2024 ANNUAL REPORT

Greater Sudbury

climate action pour le climat

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Climate Action Annual Report 2024

Greater Sudbury's Progress in Becoming a Net-Zero and Climate-Resilient Community by 2050

This annual report highlights the City of Greater Sudbury's ongoing dedication to climate action, with strategic investments and initiatives to foster environmental education and sustainability awareness throughout the community. These findings demonstrate the power of community action and reflect the interest and active participation of local residents, businesses and organizations.

As our community deepens its understanding of climate change impacts, the various co-benefits of climate action—such as improved health and economic resilience—are becoming increasingly evident. Having efficient buildings reduces monthly energy bills. Increasing sustainable transportation helps make our community healthier and more active. Enhanced stormwater management and extreme weather preparation helps homeowners and businesses reduce their risk of costly damage and subsequent repairs. These are solutions that save money, reduce stress and help our community become more secure, adaptable and prosperous.

Each year, the City of Greater Sudbury's annual Climate Action Report give updates and insights that can inspire businesses and homeowners to continue their own environmental initiatives and making their own lives more comfortable and resilient.

Message From the Mayor

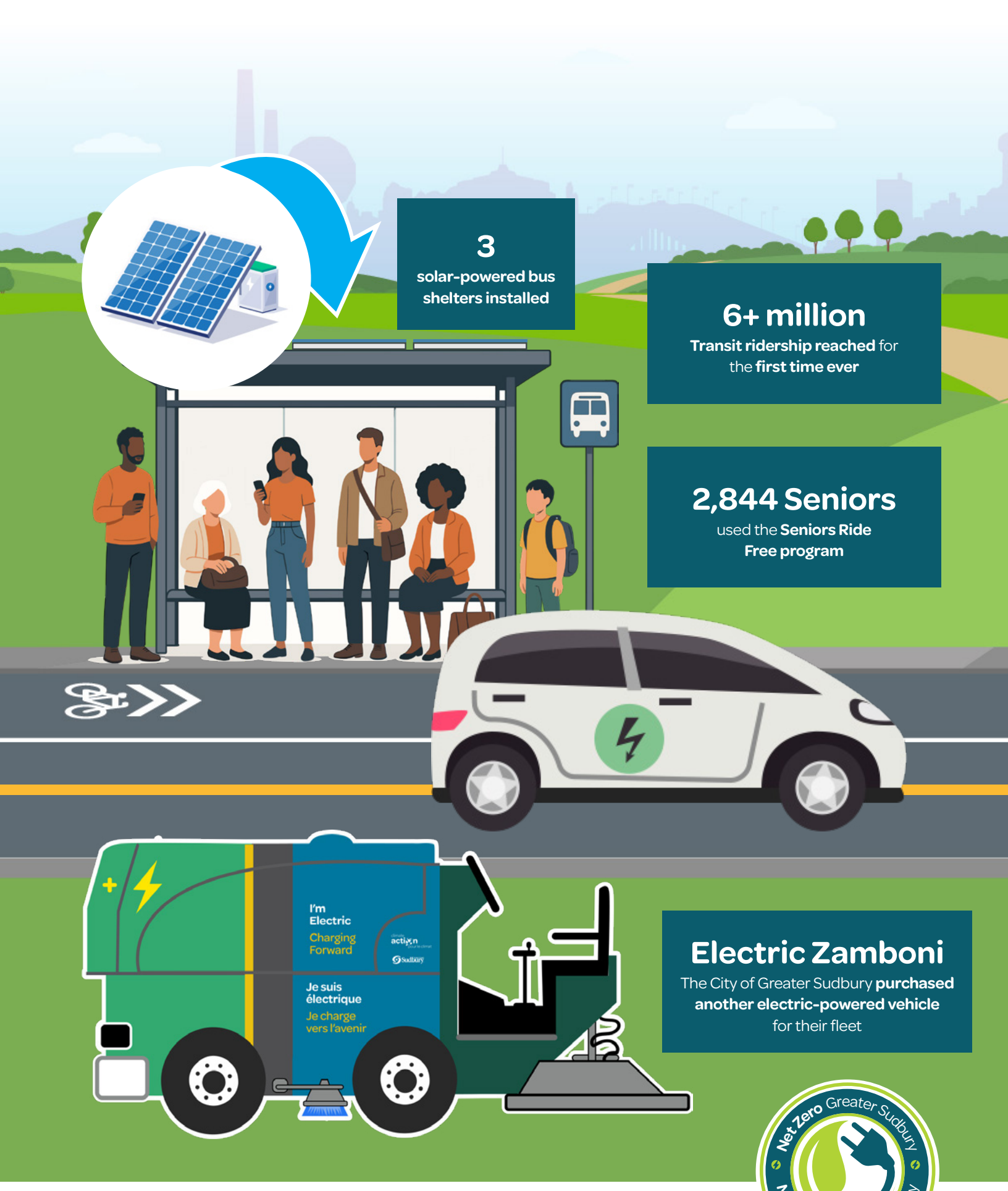
On behalf of the City of Greater Sudbury, I am pleased to present the 2024 Climate Action Annual Report. The City is steadfast in our journey to becoming a more climate-resilient community and our incorporation of sustainable practices wherever possible. We have mapped out this journey through our Community Energy and Emissions Plan (CEEP) and Community Climate Change Adaptation Plan (CCCAP); these documents guide us with ambitious goals and decisive action plans. We are keepers of this land, and we must honour that responsibility.

This report makes clear that we our efforts are having impact. Across this corporation, staff are striving to make changes, meet goals and leave a better place for future generations.

We are always finding new ways to reduce Greenhouse Gas (GHG) emissions and other environmental impacts through the use of sustainable alternatives.

This journey is not just for the City; the CEEP and CCCAP call upon our community as well. Our community's achievements in the past year are celebrated in this report. Without these contributions, we would not have seen the progress that we have.

We must continue to work together, all of Greater Sudbury, as we push towards a sustainable and healthy future for us all. We will remain champions of environmental conservation and will keep this perspective in all the work we do in the years to come.



3
solar-powered bus shelters installed

6+ million
Transit ridership reached for the **first time ever**

2,844 Seniors
used the **Seniors Ride Free program**

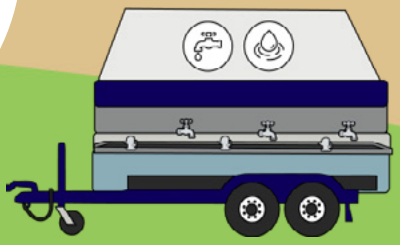
Electric Zamboni
The City of Greater Sudbury **purchased another electric-powered vehicle** for their fleet

46 million m^3

of **water and wastewater treated** at all Greater Sudbury plants, which is **equivalent to 5.5 hours of flow over Niagara Falls**

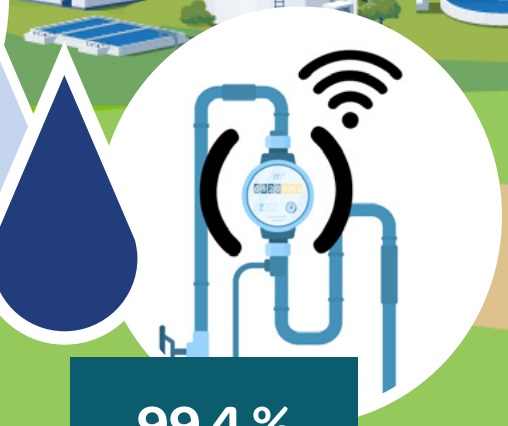
21 Events

used the **H2O to Go water buggy**, reducing single use plastic water bottles



13

Water Drop(in)s hosted at each library location **to raise awareness** of **water, wastewater and stormwater issues**

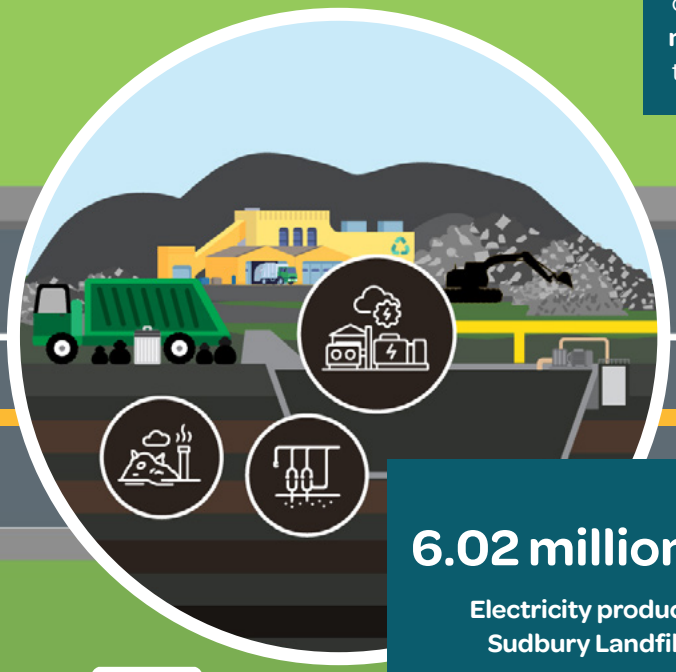


99.4 %

of our **48,865 water meters upgraded to** the new **AMI system**

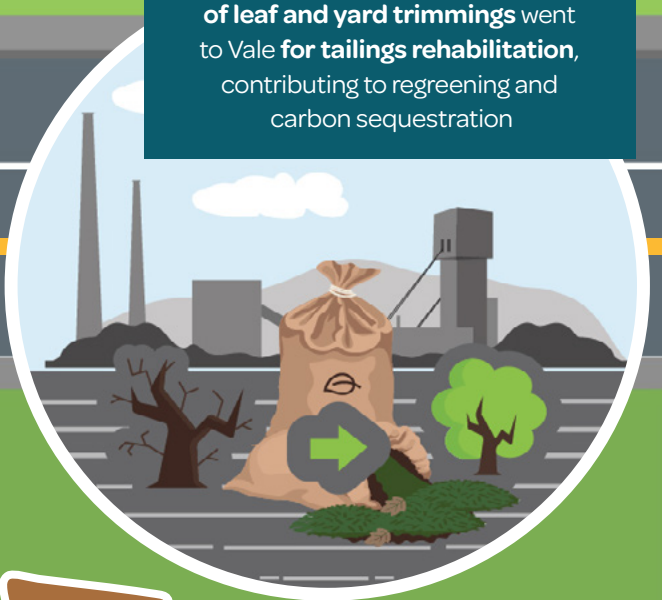
3,790,910 kg

of leaf and yard trimmings went to Vale **for tailings rehabilitation**, contributing to regreening and carbon sequestration



6.02 million kWh

Electricity produced by Sudbury Landfill gas



5,198,923 kg

of residential **Green Cart organics collected**

13,289,768 kg

of organic matter diverted

Summary of Municipal Energy Consumption

This year's report will examine data collected from 2016 to 2024 in the context of potential targets and interim milestones that the City of Greater Sudbury may consider adopting, based on the original Community Energy and Emissions Plan (CEEP).

The CEEP uses energy, emissions, land-use and financial modelling to determine the community-wide efforts required to meet a 2050 net-zero emissions target. Interim targets do not exist to simply track our progress in achieving net-zero emission; they are important for reducing emissions in the near future to limit global temperature increase to 1.5°C as indicated by the Paris Agreement.

In the 2023 annual report, GHG emissions were presented by the top three sources from corporate activities: natural gas, liquid fuels (gasoline and diesel) and electricity. This year, the data (Figure 1) include emissions from both corporate activities and corporate-managed community activities—specifically solid waste and wastewater (hereafter in this section referred to as "waste").

However, because community waste— primarily landfill solid waste—produces significantly more emissions than corporate activities, it can overshadow other trends. It is important to separate these data to demonstrate the importance of reducing GHG emissions from community and municipal facility waste as well as from transportation and buildings.

The CEEP model outlines the following interim reduction targets for GHG emissions over the next few decades:

25 per cent reduction by **2025**

50 per cent reduction by **2030**

70 per cent reduction by **2035**

80 per cent reduction by **2040**

85 per cent reduction by **2045**

92 per cent reduction by **2050**

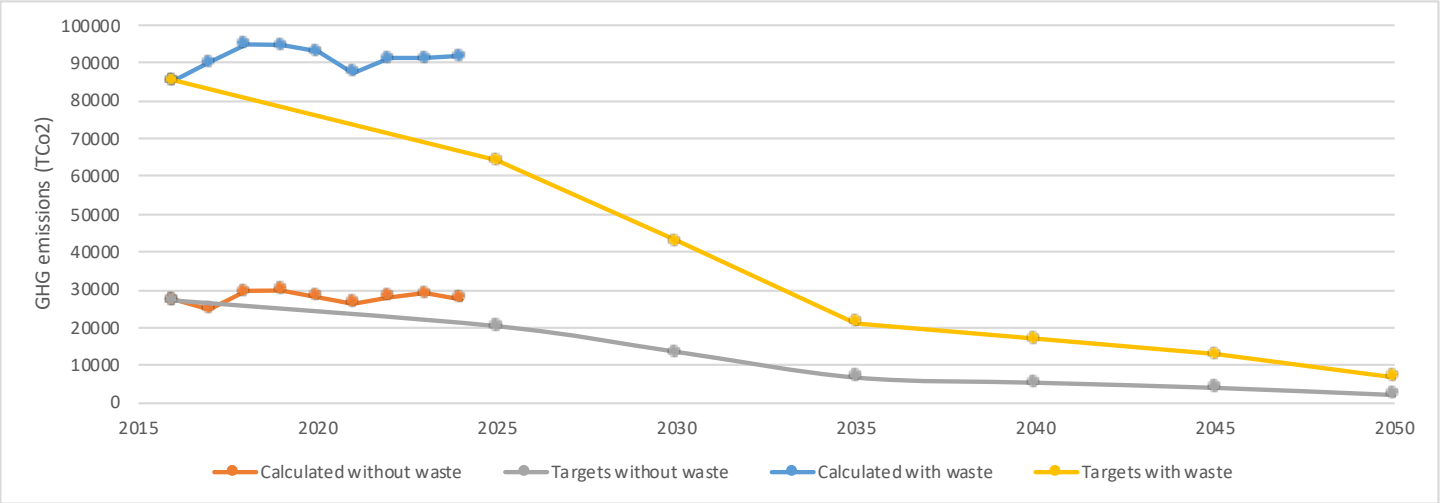
... with the remaining 8 per cent being addressed by carbon sequestration and renewable energy to make the system net-zero.

Summary of Municipal Energy Consumption (continued...)

To address the impact that waste can have on emissions data Figure 1 presents two datasets: one that includes waste emissions and one that excludes them.

Figure 1: City of Greater Sudbury corporate GHG emissions:

Calculated vs. targeted, with and without solid waste and wastewater ("waste")



As highlighted in the 2023 report, the City's GHG emissions did not appear to be declining at a rate sufficient to meet the 2030 target. This trend does not mean that the City is failing to act, but it does underscore the challenges faced by many municipalities and large organizations such as limited resources or balancing climate change mitigation and adaptation.

For example, the City's water and wastewater treatment facilities have been steadily improving equipment efficiency for many years, particularly following the hiring of an Energy Manager (now Energy and Facilities Engineer) in 2012. Proactive steps toward climate change adaptation have been taken by preparing facilities to handle increased stormwater volumes and a growing population.

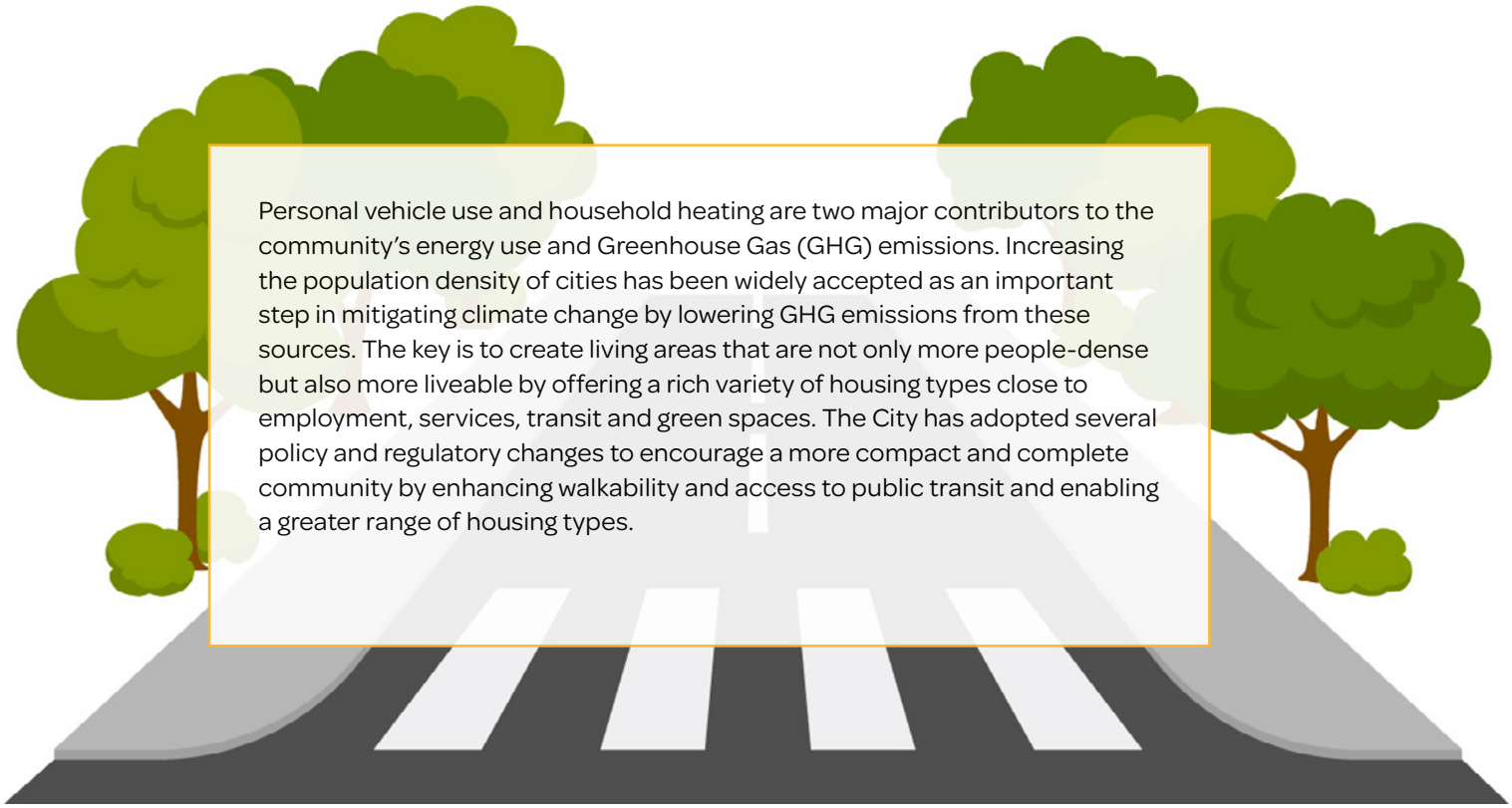
Facility capacity upgrades and enhancements to pumps and lift stations are essential for flood preparedness and building community resilience; however, expanding treatment facilities and pumping water to more residents result in higher energy consumption and increased GHG emissions. While this presents a challenge in meeting corporate emissions targets, it reflects the necessary trade-offs involved in effective climate adaptation.

Another example is the City's ongoing work to promote active transportation. Efforts to encourage walking, cycling and transit use—such as expanding transit routes and enhancing winter sidewalk maintenance—are key to reducing community-wide GHG emissions. However, as they still rely on non-renewable forms of energy, these initiatives also lead to increased use of liquid fuels and result in higher corporate emissions. Despite this, the overall impact in the community is expected to be net-positive, as we increase active and public transportation use in the City.

These two examples highlight the City's ongoing climate action efforts and the complex, often competing priorities involved. One of the most significant barriers to achieving climate goals is funding. The City's two largest sources of corporate GHG emissions are natural gas used in buildings and liquid fuels used in vehicles. To initiate a meaningful downward trend in emissions, the City must secure external funding to support energy efficiency retrofits for existing buildings, commit to high-performance standards for new construction and continue transitioning to low-carbon transportation. All of these changes require significant investment and more strategic equipment selection.

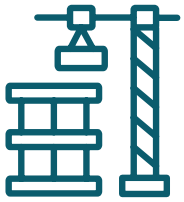
As a recommended next step, staff could incorporate the Conservation and Demand Management Plan into the Asset Management Plan to include a dedicated section on building retrofits, recommissioning, and GHG reductions. This integration would support the prioritization of upgrades, enhance energy efficiency planning, and strengthen future funding applications.

Compact, Complete Communities



Personal vehicle use and household heating are two major contributors to the community's energy use and Greenhouse Gas (GHG) emissions. Increasing the population density of cities has been widely accepted as an important step in mitigating climate change by lowering GHG emissions from these sources. The key is to create living areas that are not only more people-dense but also more liveable by offering a rich variety of housing types close to employment, services, transit and green spaces. The City has adopted several policy and regulatory changes to encourage a more compact and complete community by enhancing walkability and access to public transit and enabling a greater range of housing types.

2024 Accomplishments



Adopted a new official plan policy to encourage residential development around the City's main roads to support compact, complete communities which are more energy-efficient and sustainable.

Launched a review of the Downtown Master Plan in 2024. The Downtown Master Plan guides the revitalization of Downtown and includes strategies related to resiliency and sustainability.

Efficient Buildings

Space heating of buildings consumes the most energy in Greater Sudbury and is one of the three main sources of GHG emissions. So, improving the energy efficiency of both private and public buildings must be an important goal for the next few decades. Other related sources of municipal energy use, such as streetlights and recreational facility operation, also need to be improved where possible.

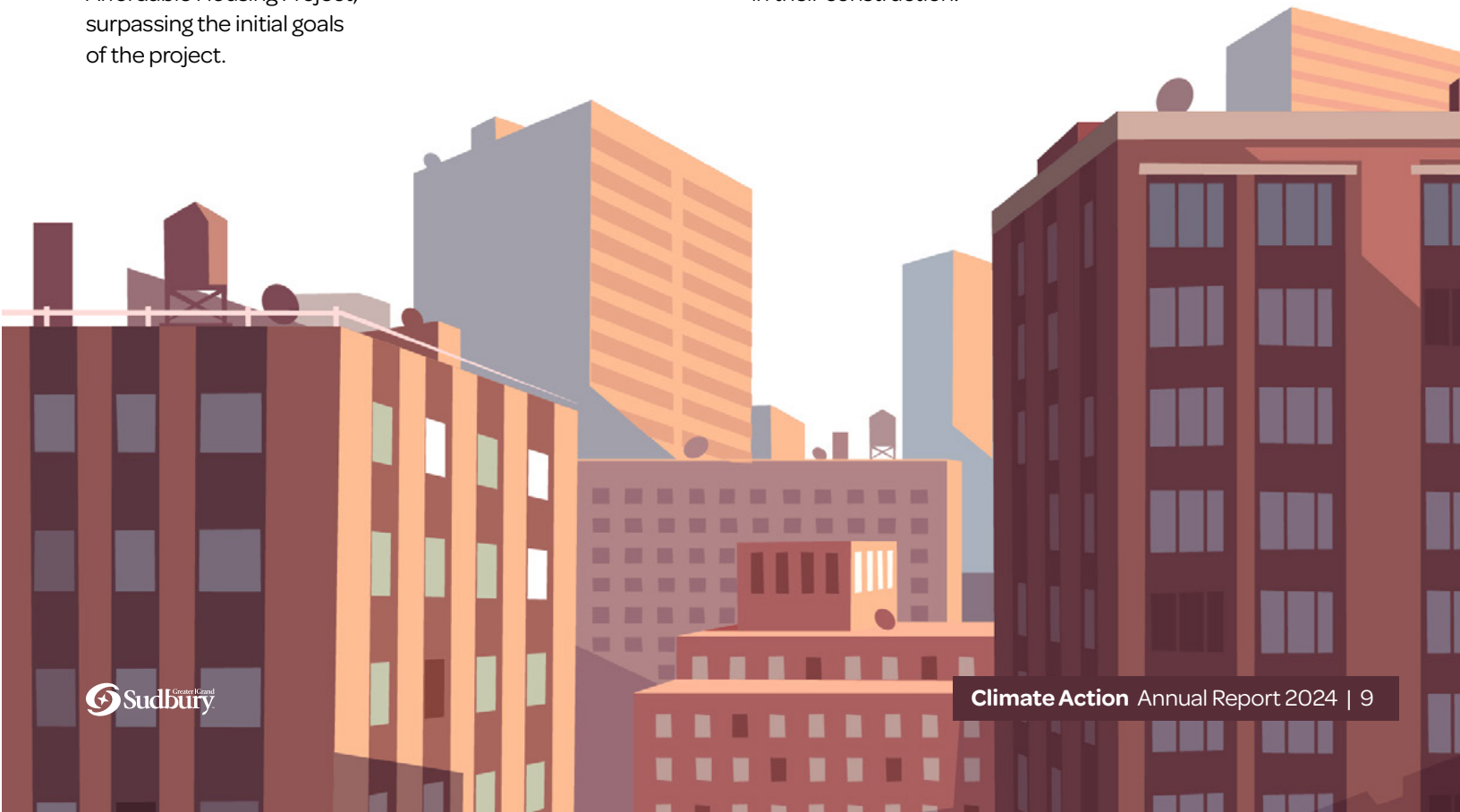
2024 Accomplishments

Reported more than 35 per cent energy savings and over 25 per cent GHG emissions reductions by the energy efficient housing built for the Sparks Street Affordable Housing Project, surpassing the initial goals of the project.

Updated the building permit process to include consideration for energy efficient projects within the community.

Reduced the total carbon footprint of certain playground structures by using sustainably sourced engineered wood fibre and recycled rubber/foam mats in their construction.

Secured over $125,000 of external funding for climate-related projects such as the fleet's transition to electric vehicles and sustainable building upgrades.



Water, Wastewater and Solid Waste

Maintaining and operating water and wastewater treatment and distribution systems consumes the most electricity of any municipal service. Energy efficiency improvements are made every year during operational reviews and equipment replacement. Management of solid waste (i.e. garbage) plays an important role in reducing GHGs through decreased packaging, diversion of organics, landfill emissions and fuel consumption. Projects such as lift station upgrades, garbage and leaf and yard trimmings pickup every other week and new washing stations have decreased energy and fuel use for the City. Improving waste collection and management decreases waste-generated emissions.

2024 Accomplishments

Initiated pressure management study to review pressure in the system and address any issues to reduce leakage.

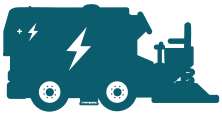
Completed Line Flushing Assessment to reduce non-revenue water

Finalized the 2025-2035 Solid Waste Management Master Plan (Sustainable Waste Strategy)

Low-Carbon Transportation

Vehicular transportation is the largest source of GHG emissions in Greater Sudbury, producing 32 per cent of total emissions from burning fossil fuels. Combined with the Compact, Complete Communities initiatives outlined earlier, efforts to reduce the requirements and duration of personal vehicle trips will assist in reducing emissions while fostering more opportunities for active and public transportation. Switching to low- or zero-emissions vehicles will also have a significant impact. The City has led the way by converting several vehicles in its fleet to electric vehicles (EVs), increasing the active transportation network, increasing transit ridership and initiating a feasibility study on electric transit.

2024 Accomplishments



Charged forward with the City's first Electric Zamboni at the T.M. Davies Community Centre and Arena, eliminating propane requirements, oil change and additional ventilation needs that were associated with the fossil fuel Zamboni.

Hosted the third annual Battery Electric Vehicle (BEV) – Mines to Mobility Conference to advance BEV economic opportunities in Northern Ontario, attracting over 300 delegates from across Canada.

Launched the GOVA Plus app to enhance service efficiencies by putting GOVA Plus users in control of their transportation needs and providing options to book, change or cancel rides.

Initiated a GOVA bus awareness campaign in partnership with Sudbury Catholic District School Board Student Senate to promote the use of public transportation and educate Grades 7 and 8 students about how to effectively and safely navigate the GOVA Transit system.

Expanded conventional transit service levels by 11,000 hours, increasing route frequency and improving accessibility for residents.

Carbon Sequestration

For Greater Sudbury to achieve a net-zero target by 2050, the GHG emissions will have to be addressed through reduction efforts and any residual emissions will be offset through renewable energy production and carbon sequestration, mostly through planting trees. Not only does the City continue to plant thousands of trees each year through the Regreening Program, but it has initiated an Urban Forest Master Plan and completed a Street Tree Policy.

2024 Accomplishments

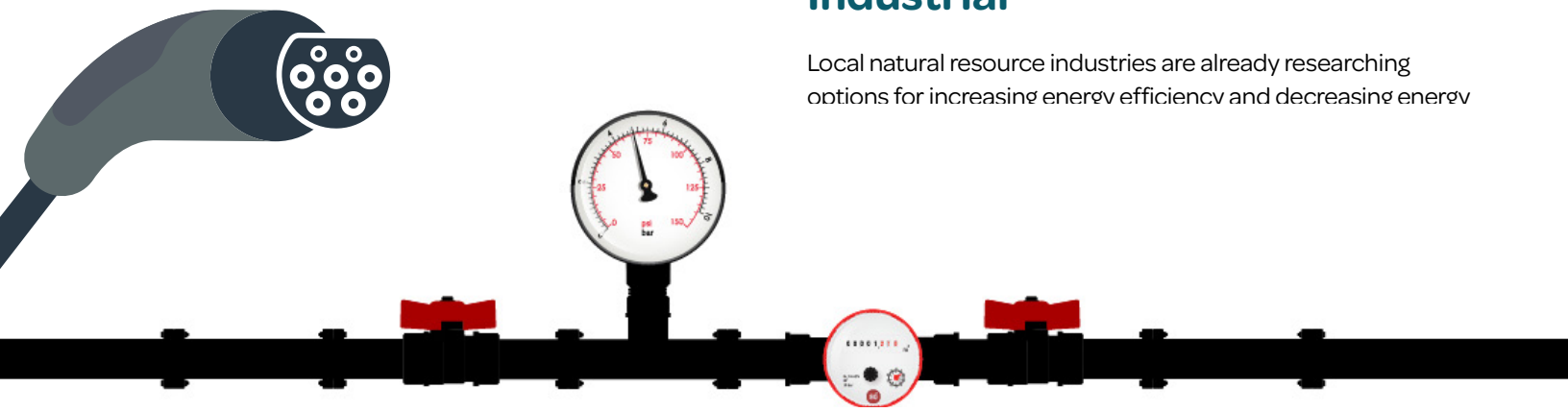
Released the film "Planting Hope: A Regreening Story" at Dynamic Earth.

Completed the Urban Forest Master Plan with recommendations for preserving, enhancing and sustainably managing the trees within urban areas.

Continued Regreening Program operations through liming 7.5 hectares of barren land, planting over 135,000 tree, shrub and understory tree seedlings and transplanting 20 large-scale forest floor plots.

Local Clean Energy Generation

Generating local clean energy will be essential in becoming a net-zero community by 2050. Achieving net-zero requires a balance in the amount of GHGs emitted and the amount removed. Reducing energy use is the first step and using clean or renewable energy for the remainder of energy used is the next.



Industrial

Local natural resource industries are already researching options for increasing energy efficiency and decreasing energy

Low-Carbon Energy Procurement

Goal 17 of the CEEP is to procure 100 per cent of community-wide grid electricity and 75 per cent of natural gas demand from renewable sources by 2050.

This goal relies on public and private interest, the energy market and collaboration.

To begin this process, an initial study and/or working group must be established to identify procurement options, opportunities, and obstacles.

There are no current City projects to report on this topic, however the Climate Action Resource Team (CART) has initiated discussions for a Sustainable Procurement Strategy.

Built Environment

(e.g., municipal infrastructure, roads, bridges, pump stations, buildings, power lines)

Several factors make built infrastructure vulnerable to climate change. Damage may include physical breakage, chemical corrosion (i.e., from rust or increased salt use), biotic factors and thermal damage from extreme heat or cold. The built environment may also fail due to insufficient size or capacity, such as the wastewater system during heavy rain or flood events. Upgrading and maintaining infrastructure improves performance and resilience under extreme weather conditions. Proper maintenance and upgrading of the water and wasterwater systems help keep that infrastructure resilient to the effects of climate change.

Radio monitoring, pressure studies and public education campaigns help identify and address leaks, inflow and infiltration of the water/wastewater system to provide more efficient stormwater management.

2024 Accomplishments

Rehabilitated 1.1 kilometers of watermain throughout the community to reduce risk of underground failures and contamination.

Replaced section of the trunk watermain on Highway 17 damaged by frost in recent winters. The trunk watermain supplies Sudbury with water from the Wanapitei Water Treatment Plant.

Public awareness of water and wastewater management was developed and maintained through year-round campaigns such as Water/ Wastewater Wednesday and radio messaging.

Started construction to increase the capacity at the St. Charles Lift Station in the Flour Mill. The increase in capacity will accommodate larger flows from more intense storms.

Natural Environment

(e.g., natural resources, ecosystems, wetlands, trails, wildlife)

Climate change can manifest in the form of extreme temperatures, flooding, droughts, excessive soil erosion and wildfires among other things.

In the natural environment, this will affect:

- **Species distribution**
- **Assimilative capacity of the lakes/rivers (the ability to naturally absorb pollutants without adverse effects)**
- **Shorelines**
- **Root systems**
- **Water retention of the soils**

The City's Regreening Program continues to play an important role in enhancing ecosystem services, protecting the regional watersheds and creating healthy soil. Both private and public properties must prepare for these events and can do so by installing green infrastructure like trees, rain gardens, wetlands and parks. Greater Sudbury is located just beyond the most northern distribution of many species. This means that even small changes in average seasonal temperatures can have big impacts on

Local Economy

(e.g.,local businesses, tourism, agriculture)

Tourism and commercial sectors are not immune to a changing climate. Climatic impacts can lead to changes in the travel and spending behaviours which fuel these industries. The City aims to improve the resilience of the local economy by increasing the availability and awareness of public sector resources, including funding incentives, networks, partnerships and services. These actions will require collaborative work with industry stakeholders and partner networks to identify gaps in climate change resilience and provide awareness and access to support services and programs. Municipal economic development programs and strategies are planned for review in the near term to ensure that they are aligned with the Community Climate Change Adaptation Plan (CCCAP) and ensure climate change resiliency is prioritized, incentivized and accessible.

2024 Accomplishments

Received funding from the Greater Sudbury Development Corporation to create a short-term contract position for a Food Systems Coordinator. This position supports economic development by bringing awareness and opportunities for agriculture, food business and culinary tourism. This position is also helping with climate-related food issues such as resilience, food insecurity, emergency food planning and local food production.

Provided sustainable film resources and a green event webpage which can increase the demand for local services and environmental initiatives.

Cultural and Social Cohesion

(e.g., building community resilience through schools, community centres, faith and cultural centres, volunteerism)

Climate change impacts on the community's cultural and social cohesions include reduced access to cultural events, volunteer opportunities, spiritual gathering places and educational institutions. Some Greater Sudbury residents will experience a disproportionate increase in physical, mental, social and cultural impacts due to climate change. There may be lost or reduced opportunities to meet with friends, continue education or have medical needs met. The City of Greater Sudbury will continue to consider and include all populations in efforts to become a more resilient community for all residents.

2024 Accomplishments

Community Health and Well-Being

(e.g., disaster and emergency management, health and medical care, food access, evacuation, and public communications)

Climate change exacerbates existing health inequities due to extreme weather, water- and food-borne illnesses, vector-borne disease, wildfire, changes to water quality and quantity, as well as risk to local food systems. Direct health impacts of climate change include heat stroke, aggravation of respiratory and cardiovascular conditions, serious injury, illness, anxiety and trauma, and others. Climate change can have indirect impacts on health too, such as the interruption of medical and social services, impacts on food and water availability, loss of housing or belongings to floods or other crises and lost employment hours and wages. The City's Emergency Management will continue to play a critical role in our community's preparation and the delivery of services during climate-related emergencies.

2024 Accomplishments

Aided climate refugees through a migrant housing hub for communities experiencing displacement within the Ontario James Bay Region due to the climate crisis.

Issued two heat warnings that opened City-run cooling centres, and extended lifeguard hours.

Enabling Actions

(e.g., inform and empower community, research and new technologies, integration of climate change adaption)

The City hopes to integrate climate change adaptation into a variety of policies and initiatives, and to facilitate diverse collaborations and partnerships. Enabling actions also address increased needs for resources, support and education to help our community better understand and prepare for climate change risks and recover more quickly from crisis. Through financial support, partnerships and resource-sharing, local organizations can build capacity and support their initiatives and programs to build awareness and actions around climate change.

2024 Accomplishments

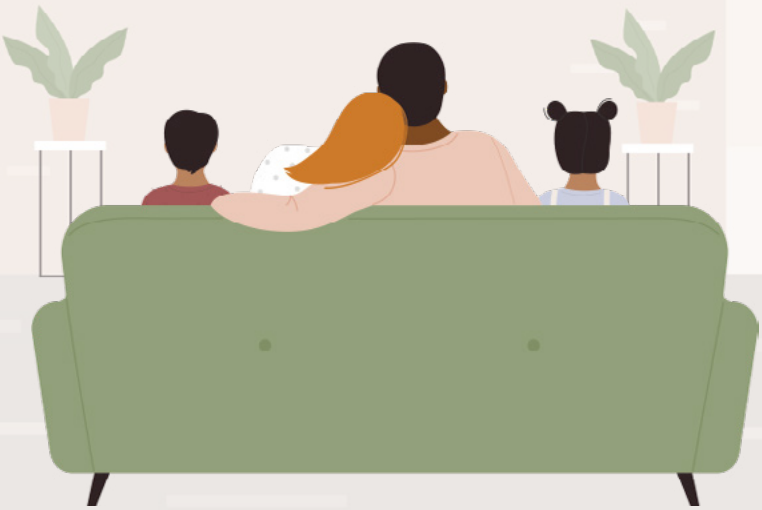
Released Monthly Green Living Articles to help encourage and enable climate action within the community.

- Safe, warm and wallet friendly: Your winter transit solution in Greater Sudbury
- Building resilience in children through climate change conversations
- Wind storms and power outages: how to prepare for wild weather
- How the City of Greater Sudbury plans to protect 30 per cent of land and water by 2030
- How you can help improve lake water quality in Greater Sudbury
- Easy adaptations to keep you and your family safe this summer
- Be prepared: How to be ready for the next weather-related emergency
- Save the date: The BEV In-Depth: Mines to Mobility Conference, May 29-30, 2024
- Harnessing solar power: How the City is generating kilowatts and saving on electricity bills
- Fix a Leak Week and World Water Day: March events you don't want to miss!
- Where does our Blue Box recycling go?
- Sustainable eating: How small changes can help the planet in 2024

Included Clean Tech as a priority in the Employment Lands Community Improvement Plan.

Released Weekly CTV EarthCare Minutes to help encourage and enable climate action within the community.

City of Greater Sudbury's EarthCare Minutes



2024 Community-Wide Highlights

37

applicants received Residential Inflow and Infiltration Subsidies from the City to help their homes prepare for heavy rainfall and snow melt

1,568

EVs registered in Greater Sudbury, up from 1088 in 2023

6+ million

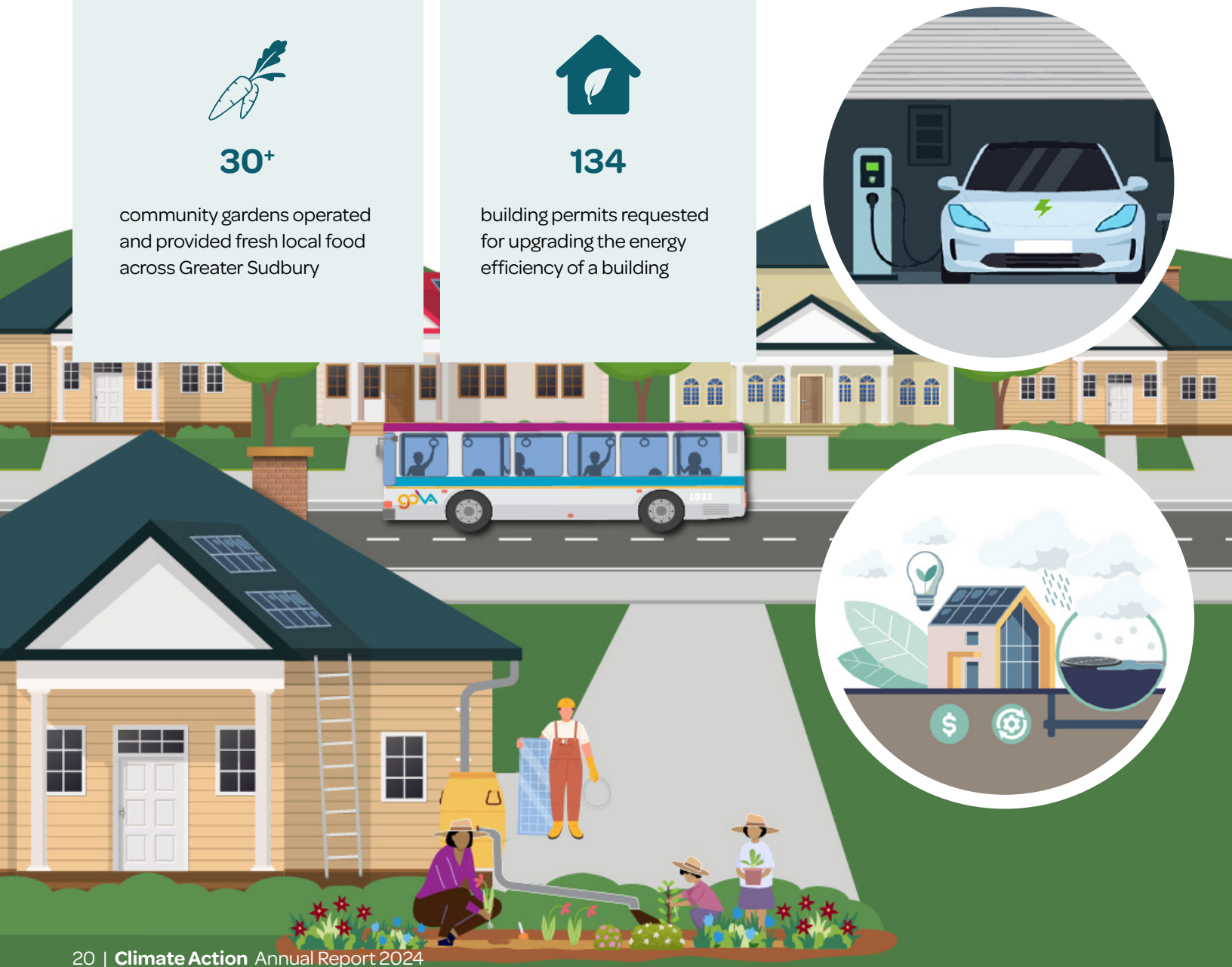
transit ridership reached for the first time ever

30+

community gardens operated and provided fresh local food across Greater Sudbury

134

building permits requested for upgrading the energy efficiency of a building



Community Stakeholders Accomplishments

190

native shoreline plants were planted by two Lake Stewardship Groups: Nepahwin Lake and Long Lake, thanks to the Love Your Lake Program

$5 million

awarded to Mining Innovation Rehabilitation and Applied Research Corp – or MIRARCO - to find ways to recover nickel, cobalt and copper from mine waste in Greater Sudbury that can be used to make batteries for electric vehicles

1115 m²

of food forests maintained through Sudbury Shared Harvest

3rd

place for Ontario's Top Energy Performing Schools went to Conseil scolaire catholique Nouvelon

38

organizations and leaders wrote letters of support for the City's climate action through the Coalition for a Liveable Sudbury

1,195

residents signed a petition to show support for the City's climate plans and request more action

55

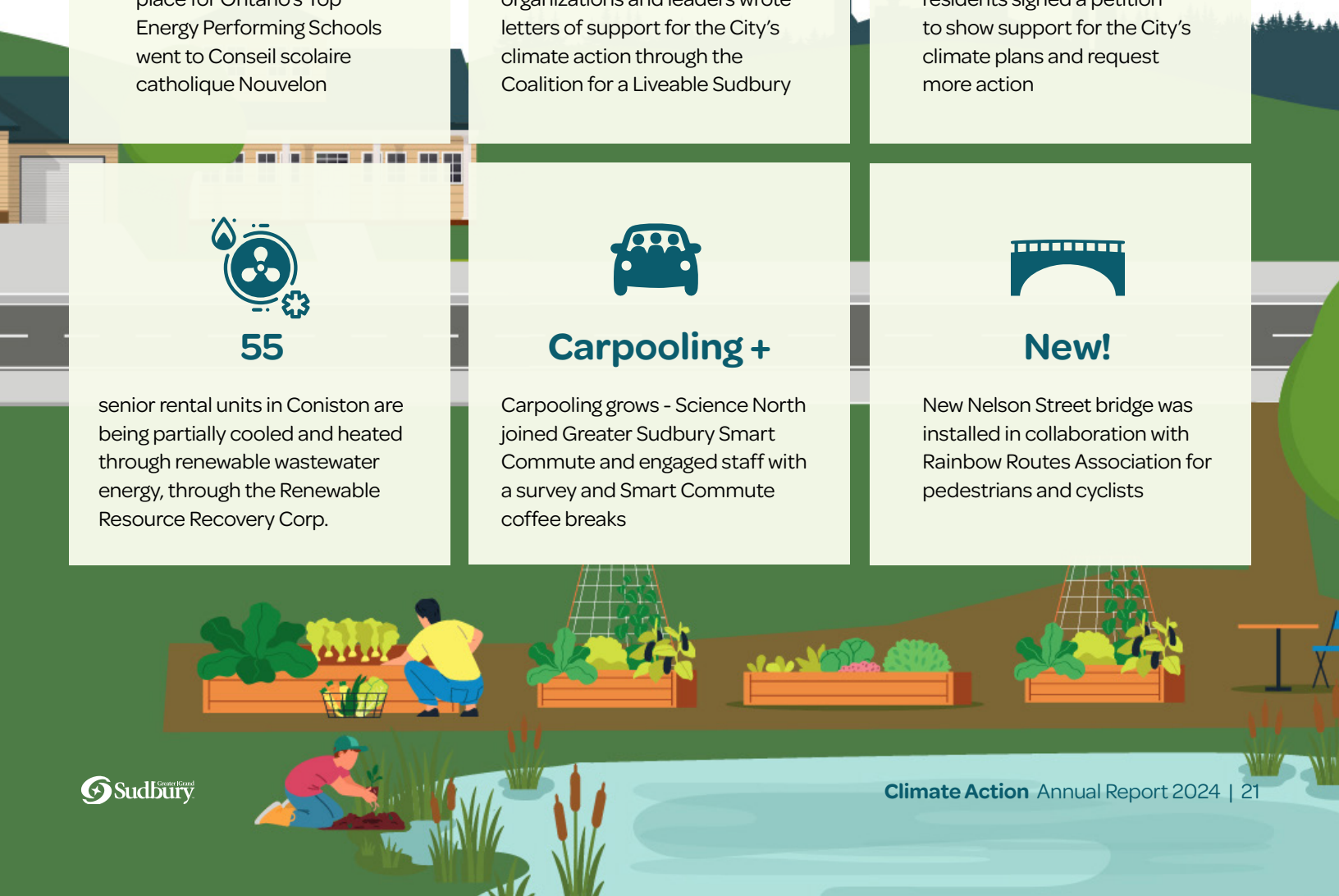
senior rental units in Coniston are being partially cooled and heated through renewable wastewater energy, through the Renewable Resource Recovery Corp.

Carpooling +

Carpooling grows - Science North joined Greater Sudbury Smart Commute and engaged staff with a survey and Smart Commute coffee breaks

New!

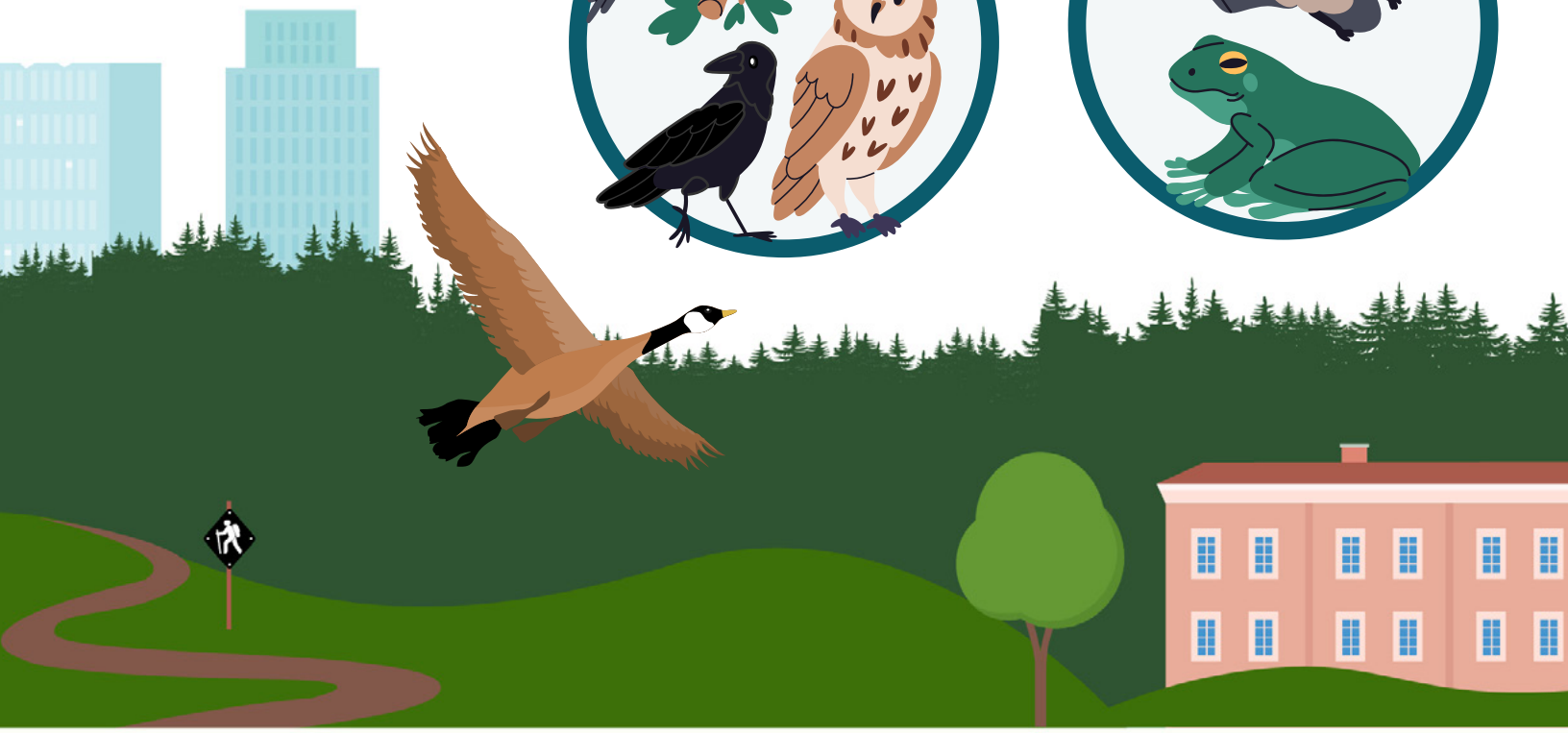
New Nelson Street bridge was installed in collaboration with Rainbow Routes Association for pedestrians and cyclists



2024 Community Showcase

#1 2024 achievements for the Nature Positive Universities (NPU) team at Laurentian University

- 16 plots established in the community garden at the Living With Lakes Centre
- 300+ participants in community greenspace events
- 8 kms of greenspace trails maintained on campus
- 27 windows retrofitted with dot strips to reduce bird collision rates
- 1,636 iNaturalist observations made on campus last year through our campus biodiversity monitoring network
- Identification of 625 different species
- Biodiversity monitoring projects conducted for birds, bats and frogs on campus
- Birds: Over 19,000 observations and 75 species identified
- Bats: Over 600 observations and 6 species identified
- Frogs: Over 10,000 observations and 4 species identified



#2 Learning for a Sustainable Future (LSF) awarded up to $500 to six schools in Greater Sudbury for student-led projects focusing on climate change and sustainability.

Sudbury Secondary School (Sudbury)
https://ourcanadaproject.ca/place/sowing-the-seeds-to-a-better-mental-health-2/

École secondaire catholique Champlain (Chelmsford)
https://ourcanadaproject.ca/fr/place/agrandissement-de-la-foret-nourriciere/

École Cap sur l'Avenir (Sudbury)
https://ourcanadaproject.ca/fr/place/systeme-hydroponique/

Collège Notre-Dame (Sudbury)
https://ourcanadaproject.ca/fr/place/plantes-indigenes-et-medecines-ancestrales-lart-qui-inspire-et-eveille/

St. Albert Learning Centre (Sudbury)
https://ourcanadaproject.ca/place/empowering-youth-through-eco-art-and-service-learning/

Common Project Themes:

- Pollinator and native plant gardens
- Edible gardens and indoor growing
- Waste reduction (e.g. composting & recycling, upcycling/reusing)
- Outdoor learning
- Youth leadership and community engagement
- Awareness-raising and education

Enhanced Climate Action in Greater Sudbury: A Community Effort

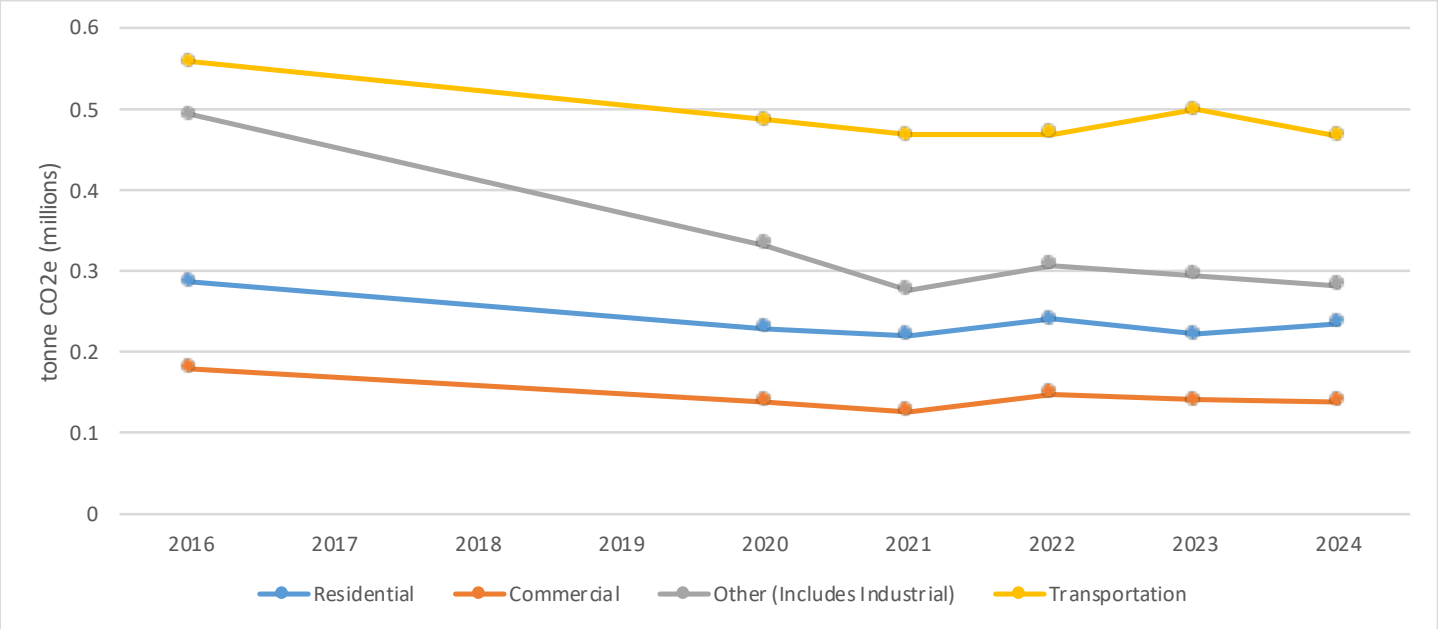
The success of climate action in Greater Sudbury is driven by the passion and dedication of local champions within the community. The achievements in this city span a diverse range of sectors and reflect the involvement of residents of all ages. While these efforts are commendable, the need for more volunteers and individual actions remains urgent. Every person has the ability to make decisions that conserve energy, protect their homes, divert waste and safeguard the environment. Collectively, these actions contribute to the reduction in community-wide Greenhouse Gas (GHG) emissions, as demonstrated by the milestones in this report.

Emission Reductions: A Positive Trend

There was a significant drop in GHG emissions between 2019 and 2023. These findings focus on the primary sources of emissions—natural gas, electricity and liquid fuels— and are calculated using consistent, readily available data from utilities and fuel sales (Figure 2). A major contributor to this reduction has been the industrial sector, particularly large mining companies such as Vale Base Metals and Glencore. Both companies have made substantial investments in technologies like battery-electric underground vehicles, equipment upgrades and other innovations aimed at reducing their carbon footprint.

Figure 2. Community GHG emissions

from the top three sources of emissions and by top three sectors* see methodology



Events like the COVID-19 pandemic, and the resulting behavioural changes, demonstrate how small changes can have large impacts on climate. Many sectors saw a decrease in emissions during the systemic shutdowns of the pandemic, and, in Greater Sudbury, many of them have still stayed below pre-pandemic emissions levels.

This has been a great achievement for Greater Sudbury industries and residents that worked hard to maintain this progress. Greater Sudbury has not risen back up to pre-pandemic emissions levels, thanks to this effort.

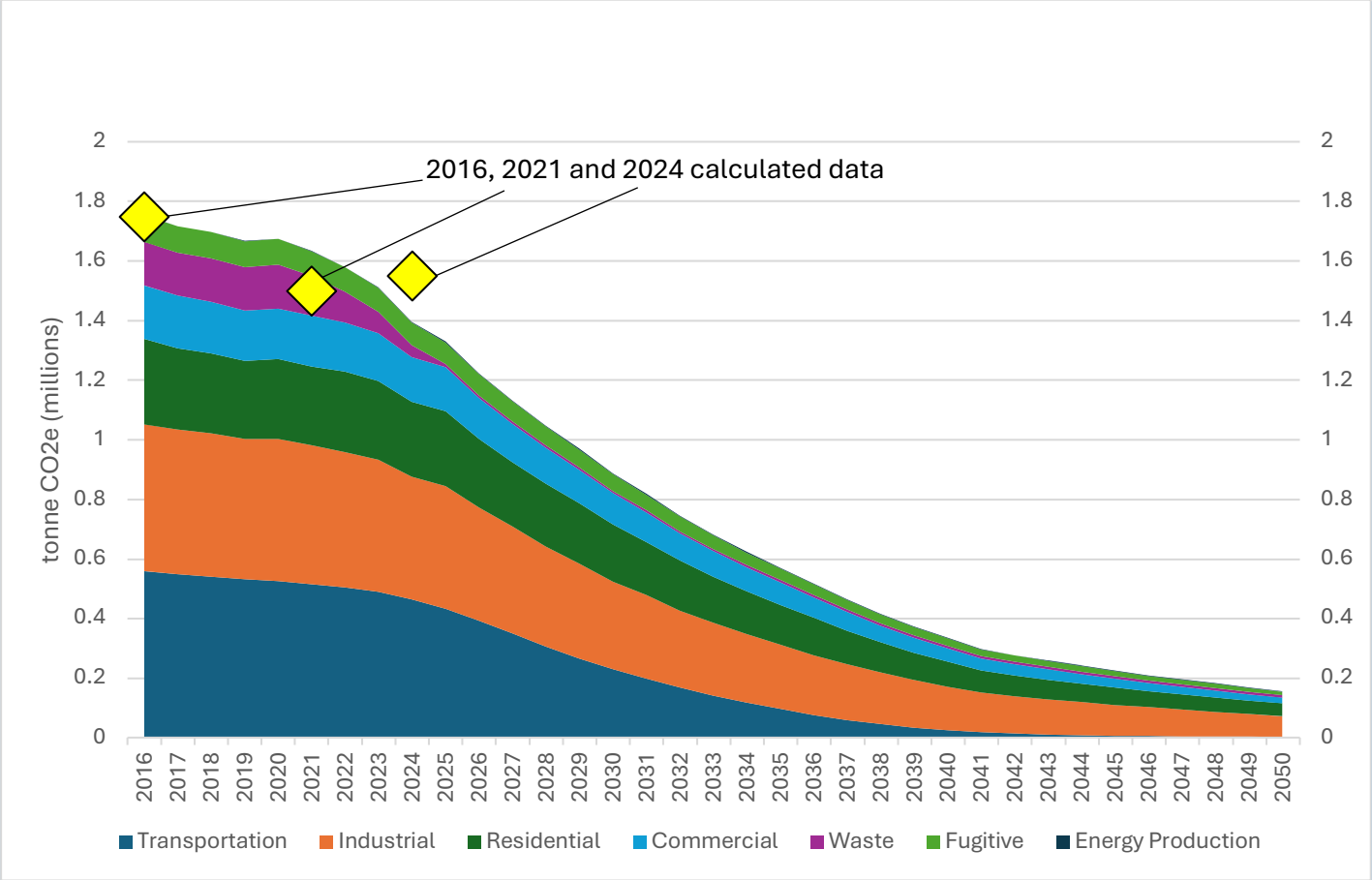
This exemplifies the potential that Greater Sudbury bears if businesses and residents stick to emissions targets and make the necessary changes. With continued efforts from the community and support from City programs, there is hope to maintain this positive trend.

Enhanced Climate Action in Greater Sudbury: A Community Effort

As Greater Sudbury's population continues to grow, the City recognizes the need to address the environmental impact of new residential developments. To mitigate this impact, additional support is required to encourage homeowners to retrofit existing buildings and to promote the construction of energy-efficient, low-carbon homes. In 2024, the City took a proactive step by beginning the preparation of a home retrofit guidance program, aimed at increasing the efficiency and resilience of homes across Greater Sudbury.

Greater Sudbury has also adopted several policy changes and strategies, such as the Nodes and Corridors Strategy, to encourage denser development along major roads. This approach takes advantage of existing infrastructure and promotes land use that conserves energy, improves air quality and reduces greenhouse gas emissions. A central goal of the strategy is to create spaces that make it easier and more appealing for people to walk, bike and use public transit.

Figure 3. Community GHG emissions



Progress and the Path Ahead

While GHG emissions have decreased since 2016, they have not yet reached the levels suggested by the original Community Energy and Emissions Plan (CEEP) model (Figure 3).

This model shows several sources of GHG emissions, which underscores how further effort is required from all sectors of the community to meet the goal of net-zero emissions by 2050The City remains committed to supporting climate action through initiatives that promote low-emission transportation, waste diversion, energy-efficient building retrofits and other strategies. Together, we can continue to reduce our emissions and work toward a sustainable and resilient future.

City of Greater Sudbury Climate Action Implementation

Phase 2 2024-2028

The following action plan provides municipal initiatives to help the City reduce GHG emissions and become more resilient to climate change. The actions are arranged according to the CEEP's eight strategic sectors and the CCCAP's six themes with completed projects placed at the end of the document. Actions were provided by division leads with information that was available as of October 2023 and have been or will be individually considered during budget processes.

Projects that were included in the Phase 1 (2023-2025) action plan are either presented with status updates or placed in the completed section. Projects that have been initiated since 2023 are highlighted in purple and may not include a status or other details, based on input from project leads.

Action types

Plans and Studies: Conduct research or strategic planning projects to establish direction on new or emerging areas of interest.

Education and Outreach (E&O): Undertake initiatives aimed at public education and outreach using a variety of means. Also includes sector or industry-specific E&O.

Policies, Guidelines, and Standards: Establish or update rules and regulations to provide direction for projects, initiatives, or programs.

Procedures: Develop and implement new ways of doing business or adapt existing practices and procedures to enhance low carbon resilience.

Programs and Projects: Develop new programs or projects to advance climate action with proof-of-concept pilot projects as needed.

Partnerships and Engagement: Collaborate with stakeholders (both internal and external) to advance climate action within municipal operations and in the community. Advocate to other levels of government on behalf of the City to advance and support local climate action.

Cost

Work Plan: cost and staff capacity accounted for through annual Work Plan and operating budgets.

$ **Low Cost:** ≤ $100,000

$$ **Medium Cost:** $100,000 - $500,000

$$$ **High Cost:** > $500,000

Timeline

Short Term: 1-2 years

Medium Term: 3+/- years

Long Term: 4-5 years

Recurring: Actions which happen on an ongoing basis.

Status

Not yet initiated – intentions to proceed with action uncertain; not part of existing work plans or budget.

Planned – intention to complete the action is part of current or future work plans.

In progress – includes actions that have been initiated, are already funded, and/or are part of the business-as-usual operations of a team or division within the City.

Ongoing – includes actions that are part of the business-as-usual operations of a team or division within the City.

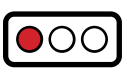
No change in status between 2023 and 2024

Status has upgraded from 2023 to 2024

Potential Barriers

Minor: Highly controllable; high certainty (e.g., achieved with minor staffing adjustments; technology widely available.

Moderate: Moderately controllable and moderate certainty (e.g., technology promising but not fully developed, affordable or available widely; moderate levels of funding required but unsecured).



Major: Low to no ability to control and/or low certainty and/or highly dependent on external factors (e.g., technology in early development; high levels of external funding support required but unsecured).

City of Greater Sudbury Climate Action Implementation 2024 - 2028

CEEP Foundational Actions								
Action	**Specific CEEP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Develop a tool for tracking and reporting local GHGs		Programs and Projects		Work plan $	Planning Services	In progress	In progress	Staffing
Compact, Complete Communities Actions								
Action	**Specific CEEP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Official Plan Review Phase 2	Goal 1	Policies, Guidelines and Standards		Work plan $	Planning Services	In progress	In progress	
Housing As-of-Right Zoning Review	Goal 1	Policies, Guidelines and Standards		Work plan $	Planning Services	In progress	In progress	
Efficient Buildings Actions								
Action	**Specific CEEP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Monitor local green building trends	Goal 2 – Periodically increase the energy efficiency of new buildings until all new buildings in 2030 onward are passive house energy efficiency compliant	Programs and Projects		Work plan $	Building Services	Not yet initiated	In progress	
Education on upcoming changes in the building code and building permit requirements	Goal 2	Education and Outreach Capital		Work plan $	Building Services	Not yet initiated	In progress	Regulatory
Conversion to more energy efficient boilers in GSHC buildings	Goal 3	Programs and Projects		$$$	Housing Operations	In progress	Complete 2024	Budgetary
Implement optimization strategy of GSHC housing stock	Goal 3	Procedures		$	Housing Operations	In progress	In progress	Budgetary
Continue to undertake energy retrofits as required at Pioneer Manor	Goal 4	Programs and Projects		$$	Long-tern Care Services	In progress	In progress	Budgetary
Bed redevelopment at Pioneer Manor	Goal 4	Programs and Projects		$$$	Long-tern Care Services	In progress	In progress	Fully funded
Use of building automation	Goal 4	Programs and Projects		$	Assets and Fleet Services	In progress	In progress	
LED Light Retrofits at Parks Facilities		Programs and Projects		$	Leisure Services	In progress	In progress	
Greater Sudbury Outdoor Court Revitalization Project		Programs and Projects		$$	Leisure Services	In progress	In progress	

Efficient Buildings Actions (continued...)								
Action	**Specific CEEP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Lorraine Street Affrodable Housing Project with energy efficient housing	Goal 4	Programs and Projects		$$$	Housing Operations	In progress	Complete 2024	Contractor delays
Sparks Street Affrodable Housing Project with energy efficient housing	Goal 2	Programs and Projects		$$$	Housing Operations	In progress	Complete 2024	Equipment delays
Install more energy efficient elevators in one Greater Sudbury Housing Corporation building	Goal 3 – The existing building stock is retrofit for 50% increased energy efficiency by 2040 and large buildings are routinely recommissioned	Programs and Projects		$$$	Housing Operations	In progress	Scope updated	Budgetary
Replace backup power sources from diesel to natural gas on housing properties	Goal 4	Programs and Projects		$$$	Housing Operations	In progress	Complete 2024	Equipment delays
Electrical upgrades at the Sudbury Wastewater Treatment Plant	Goal 4	Programs and Projects		$$$	Infrastructure Engineering Services	In progress	In progress	Equipment delays
Water, Wastewater, and Solid waste								
Action	**Specific CEEP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Update Water/Wastewater Asset Management Plan	Goal 5 – Decrease energy use in the potable water treatment and distribution system by up to 60% by 2050	Plans and Studies		$$	Infrastructure Engineering Services	In progress	Complete 2024	
Apply energy efficiency lens for routine equipment maintenance and replacement	Goal 5	Policies, Guidelines and Standards	Recurring	$	Water/Wastewater	Planned	Planned	Budgetary, equipment delays
Develop Best Operating Practices/ Best Operating Guidelines (Operational Excellence)	Goal 5	Policies, Guidelines and Standards	Recurring	$	Water/Wastewater	In progress	In progress	Staffing
Inflow and Infiltration Reduction Plan	Goal 5	Plans and Studies	Recurring	$$$	Infrastructure Engineering Services	In progress	In progress	
Anaerobic Digester System On going Review	Goal 6 – Achieve 90% solid waste diversion by 2050. An organics and biosolids anaerobic digestion facility is operational by 2030	Plans and Studies; Partnerships and Engagement		$$	Environmental Services	In progress	In progress	Budgetary
Sanitary sewer flow monitoring		Plans and Studies		$$	Infrastructure Engineering Services	In progress	In progress	
Lift station upgrades	Goal 5	Programs and Projects		$$$	Water/Wastewater	In progress	Ongoing	Budgetary
Mattress and Boxspring Diversion Program		Programs and Projects		$$	Environmental Services		In progress	

Low-Carbon Transportation Actions								
Action	**Specific CEEP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Transit technology improvements	Goal 7 – Enhance transit service to increase transit mode share to 25% by 2050	Programs and Projects	Recurring	$$$	Transit Services	In progress	In progress	
Major mobility hub infrastructure improvements	Goal 7	Programs and Studies	Recurring	$$$	Transit Services	In progress	In progress	
Paris Notre Dame Bikeway construction	Goal 8 – Achieve 35% active mobility transportation mode share by 2050	Programs and Projects	Recurring	$$$	Infrastructure Engineering Services	In progress	In progress	Budgetary
Annual active transportation infrastructure improvements	Goal 8	Programs and Projects	Recurring	$$$	Engineering Services	In progress	In progress	Budgetary
Traffic Signal System Renewal	Goal 8	Programs and Projects		$$$	Engineering Services	In progress	In progress	
Electric Vehicle procurement	Goal 9 – Electrify 100% of transit and city fleet by 2035	Programs and Projects		Work plan $ – $$$	Assets and Fleet Services	In progress	In progress	Budgetary, technological
Plan to electrify Transit fleet by 2035	Goal 9	Plans and Studies		$$	Transit Services	In progress	Complete 2024	Budgetary, technological
Development of a Transit Electric Bus System Assessment Needs Study and Implementation Plan	Goal 9	Plans and Studies		$$	Transit Services	In progress	Complete 2024	
Complete inspection of the sidewalk network and determine sidewalk condition index.	Goal 8 – Achieve 35% active mobility transportation mode share by 2050	Plans and Studies		$	Engineering Services	In progress	Complete	
Reduce bus replacement cycle from 18 years to 12 years	Goal 8	Policies, Guidelines and Standards		Work plan $ – $$$	Transit Services	In progress	In progress	
Bus rapid transit (BRT) corridor design and construction	Goal 8	Programs and Projects		$$$	Transit Services	Not yet initiated	Not yet initiated	Budgetary, Infrastructure changes
Transit hub security pilot program	Goal 8	Programs and Projects		$$	Transit Services	Planned	Complete	
Examine alternative energy sources for environmental services heavy duty vehicles		Policies, Guidelines and Standards		$	Environmental Services	Planned		Technological
Development of the Complete Streets Guidelines	Goal 8	Policies, Guidelines and Standards		$$	Engineering Services	In progress	Complete 2024	
Internal fleet Anti-idling Campaign	Goal 8	Policies, Guidelines and Standards		$	Assets and Fleet Services		In progress	

Local Clean Energy Generation Actions								
Action	**Specific CEEP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Expand the landfill gas collection system at the Sudbury Landfill and Waste Diversion Site	Goal 6	Programs and Projects	Recurring	$$$	Environmental Services	In progress		 Infrastructure changes
Low-Carbon Energy Procurement								
Action	**Specific CEEP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Develop a green procurement strategy/ plan (includes part of Goal 17)	Goal 17 – Procure 100% of community wide grid electricity and 75% of natural gas demand from renewable sources by 2050	Policies, Guidelines and Standards		Work plan $	Purchasing Section	In progress	In progress	 Staffing
Carbon Sequestration								
Action	**Specific CEEP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Develop a Regreening Master Plan	Goal 18 – Increase the reforestation efforts of the Regreening Program	Plans and Studies		Work plan $	Planning Services	In progress	In progress	 Staffing
Enhance carbon sequestration through soil creation		Plans and Studies; Partnerships and Engagement	Recurring	$$	Environmental Services	In progress	In progress	 Budgetary and based on ongoing partnerships

Climate Change Adaption: Community Climate Change Adaption Plan (CCCAP)

Built Environment								
Action	**Specific CCCAP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Feasibility study for Low Impact Development (LID) in Greater Sudbury		Plans and Studies		$$	Engineering Services	Planned	Planned	 Staffing
Capreol Trunk Storm Sewer Improvement	Objective 2 – Urban flooding and wastewater system bypass events are less severe and less frequent	Programs and Projects		$$$	Engineering Services	Planned	Planned	 Budgetary
Continue to enhance landscaping on housing properties to address climate change through shade, stormwater management and food access, in partnership with local community groups	Objective 4 – Homes are more resilient to future climate conditions and extreme events	Programs and Projects	Recurring	$$$	Housing Operations	In progress	In progress	 Budgetary
Install eavestroughs to all housing properties	Objective 4 – Homes are more resilient to future climate conditions and extreme events	Programs and Projects		$$	Housing Operations	In progress	In progress	 Budgetary
Upgrade sewage line at housing properties to reduce inflow and infiltration	Objective 4 – Homes are more resilient to future climate conditions and extreme events	Programs and Projects		$$	Housing Operations	In progress	In progress	 Budgetary
Install backup heating sources at Pioneer Manor	Objective 1 – Infrastructure and buildings are more resilient to future climate conditions and extreme events	Programs and Projects		$$	Long-term Care Services	In progress	In progress	 Only includes new section
Install shading structures to resident windows, walking paths and meeting spaces at Pioneer Manor		Programs and Projects		$$	Long-term Care Services	In progress	In progress	 Budgetary/ Low risk
Assess stormwater management at Pioneer Manor parking lots	Objective 1 – Infrastructure and buildings are more resilient to future climate conditions and extreme events	Programs and Projects		$$	Long-term Care Services	In progress	Complete	 Budgetary/ Low risk
Lift Station Cellular Spare Installation	Objective 1 – Infrastructure and buildings are more resilient to future climate conditions and extreme events	Programs and Projects		$$	Water/Wastewater	In progress	In progress	 Staffing
Water Wells Rehabilitation Program	Objective 1 – Infrastructure and buildings are more resilient to future climate conditions and extreme events	Programs and Projects		$$$	Water/Wastewater	In progress	In progress	 Budgetary

Natural Environment								
Action	**Specific CCCAP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Junction Creek Reconstruction	Objective 5 – Natural landscapes have enhanced adaptive capacity			$$$	Engineering	In progress	In progress	
Finalize the remaining few subwatershed studies of the original 17 proposed	Objective 5 – Natural landscapes have enhanced adaptive capacity			$$	Infrastructure Capital Planning	In progress	In progress	Staffing
Pollinator Hydroseed for Landfill Cover		Programs and Projects	Recurring	$	Environmental Services	Planned	Planned	
Natural Landscapes Have Enhanced Adaptive Capacity								
Action	**Specific CCCAP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Create or update emergency hazard specific plans (examples: extreme heat, cold, freezing rain, flooding, and wildfire events) while developing a Community Emergency Plan	Objective 11 – Health risks are reduced and safety is increased for populations impacted by extreme weather events	Policies, Guidelines and Standards	Recurring	Work plan $	Emergency Management	In progress	In progress	
Adapt Hot Weather Response plan components to address air quality advisory	Objective 11 – Health risks are reduced and safety is increased for populations impacted by extreme weather events	Education and Outreach		Work plan $	Emergency Management	Planned	In progress	
Develop emergency management committee with First Nations		Partnerships and Engagement		Work plan $	Emergency Management	Planned	In progress	
Expand and enhance community garden locations on housing propertie	Objective 14 – Local food systems and drinking water supply are resilient to future climate conditions and extreme events			$	Housing Operations	In progress	In progress	
Local Economy								
Action	**Specific CCCAP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Integrate a climate lens within the Economic Development funding applications		Policies, Guidelines and Standards		Work Plan $	Economic Developement	Not yet initiated	In progress	
Create educational opportunities and incentives for businesses to reduce their GHG emissions and to become more resilient to climate change	Objective 8 – Local industry and businesses are resilient, diversified, attractive, and sustainable	Partnerships and Engagement		Work Plan $	Economic Developement	Not yet initiated	In progress	Staffing
Cultural and Social Cohesion								
Action	**Specific CCCAP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Enabling Actions								
Action	**Specific CCCAP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**

Past Projects

CEEP Foundational Actions								
Action	**Specific CEEP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Develop a framework for collaborative implementation		Partnerships and Engagement		Work plan	Planning Services	Complete	Complete	
Develop a climate lens for decision making		Policies, Guidelines and Standards		Work plan	Planning Services	Complete	Complete	
Compact, Complete Communities								
Action	**Specific CEEP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Tiny/Small Home Review	Goal 1 – Achieve energy efficiency and emissions reductions by creating compact, complete communities through infill developments, decreasing dwelling size through an increase in multi-family buildings, and increasing building type mix			Work plan	Planning Services	Complete	Complete	
Commercial Parking Standards Review	Goal 1			Work plan	Planning Services	Complete	Complete	
Lasalle Boulevard Corridor Study Official Plan and Zoning By-law Amendment	Goal 1			Work plan	Planning Services	Complete	Complete	
Residential Parking Review	Goal 1			Work plan	Planning Services	Complete	Complete	
Efficient Buildings Action								
Action	**Specific CEEP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Conduct an energy audit for the older section of Pioneer Manor	Goal 4 – Achieve net-zero emissions in City buildings by 2040	Plans and Studies		$	Long-term Care Services	Deferred	Deferred	To be reevaluated after bed redevelopment completed in 2026
Develop a GSHC apartment building that meets Passive House standard	Goal 2	Programs and Projects		$$$	Housing Operations	Changed scope	Changed scope	
Install regenerative elevators in one Greater Sudbury Housing Corporation building	Goal 3 – The existing building stock is retrofit for 50% increased energy efficiency by 2040 and large buildings are routinely recommissioned	Plans and Studies		$	Housing Operations	Changed scope	Changed scope	Technology has not matured and that it may not be appropriate for use at this time
Education on building permit requirements for changes in heat source	Goal 2	Education and Outreach		Work plan	Building Services	Changed scope	Changed scope	Changed wording to be more accurate
Feasibility Study on Community Efficiency Financing	Goal 3	Plans and Studies		$	Planning Services	Complete	Complete	
Install new roof at 1960 Paris St.	Goal 4	Programs and Projects		$$$	Housing Operations	Complete 2023	Complete	

Water, Wastewater, and Solid Waste								
Action	**Specific CEEP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Improve diversion of construction and demolition material	Goal 6	Programs and Projects		$$	Environmental Services	Complete	Complete	
Low-Carbon Transportation Actions								
Action	**Specific CEEP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Complete inspection of the sidewalk network and determine sidewalk condition index.	Goal 8 – Achieve 35% active mobility transportation mode share by 2050	Programs and Projects		$	Engineering Services	Complete 2023	Complete	
Transit hub security pilot program	Goal 8	Programs and Projects		$$	Transit Services	Complete 2023	Complete	
Local Clean Energy Generation Actions								
Action	**Specific CEEP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Increase district energy use in Tom Davies Square	Goal 15 – Expand the downtown district energy system to 23MW capacity	Plans and Studies; Partnerships and Engagement		$	Assets and Fleet Services	Complete	Complete	
Built Environment								
Action	**Specific CEEP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Install stormwater vortex separator at 1960 Paris St.	Objective 2 – Urban flooding and wastewater system bypass events are less severe and less frequent	Programs and Projects		$$	Housing Operations	Complete 2023	Complete	
Carbon Sequestration								
Action	**Specific CEEP Goal (If Applicable)**	**Action Type**	**Timeline**	**Cost**	**Division**	**Status 2023**	**Status 2024**	**Potential Barriers**
Development of an Urban Forest Master Plan		Plans and Studies		$	Planning Services	Complete 2023	Complete	