timeline	Co-benefits
Develop a community solar garden to provide community access to renewable electricity *Provide renewable energy to residents at an affordable cost.*	Electricity is currently the largest source of Truro's GHG emissions.	2027-2030	Renewable Energy Access Equity Adaptation
Investigate feasibility of renewable energy generation at former landfill site and water treatment plant *Adaptive reuse of a brownfield site for renewable energy production.*	Reclaim space that is otherwise not suitable for development.	2025-2026	Environment Adaptation

TARGET: Install residential solar at a pace of 25 homes per year, starting in 2026.

Action	Rationale	Timeline	Co-benefits
Partner with Colchester to expand their solar PACE Program (Solar Colchester) to residents of Truro *Homeowners are provided low-interest loans to reduce their upfront costs for solar projects.*	Supports community transition to renewable energy.	2025-2026	Renewable Energy Access Equity Affordability



GOAL 3: Reduce Emissions from Community Transportation

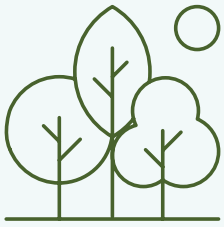
OBJECTIVE: Provide supports for low-emission transportation choices.

Action	Rationale	Timeline	Co-benefits
Feasibility study for regional public transit system *Investigate feasibility, business case for public transit.*	Transportation is one of the largest sources of greenhouse gas emissions in Canada.	Ongoing	Accessibility Health Equity Affordability
Establish a regional public transit system *Launch a public transit system for Truro in partnership with surrounding communities.*	There are increasing levels of support for rural transit systems at both provincial and federal levels.	2027-2030	Accessibility Health Equity Affordability
Implement active transportation master plan *Continue to implement the active transportation plan.*	Create a transportation system that serves everyone, protects the environment, and supports a thriving, resilient economy.	Ongoing	Accessibility Health Equity Affordability
Support deployment of electric vehicle charging infrastructure *Enable and coordinate private sector investment, set policies and standards, and ensure equitable access to EV charging infrastructure.*	Plan and prepare for adoption of EVs at a national level.	Ongoing	Accessibility Equity

GOAL 4: Reduce Community Solid Waste Generation

TARGET: Reduce community organic waste in landfill stream 10% by 2035.

Action	Rationale	Timeline	Co-benefits
Work with Divert NS and other partners to identify waste reduction opportunities in the community *Collaborate with local food banks, nonprofits, and businesses to create or expand food rescue programs that divert surplus food from businesses and households to those in need.*	Organics decompose in landfills to produce methane, a powerful GHG.	Ongoing	Environment
Establish a community free store or reuse centre *Set up a space where community members can donate, borrow or take lightly used items that others no longer need.*	Frequently requested during community engagement.	2025-2026	Affordability Environment



GOAL 5: Enhance Truro's Natural Environment

OBJECTIVE: Protect and expand tree canopy and green spaces.

Action	Rationale	Timeline	Co-benefits
Pilot urban mini forests *Small-scale urban forests consisting of trees and shrubs*	Mini forests offer mental health benefits, improve air quality, reduce runoff, prevent flooding and mitigate the heat island effect.	2027-2030	Environment Health Adaptation

GOAL 6: Educate and Engage the Community

OBJECTIVE: Foster collaboration with local businesses and homeowners to improve energy efficiency in the building sector.

Action	Rationale	Timeline	Co-benefits
Create an engagement campaign focused on community education around energy efficiency and GHG emissions reductions *Develop a community engagement campaign designed to educate and mobilize residents, businesses, and organizations around energy efficiency and (GHG) emissions reductions.* *Support industrial-commercial business partnership groups to mobilize activity to access funding and supports.*	To raise awareness, provide information, and foster community-wide participation in energy-saving activities.	2025-2026	Affordability Equity Renewable Energy Access
Launch a neighbourhood weatherization program *Partner with community organizations to provide financial assistance, materials, education, and technical support to homeowners*	Helps homeowners make small home improvements to reduce energy consumption, save on utility costs, and improve the comfort of their homes.	2025-2026	Affordability Equity Renewable Energy Access

Corporate Actions

Actions within the CEEP were selected to put Truro on an ambitious path towards achieving net-zero emissions by 2050. These actions are shown in relation to the overarching goals of the CEEP and related co-benefits. Corporate (or municipal) actions outline activities that will reduce the GHG emissions generated as a result of the Town's operations and services.

GOAL 1: Energy Efficiency in the Built Environment

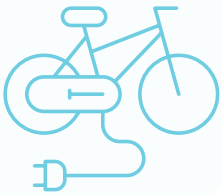
TARGET: Achieve net-zero emissions by 2040, using existing municipal facilities as demonstration projects for GHG reduction.

Action	Rationale	Timeline	Co-benefits
Develop and implement a pathway to achieve 50% reduction in GHG emissions in Truro's major municipal buildings by 2035 *Conduct a feasibility study to identify the most cost-effective pathway to achieve a minimum 50% reduction in GHG emissions across its building portfolio by 2035.*	Showcase the benefits of sustainable practices, inspire broader community adoption, and lead by example.	Study: 2025-2026 Implement: 2027-2035	Adaptation Affordability
Develop and incentivize green development standards *Voluntary measures which encourage developers and builders to use sustainable design principles.*	Drive industry to adapt new design and construction techniques, building the workforce of tomorrow.	2025-2026	Adaptation Accessibility Equity Environment
All new municipal buildings and major retrofits after 2030 are designed to be net-zero energy *A net-zero energy (NZE) building can produce as much clean energy as it consumes.*	Prevent future carbon emissions from new municipal buildings.	2030	Adaptation Accessibility Equity Environment Adaptation

GOAL 2: Accelerate the Community Transition to Renewable Energy

TARGET: Municipal buildings utilize 100% renewable electricity by 2035.

Action	Rationale	Timeline	Co-benefits
Use power purchase agreements to procure 100% renewable electricity from local sources to offset municipal electricity emissions *Purchase energy directly from renewable energy providers at a predetermined rate.*	Shift the cost of renewable energy from capital to operational cost.	2027-2030	Affordability Renewable Energy Access
Install 1 MW of net-metered and behind the meter solar PV for use by municipal buildings *Integrate renewable electricity into municipal operations.*	Reduce emissions from electricity, operating costs.	2027-2030	Renewable Energy Access Affordability Adaptation



GOAL 3: Reduce Emissions from Community Transportation

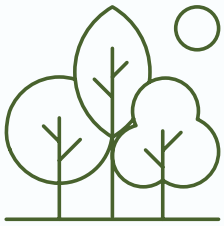
OBJECTIVE: Convert municipal fleet to non-emitting vehicles by 2040.

Action	Rationale	Timeline	Co-benefits
Develop a Town light-duty vehicle electrification strategy *A phased approach to transitioning municipal fleet to EVs.*	Reduce emissions from fleet vehicles.	2025-2026	Affordability
Monitor opportunities for electrification of medium- and heavy-duty municipal fleet vehicles *Look out for opportunities to decarbonize larger vehicles and equipment.*	New technologies are emerging.	Ongoing	Affordability

GOAL 4: Reduce Emissions from Community Transportation

TARGET: Reduce corporate organic waste in landfill stream 20% by 2035.

Action	Rationale	Timeline	Co-benefits
Create a zero-waste events guide and host sustainable community events *Create a publicly accessible zero-waste event guide.*	Foster a culture of sustainability for its businesses and community organizations.	2025-2026	Environment Adaptation
Pilot zero-waste certification at a municipal building *Zero-waste means achieving greater than 90% diversion through waste reduction, reuse, recycling and composting.*	Demonstrates leadership in waste management culture at municipal facilities.	2027-2030	Environment Adaptation



GOAL 5: Enhance Truro's Natural Environment

OBJECTIVE: Protect and expand tree canopy and green spaces.

Action	Rationale	Timeline	Co-benefits
Amend the Town's Tree Policy to require no net loss of biomass *If trees are disturbed, they should be transplanted or replaced to retain the same amount of net biomass.*	Due to their many benefits to both mental and physical health, as well as their role in sequestering carbon.	2025-2026	Environment Adaptation

GOAL 6: Educate and Engage the Community

OBJECTIVE: Foster collaboration with local businesses and homeowners to improve energy efficiency in the building sector.

Action	Rationale	Timeline	Co-benefits
Create a community micro-grant program to support community innovation *Award small funding grants to project proposals that help solve existing issues, accelerate implementation of the CEEP, or drive community engagement around energy efficiency.*	Supports innovative creators and local champions who have big ideas.	2026	Affordability Equity Renewable Energy Access