

**Subject: Climate Change Master Plan Progress Update and GHG Inventories**

**File Number: ACS2025-SI-CCR-0009**

**Report to Environment and Climate Change Committee on 16 September 2025**

**and Council 24 September 2025**

**Submitted on September 5, 2025 by Nichole Hoover-Bienasz, Director, Climate Change and Resiliency Services, Strategic Initiatives Departments**

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**Ward: Citywide**

**Objet: Compte rendu de l'avancement du Plan directeur sur les changements climatiques et inventaires des émissions de gaz à effet de serre (GES)**

**Numéro de dossier : ACS2025-SI-CCR-0009**

**Rapport présenté au Comité de l'environnement du changement climatique le 16 septembre 2025**

**et au Conseil le 24 septembre 2025**

**Soumis le 5 septembre 2025 par Nichole Hoover-Bienasz, directrice, Services des changements climatiques et de la résilience, Direction générale des initiatives stratégiques**

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**Quartier : À l'échelle de la ville**

## REPORT RECOMMENDATION(S)

**That the Environment and Climate Change Committee and Council receive this report for information.**

## RECOMMANDATION DU RAPPORT

**Que le Comité de l'environnement et du changement climatique et le Conseil municipal prennent connaissance de ce rapport pour information.**

## EXECUTIVE SUMMARY

In January 2020, Council approved the Climate Change Master Plan (CCMP), with the vision to transition Ottawa into a clean, renewable and resilient city by 2050. It included setting new short, mid, and long-term GHG emission reduction targets that align with the Intergovernmental Panel on Climate Change's recommendations to limit global warming to 1.5°C and eight priority actions ([ACS2019-PIE-EDP-0053](#)). The eight priorities are:

1. Implement Energy Evolution: Ottawa's Community Energy Transition Strategy
2. Undertake a climate vulnerability assessment and develop a Climate Resiliency Strategy
3. Apply a climate lens to the new Official Plan and its supporting documents
4. Apply a climate lens to asset management and capital projects
5. Establish a carbon budget and accounting framework and explore the feasibility of including embodied carbon (*revised per Council approval on April 26, 2023*)
6. Explore carbon sequestration methods and the role of green infrastructure
7. Encourage private action through education, direct and indirect incentives, municipal support, and advocacy for support of individuals and private organizations by senior levels of government
8. Develop a governance framework to build corporate and community capacity, align priorities, and share accountability in tackling climate change

As part of the approved plan, staff committed to providing an annual update on the climate change framework that includes:

- Annual GHG community and corporate inventories
- An assessment of how Ottawa is tracking towards community and corporate targets
- An update on the Climate Change Master Plan priorities, and
- Recommendations, as required, to advance the Climate Change Master Plan priorities

### **Progress on the Climate Change Master Plan priorities**

Since the last CCMP progress update in April 2023 the City has continued to advance climate action on the CCMP priorities with primary focus on areas of direct control and impact, as outlined in the strategic priorities of Council for the 2023-2026.

Highlights include incorporating climate considerations into core City plans and strategies and identifying risks and opportunities to reduce emissions and/or build climate resiliency. Plans included the [2023-2026 City Strategic Plan](#), [Transportation Master Plan](#), [Solid Waste Master Plan](#), [Infrastructure Master Plan](#), [Asset Management Plans](#), [Long Range Financial Plans](#), [Transit Services Five-Year Roadmap](#) and the [Green Fleet Strategy](#).

Actions to reduce emissions continued to move forward including the procurement of 234 battery electric buses, installation of heat pumps, electric boilers, and high-efficiency windows at municipal facilities, growing the City's rooftop solar program with three new installations, establishing land use policy direction for Battery Energy Storage Systems (BESS) as both a principal and accessory use, and advancement of the [Better Buildings Ottawa](#) and [Better Homes Ottawa Loan Program](#).

Actions to adapt to climate change and prepare for extreme weather continued to be implemented. This was done through flood response plans at the drinking water plants, back-up generators at critical City facilities, strengthened City capacity to plan for and respond to extreme weather events, accelerated tree planting and protection, and renewed homeowner programs such as the Residential Protective Plumbing program, the [Compassionate Grants program](#) and [Rain Ready Ottawa](#).

More than \$1.1 billion of capital investments was approved as part of the annual budget process from 2023 to 2025 that go beyond business-as-planned. This includes \$974M for zero-emission buses, \$9M for the Energy Management and Investment program, \$22M for the ROPEC Electrical Reliability Project and \$7M for the Wet Weather Implementation Program. In addition, \$16 million to implement the Climate Change Master Plan and support advancement of Energy Evolution and Climate Ready Ottawa.

External funding continues to be leveraged to support advancing climate action, including funding for public and municipal electric vehicle charging infrastructure, funding for homeowner heat pump installations, and funding for solar rooftop installations on City facilities. Funding was also secured to test misting stations and install low impact development stormwater management in the Dovercourt parking lot and to support studies to assess social housing cooling options and ensure safe access to Britannia Water Purification Plant and low-lying neighborhoods during flooding.

Staff will continue to move forward on projects that support the CCMP priorities. Key projects expected before the end of 2025 include Climate Ready Ottawa (CCMP priority #2.), a public facing dashboard that includes the GHG inventories (CCMP priority #7), and development of a corporate governance and accountability framework and identifying key performance indicators (CCMP priority #8).

### **GHG Emission Inventories**

Greenhouse gas (GHG) emission inventories are the primary tool for measuring progress toward achieving community and corporate GHG targets. To measure progress toward reducing GHG emissions, the City of Ottawa maintains detailed inventories that track emissions from both the community and City operations. These inventories have been updated through the end of 2024.

- **Corporate Emissions:** These refer to emissions from the City's own operations, such as municipal buildings, vehicles, and services. This data comes directly from City departments.
- **Community Emissions:** These include emissions from activities within Ottawa's boundaries, such as transportation, heating, and electricity use. Data is collected from utilities, fuel suppliers, and provincial sources, adjusted to reflect Ottawa's share.

Both inventories follow recognized international, federal, and provincial standards to ensure consistency and comparability.

## Corporate GHG Inventory

Excluding the pandemic years, corporate greenhouse gas emissions met and even exceeded the 2025 target as recently as 2022. However, emissions have since increased, highlighting the need for continued monitoring and action. In 2024, the City's corporate emissions were approximately 26 per cent lower than in 2012, nearing the 2025 target of a 30 per cent reduction (which aligns with the Intergovernmental Panel on Climate Change recommendation). The transit fleet and solid waste operations were the largest contributors to corporate emissions, with diesel and landfill emissions as the primary sources. Overall, emissions under direct municipal operational control were 4 per cent of total community emissions in 2024. Between 2012 to 2022, Ottawa favorably performed compared to other major municipalities in reducing corporate emissions.

Recent trends in the corporate subsectors are as follows:

- **Facilities:** Over the last five years, GHG emissions at City facilities have increased due to a substantial rise in the electricity grid emission factor, even though natural gas usage has declined, which is likely a result of weather variations and energy initiatives.
- **Solid waste:** Emissions from the Trail Waste Facility (TWF) have increased since 2021, and while the collection efficiency of landfill gas is expected to vary in the coming years, the total landfill gas generated will continue to increase as more waste is placed at TWF.
- **Fleet:** Emissions have been relatively consistent in recent years. Electrifying nearly half of the conventional buses by 2027 is expected to reduce bus emissions by almost 47 per cent, potentially offsetting increases elsewhere.
- **Wastewater:** Emissions are 4 per cent of corporate emissions and slightly increased compared to 2012, which aligns with population growth.

Looking ahead, the City continues to advance actions to reduce corporate emissions this term of Council and beyond. The electrification of almost half of OC Transpo's buses by 2027 and the implementation of the Green Fleet Strategy will reduce emissions in the City's fleet. The City's rooftop solar program, the Distributed Energy Resource Framework (DER), and the forthcoming Corporate Building Retrofit Strategy, when combined, will expand on-site renewables and energy retrofits across municipal buildings. And the forthcoming Landfill Gas Optimization strategy and implementation of the Solid Waste Master Plan will explore long-term utilization of landfill gas as a

renewable resource and reducing emissions at Trail Waste Facility. Together, these initiatives are expected to better position the municipality to achieve its GHG targets.

### **Community GHG Inventory**

Ottawa's population has been steadily growing since 2012, yet per capita community emissions are about 19 per cent lower in 2024 than in 2012. In simple terms, this means that even as the city added thousands of new residents, homes, and jobs, each person's share of emissions is significantly less than in 2012. In 2024, Ottawa's total community GHG emissions were roughly 5 per cent ( $\approx 343,000$  tCO<sub>2e</sub>) lower than the 2012 baseline. Ottawa's progress for total emissions is not unique within the national picture. Comparing community emissions between 2012 and 2022 demonstrates Toronto's community emissions are about 5 per cent below 2012 levels, Vancouver's have increased by approximately 9 per cent since 2012, and Calgary shows almost a 10 per cent decrease since 2012 (driven in part by phasing out coal for electricity generation)<sup>1</sup>. Consistent with recent research showing many municipalities are not on track, Ottawa is not expected to achieve the 2025 target of a 43 per cent emissions reduction. Further, advancing significant emissions reductions in the community will require coordinated action across all sectors, as municipal levers alone, such as land use policy, incentives, and advocacy, while important to advance, are not sufficient.

Recent trends in the community's subsectors are as follows:

- Transportation is the largest source of emissions, representing 44 per cent of community emissions and sitting about 5 per cent above 2012; emissions associated with on-road transportation account for almost 33 per cent of total community emissions.
- Buildings are the second largest source at 41 per cent, with an almost 16 per cent reduction in emissions compared to 2012. Natural gas contributes about 31 per cent of total community emissions, and electricity about 7.5 per cent.
- Waste contributes 12 per cent and is up about 5.5 per cent since 2012; public and private landfills generate nearly 95 per cent of waste emissions.
- Agriculture remains a small share at about 3 per cent, which is roughly 2 per cent lower than in 2012.

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<sup>1</sup> The data is based on the most recent publicly released information by the municipalities

The City plays an important role in influencing community emission reductions through municipal tools such as land use planning, incentives, and advocacy. Examples from this term of Council include advancing the Stage 2 LRT extensions, the Transit Priority Network, active transportation projects under the new Transportation Master Plan, and transit-oriented development policies and land use updates under the Official Plan (including the new Zoning By-law). Additionally, the City's Better Homes Ottawa Loan Program and Better Buildings Ottawa continue to support building retrofits in private housing and large commercial buildings. These important foundational efforts are expected to contribute to reducing community emissions, however their impacts will take time to materialize. Furthermore, they require sustained collaboration and action among residents, businesses, utilities, and various levels of government, but collectively set the stage for accelerated community-wide GHG emissions reductions.

## RÉSUMÉ

Le Conseil municipal a approuvé, en janvier 2020, le Plan directeur sur les changements climatiques (PDCC), dont la vision consiste à faire d'Ottawa, d'ici 2050, une ville propre, renouvelable et résiliente. Ce plan fait état des nouvelles cibles de réduction des émissions de GES à court, à moyen et à long termes, qui cadrent avec les recommandations du Groupe d'experts intergouvernemental sur l'évolution du climat, qui visent à limiter à 1,5 °C le réchauffement planétaire et à adopter huit interventions prioritaires ([ACS2019-PIE-EDP-0053](#)). Ces huit interventions consistent à:

1. mettre en œuvre l'Évolution énergétique (la Stratégie de la collectivité d'Ottawa pour la transition énergétique);
2. mener une évaluation de la vulnérabilité climatique et mettre au point la Stratégie de la résilience climatique;
3. appliquer le point de vue du climat au nouveau Plan officiel et à ses pièces justificatives;
4. appliquer le point de vue du climat dans les projets de gestion des biens et d'infrastructures;
5. établir un budget carbone et une structure-cadre de comptabilité et se pencher sur la possibilité d'inclure le carbone intrinsèque (texte révisé selon l'approbation du Conseil municipal le 26 avril 2023);
6. se pencher sur les méthodes de séquestration du carbone et sur le rôle des infrastructures vertes;

7. encourager l'intervention privée grâce à la formation, à des mesures d'incitation directes et indirectes, à l'aide municipale et à la promotion du soutien des particuliers et des entreprises privées par les ordres supérieurs de gouvernement;
8. mettre au point une structure-cadre de gouvernance pour étoffer la capacité de la Ville et de la collectivité, harmoniser les priorités et prendre en commun la responsabilité de lutter contre les changements climatiques.

Dans le cadre du plan approuvé, le personnel s'est engagé à déposer un compte rendu annuel sur la structurer-cadre de lutte contre les changements climatiques, qui comprend :

- les inventaires sur les émissions de GES de la collectivité et de la municipalité;
- une évaluation des progrès d'Ottawa dans l'atteinte des cibles de réduction de GES de la collectivité et de la municipalité;
- une mise à jour des priorités du Plan directeur sur les changements climatiques;
- des recommandations, le cas échéant, pour faire avancer les priorités du Plan directeur sur les changements climatiques;
- de nouveaux impératifs budgétaires, s'il y a lieu.

### **Les progrès accomplis dans les priorités du [Plan directeur sur les changements climatiques](#)**

Depuis le dernier compte rendu de l'avancement du PDCC en avril 2023, la Ville continue de promouvoir l'intervention climatique dans les priorités du PDCC en se consacrant essentiellement aux secteurs dans lesquels elle exerce un contrôle et produit un impact directs, conformément aux modalités exposées dans les priorités stratégiques du Conseil municipal pour la période de 2023 à 2026.

Parmi les faits saillants, on retrouve le fait de tenir compte des facteurs touchant le climat dans les stratégies et plans principaux de la Ville, le recensement des risques et l'exploration des occasions de réduction des émissions et de renforcement de la résilience climatique. Les plans comprennent ce qui suit : [Plan stratégique de la Ville 2023-2026](#), [Plan directeur des transports](#), [Plan directeur de la gestion des déchets solides](#), [Plan directeur des infrastructures](#), [plans de gestion des actifs](#), [plans financiers](#)

[à long terme](#), [Feuille de route quinquennale des Services de transport en commun](#) et [Stratégie de verdissement du parc automobile](#).

Nous avons continué de mettre de l'avant les interventions destinées à réduire les émissions, notamment en faisant l'acquisition de 234 autobus électriques à batteries, en installant des thermopompes, des chaudières électriques et des fenêtres très économes d'énergie dans les établissements municipaux, en développant le programme solaire sur les toits des bâtiments de la Ville grâce à trois nouvelles installations, en instituant la politique-cadre sur l'aménagement du territoire pour les systèmes de stockage de l'énergie par batteries comme vocation principale et vocation accessoire à la fois et en faisant la promotion de la [Stratégie d'amélioration des bâtiments d'Ottawa](#) et du [programme de prêts Maisons durables Ottawa](#).

Nous avons continué de mettre en œuvre les interventions à mener pour nous adapter aux dérèglements du climat et pour nous préparer aux épisodes météorologiques extrêmes. Nous l'avons fait dans le cadre des plans d'intervention pendant les inondations dans les usines d'épuration de l'eau potable et dans les génératrices de secours dans les établissements essentiels de la Ville, nous avons renforcé la capacité de la Ville dans la planification des épisodes météorologiques extrêmes et dans les interventions à mener pendant ces épisodes, nous avons accéléré la plantation et la protection des arbres et nous avons renouvelé les programmes destinés aux propriétaires, dont le Programme d'installation de dispositifs protecteurs sanitaires résidentiels, le [Programme de subventions à titre d'aide exceptionnelle](#) et le programme [Parés pour la pluie Ottawa](#).

Plus de 1,1 milliard de dollars d'investissements dans les infrastructures ont été approuvés dans le cadre du processus budgétaire annuel de 2023 à 2025, au-delà des activités planifiées. Notons notamment 974 millions de dollars pour les autobus à émission zéro, 9 millions de dollars pour la Stratégie d'investissement et de gestion énergétique, 22 millions de dollars pour le projet de fiabilité électrique du CEROP et 7 millions de dollars pour le Programme de gestion des infrastructures en période de précipitations. Avec en plus 16 millions de dollars pour la mise en œuvre du Plan directeur sur les changements climatiques et l'appui du développement des stratégies Évolution énergétique et Parés pour les changements climatiques Ottawa.

La Ville continue de miser sur le financement externe pour faire avancer la lutte contre les dérèglements climatiques, notamment le financement des infrastructures publiques et municipales de recharge des véhicules électriques, le financement de l'installation des thermopompes des propriétaires fonciers et le financement de l'installation des

panneaux solaires sur les toits des établissements municipaux. Elle a aussi pu compter sur le financement qui lui a permis de mettre à l'essai des stations de brumisation et d'installer des dispositifs de gestion des eaux pluviales de moindre impact dans le terrain de stationnement de l'avenue Dovercourt, en plus de pouvoir mener des études pour évaluer les options de climatisation des logements sociaux et assurer la sécurité de l'accès à l'Usine d'épuration des eaux Britannia et des quartiers des basses terres pendant les inondations.

Le personnel continuera d'aller de l'avant dans les projets qui permettent de respecter les priorités du PDCC. Font partie des grands projets prévus d'ici la fin de 2025, Parés pour les changements climatiques Ottawa (priorité n° 2 du PDCC), un tableau de bord destiné au public et qui fait état, entre autres, des inventaires de GES (priorité n° 7 du PDCC) et la mise au point d'une structure-cadre organisationnelle de gouvernance et de redevabilité, ainsi que l'établissement d'un indicateur de rendement clé (priorité n° 8 du PDCC).

### **Les inventaires des émissions de GES**

Les inventaires des émissions de gaz à effet de serre (GES) constituent l'outil principal qui permet de mesurer les progrès accomplis dans les efforts consacrés à la réalisation des cibles de GES de la collectivité et de la municipalité. Pour mesurer ces progrès dans la réduction des émissions de GES, la Ville d'Ottawa dresse des inventaires détaillés qui permettent de suivre les émissions de la collectivité et des opérations municipales. Ces inventaires ont été mis à jour jusqu'à la fin de 2024.

- **Les émissions de la municipalité** : Il s'agit des émissions produites par les opérations de la Ville, par exemple les immeubles, les véhicules et les services municipaux. Les directions générales de la Ville fournissent directement ces données.
- **Les émissions de la collectivité** : Il s'agit des émissions produites par les activités qui se déroulent dans le périmètre du territoire d'Ottawa, par exemple le transport, le chauffage et la consommation de l'électricité. On recueille les données auprès des entreprises de services publics, des entreprises qui fournissent les combustibles et les sources provinciales, en les rajustant pour comptabiliser la part d'Ottawa.

Ces deux inventaires respectent les normes internationales, fédérales et provinciales reconnues, ce qui permet d'assurer la cohésion et la comparabilité.

## L'inventaire des GES de la municipalité

En excluant les années de la pandémie, les émissions de gaz à effet de serre de la municipalité étaient, à une époque aussi récente que 2022, égales, voire supérieures à la cible de 2025. Or, les émissions ont augmenté depuis, ce qui met en lumière la nécessité de continuer d'exercer une surveillance et d'intervenir. En 2024, les émissions de la municipalité d'Ottawa accusaient une baisse de l'ordre de 26 % par rapport à 2012, en frôlant la cible de 2025, soit une réduction de 30 % (ce qui cadre avec la recommandation du Groupe d'experts intergouvernemental sur l'évolution du climat). Le parc de véhicules des transports en commun et la gestion des déchets solides ont été les sources d'émissions les plus importantes pour la municipalité; les émissions de carburant diesel et les émissions des matières enfouies dans la décharge publique ont constitué les principales sources de pollution. Dans l'ensemble, les émissions relevant du contrôle opérationnel direct de la municipalité ont représenté 4 % du total des émissions de la collectivité en 2024. Entre 2012 et 2022, Ottawa a inscrit de meilleurs résultats que d'autres grandes municipalités dans la réduction des émissions municipales.

Voici les tendances récentes relevées dans les sous-secteurs organisationnels :

- **Établissements** : Dans les cinq dernières années, les émissions de GES des établissements de la Ville ont augmenté en raison de la hausse substantielle du coefficient des émissions du réseau d'électricité, même si la consommation de gaz naturel a fléchi, probablement en raison des variations météorologiques et des initiatives dans le domaine de l'énergie.
- **Déchets solides** : Les émissions produites par la décharge contrôlée du chemin Trail (DCCT) augmentent depuis 2021, et bien que l'efficacité de la collecte des gaz d'enfouissement soit appelée à varier dans les prochaines années, le volume total de gaz d'enfouissement produit continuera d'augmenter puisqu'on enfouira un plus grand volume de déchets dans la DCCT.
- **Parc automobile** : Les émissions sont relativement constantes depuis quelques années. L'électrification de près de la moitié des autobus conventionnels d'ici 2027 devrait permettre de réduire les émissions des autobus de presque 47 %, ce qui pourrait éventuellement compenser la hausse des émissions ailleurs.
- **Eaux usées** : les émissions représentent 4 % des émissions de la municipalité; elles ont légèrement augmenté par rapport à 2012, ce qui concorde avec la croissance de la population.

À terme, la Ville continue de promouvoir les interventions destinées à réduire les émissions de la municipalité pendant le mandat actuel du Conseil municipal et au cours des mandats suivants. L'électrification de près de la moitié des autobus d'OC Transpo d'ici 2027 et la mise en œuvre de la Stratégie de verdissement du parc automobile réduiront les émissions du parc automobile de la Ville. Le programme des panneaux solaires sur les toits des bâtiments de la Ville, la Structure-cadre des Ressources énergétiques distribuées (RED) et la prochaine Stratégie de rénovation des immeubles municipaux viendront, dans l'ensemble, multiplier les systèmes d'énergie renouvelable sur place et les travaux de rénovation énergétique des immeubles municipaux. Enfin, la prochaine Stratégie d'optimisation et de gestion des gaz d'enfouissement et la mise en œuvre du Plan directeur de la gestion des déchets solides permettront de se pencher sur l'utilisation à long terme des gaz d'enfouissement comme ressource renouvelable et de réduire les émissions de la décharge contrôlée du chemin Trail. Ensemble, ces initiatives devraient permettre à la municipalité d'être mieux en mesure d'atteindre ses cibles dans les émissions de GES.

### **L'inventaire des GES de la collectivité**

La population d'Ottawa augmente constamment depuis 2012; or, les émissions de la collectivité par habitant ont baissé de l'ordre de 19 % en 2024 par rapport à 2012. En somme, c'est dire que même si la Ville s'est enrichie de milliers de nouveaux résidents, logements et emplois, la part des émissions de chaque personne est nettement moindre qu'en 2012. En 2024, le total des émissions de GES de la collectivité d'Ottawa avait baissé d'environ 5 % ( $\approx 343\ 000$  tCO<sub>2</sub>e) par rapport au référentiel de 2012. Les progrès d'Ottawa du point de vue du total des émissions ne sont pas exceptionnels dans l'ensemble du pays. La comparaison des émissions de la collectivité entre 2012 et 2022 permet de constater que les émissions de la collectivité de Toronto ont baissé d'environ 5 % par rapport aux niveaux de 2012. Celles de Vancouver ont augmenté de l'ordre de 9 % depuis 2012, et Calgary inscrit une baisse de presque 10 % depuis 2012 (qui s'explique en partie par l'élimination du charbon dans la production de l'électricité).<sup>2</sup> Conformément aux récents travaux de recherche, qui nous apprennent que de nombreuses municipalités ne sont pas sur la bonne voie, on ne s'attend pas à ce qu'Ottawa atteigne la cible de réduction de 43 % des émissions fixée pour 2025. En outre, pour permettre de réduire considérablement les émissions dans la collectivité, il faudra que tous les secteurs de l'activité économique se concertent, puisqu'à eux seuls, les leviers municipaux comme la politique sur l'aménagement du territoire, les

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<sup>2</sup> Les données se fondent sur l'information la plus récente diffusée publiquement par les municipalités.

programmes d'incitation et les efforts de promotion, bien qu'ils soient importants, ne sont pas suffisants.

Voici les tendances récentes relevées dans les sous-secteurs de la collectivité :

- Le transport est la première source d'émissions : il représente 44 % des émissions de la collectivité et a crû d'environ 5 % depuis 2012; les émissions associées au transport routier comptent pour près de 33 % du total des émissions de la collectivité.
- Les immeubles constituent la deuxième grande source d'émissions à 41 %; ils ont réduit leurs émissions de presque 16 % par rapport à 2012. Le gaz naturel produit environ 31 % du total des émissions de la collectivité, et l'électricité, 7,5 % environ.
- Les déchets comptent pour 12 % des émissions, et leurs émissions ont crû de 5,5 % depuis 2012; les décharges publiques et privées produisent près de 95 % des émissions de déchets.
- L'agriculture représente toujours une moindre part, soit 3 % environ, ce qui représente essentiellement 2 % de moins qu'en 2012.

La Ville joue un rôle important dans l'influence qu'elle exerce sur la réduction des émissions de la collectivité grâce à des outils municipaux comme la planification de l'aménagement du territoire, les programmes d'incitation et les efforts de promotion. Font partie des exemples puisés dans ce mandat du Conseil municipal, l'avancement du prolongement de l'Étape 2 du TLR, le Réseau prioritaire de transports en commun, les projets de transport actif dans le cadre du nouveau Plan directeur des transports, ainsi que les politiques sur l'aménagement axé sur les transports en commun et la révision des dispositions portant sur l'aménagement du territoire dans le cadre du Plan officiel (dont le nouveau Règlement de zonage). De plus, le programme de prêts Maisons durables Ottawa et la Stratégie d'amélioration des bâtiments d'Ottawa continuent de promouvoir la rénovation des immeubles d'habitation privés et les grands immeubles commerciaux. Ces importants efforts fondationnels devraient permettre de réduire les émissions de la collectivité; or, il faudra attendre que leurs impacts se matérialisent. Il faudra aussi une collaboration et une intervention soutenues parmi les résidents, les entreprises, les services publics et les différents ordres de gouvernement; toutefois, collectivement, ils préparent le terrain pour accélérer la réduction des émissions de GES dans l'ensemble de la collectivité.

## **BACKGROUND**

Council has received three CCMP status update reports: January 2021 ([ACS2020-PIE-EDP-0043](#)), October 2021 ([ACS2021-PIE-EDP-0039](#)), and April 2023 ([ACS2023-PRE-EDP-0017](#)).

Since the last CCMP progress report, Council carried a motion ([Motion No. 2023-28-17](#)) in December 2023, that directed staff to fund mitigation and adaptation projects with a focus on the corporation, its assets, and its subsidiaries. Additionally, staff were directed to develop a prioritization framework that emphasized projects that i) will directly impact corporate emissions, ii) be aligned with actions the municipality can take, iii) advance the 2022-2026 term of Council priorities, and iv) report back on key performance indicators. This motion provided direction for the climate change priorities and projects undertaken since the motion was approved.

In April 2024, a new Strategic Initiatives Department was created to deliver on Council's highest priorities and to advance work in the priority areas of economic development, housing solutions and investments, and climate change and resiliency. Within the new department, a new dedicated service area, Climate Change and Resiliency, was created to respond to climate change issues and to drive positive environmental results for the City by focusing efforts to advance key climate change strategies and associated priorities, programs, projects and policies.

In June 2024, Council approved the recommendations of the audit of the Climate Change Master Plan (CCMP) ([ACS2024-OAG-BVG-006](#)). The objective of this audit was to provide reasonable assurance that the City has the appropriate plans, strategies and tools in place to support the achievement of the targets and priority actions outlined in the CCMP in four key theme areas: governance, strategic direction, resourcing and performance management and reporting. The responses to the audit recommendations are being led by the Strategic Initiatives Department and are being addressed in a separate legislative report. The feedback from members of Council solicited regarding the CCMP audit processes will drive the areas of focus and prioritization for CCMP projects going forward. The outcomes of the audit will inform the direction of the CCMP for the remainder of this term of Council, as well as the refresh of the CCMP in 2027.

## DISCUSSION

### PROGRESS UPDATE OF THE CLIMATE CHANGE MASTER PLAN (CCMP) PRIORITIES

The City of Ottawa continues to advance the eight priorities approved as part of the CCMP. The following section provides:

- Key project and program achievements that contributed to reducing greenhouse gas emissions and/or building climate resiliency since the last progress update in April 2023, and
- A look ahead at key project and program milestones that are expected to be achieved over the next year.

#### 1. Implement Energy Evolution: Ottawa's Community Energy Transition Strategy

Energy Evolution: Ottawa's Community Energy Transition Strategy sets the framework for what it will take for Ottawa to meet the Council approved long-term targets to reduce community GHG emissions by 100 per cent by 2050 and corporate GHG emissions by 100 per cent by 2040. A comprehensive energy, emissions and finance model was used to identify what it will take to achieve Council approved targets in five key sectors: Land Use and Growth Management, Buildings (New and Existing), Transportation, Waste and Renewable Natural Gas, and Electricity. To accelerate action and investment towards achieving the GHG targets, Energy Evolution identified several projects to be undertaken by 2025 within these five sectors.

Key achievements in the Land Use sector since April 2023:

- ✓ Two contracts for Battery Energy Storage Systems (BESS) as a principal use were awarded by the Province in May 2024 and are to be operational by May 1, 2028. In February 2025, Official Plan and Zoning By-law Amendments were approved by Council to establish land use policy direction to enable BESS as both a principal and accessory use
- ✓ Community Energy Plan policies have been applied to urban boundary expansion lands undergoing the Lifting of the Future Neighbourhood Overlay process in accordance with new Official Plan policies. Guidance and direction have been provided to development proponents for these lands, and Community Energy Plans exploring energy strategies will be submitted at the Local Plan Stage

Key achievements in the Buildings (new and existing) sector since April 2023:

- ✓ A Zero Carbon Pathway Study was completed which assessed different carbon reduction strategies in existing city-owned buildings, including baselining energy consumption and GHG emissions in the City's building portfolio, dividing buildings into archetypal categories, and estimating costs associated with different levels of building decarbonization
- ✓ A Decarbonization Retrofits Analysis for existing community buildings was completed. The analysis investigated different carbon reduction strategies in Ottawa's privately-owned buildings, and included a regression analysis to estimate energy use and associated emissions, a facility-level retrofit pathway analysis, and a city-level analysis to estimate emissions and financial impacts up to 2050. The conclusions will be used to inform future policy decisions and were shared with an external working group of industry associations, other levels of government, utilities, and other community organizations.
- ✓ The Hintonburg Deep Retrofit Project continues, including installation of insulation, air sealing, LiteZone high-efficiency windows, energy recovery ventilator, and two rooftop heat pump units. This project is estimated to reduce emissions by 22 tonnes annually when complete.
- ✓ Energy and GHG projects aligned with building asset renewal cycles at municipally-owned buildings were initiated, including:
  - 68 LED lighting upgrade projects
  - 97 heat pumps
  - 3 electric boiler projects (Mary Pitt Centre, OC Transpo building at 1500 St. Laurent Boulevard, and Tony Graham Recreation Complex)
  - 3 high-efficiency window replacement projects (Nepean Creative Arts Centre, Fire Station 23, and Traffic Operations at 175 Loretta Avenue)
- ✓ Better Buildings Ottawa program (in partnership with Hydro Ottawa and supported by NRCan) continues to increase participation from private buildings owners to publicly disclose energy and GHG performance and build capacity to deliver building retrofits. Additionally, the City has partnered with multiple local organizations to broaden program reach using established networks including

Greening Sacred Spaces Ottawa, Electric Vehicle Council Ottawa, Canadian Condominium Institute Eastern Ontario, and Ottawa Climate Action Fund.

- ~ 75 building operators trained in energy efficiency while identifying ~400 tonnes of GHG reduction potential in four buildings
  - Partnership in delivering Hydro Ottawa's Ottawa Retrofit Accelerator program to help building owners plan decarbonization pathways
  - 10 Electric Vehicle readiness assessments from participating condos
- ✓ An agreement between the City and the LeBreton Community Utility Partnership (a partnership formed and owned by Theia LCU LP and Envari LeBreton Community Utility Inc.) was executed for a Sewer Energy Exchange System (SEES) pilot project in March 2025. The purpose of the SEES is to accept and reject thermal energy from the City's wastewater infrastructure to produce zero carbon heating and cooling for two new high-rise buildings located at 665 Albert Street near LeBreton Flats.

Looking Ahead in the Buildings Sector:

- A Corporate Building Retrofit Strategy (formerly Energy Efficiency Major Assets Review) is under development to align emission reduction goals with other internal programs and strategies. Retrofit projects will be prioritized for both the 2026 and 2027 budget years, with a more formalized program proposal expected in 2027. The project aims to maximize available internal and external funding by aligning with building renewal lifecycles.
- Approximately 84 heat pump installations are planned for 2026 at municipally owned buildings.
- The SEES pilot project is expected to be constructed and operational in 2027.
- The City's continued partnership with the Canadian Home Builders Association has leveraged external funding to deliver training and custom workshops to enhance the durability, affordability, and at times accessibility of co-operative housing, single family homes, and low-rise multi-unit residential buildings through deep energy retrofits. The partnership is currently expected to result in fully costed or completed deep energy retrofits for 131 residential units in Ottawa by its conclusion in March 2026.

- The City will continue to deliver Better Buildings Ottawa and Better Homes Ottawa Loan Program to support retrofit projects in existing commercial and residential buildings, and will complete a program review prior to the conclusion of current funding support from Hydro Ottawa and FCM.

Key achievements in the Transportation sector since April 2023:

- ✓ [Part 1 of the Transportation Master Plan](#) (TMP) was approved by Council on April 26, 2023, and included the Active Transportation Projects and Networks as well as policies related to building a sustainable and resilient transportation system.
- ✓ [Part 2 of the Transportation Master Plan](#) – Capital Infrastructure Plan – was approved by Council on July 23, 2025, and it:
  - Identifies city-wide transit, walking and cycling investments that make sustainable transportation more competitive, convenient and accessible
  - Prioritizes critical active transportation projects, with a focus on short trips, connections to transit, and improved access in Equity Priority Neighbourhoods
  - Invests in complete streets to support growth and intensification, with upgrades to existing streets to enable walking, cycling, and transit without adding vehicle capacity
  - Includes several rapid transit projects to serve growing areas, improve service reliability, attract new riders, and shift travel away from single-occupancy vehicles
- ✓ The 2022 Origin-Destination (OD) household travel survey revealed that between 2011 and 2022, there was significant growth in active transportation mode shares, with walking increasing from 10.7 per cent to 14.2 per cent, and cycling more than doubling from 1.9 per cent to 3.9 per cent. The OD Survey also showed that sustainable modes currently account for 43.4 per cent of daily trips.
- ✓ O-Train Line 2 and 4 have been successfully operating with seven-day service since March 16, 2025. O-Train Line 2 provides service south to Limebank Station in Riverside South, including a new Line 4 connection to the Ottawa International Airport via South Keys Station. Construction is underway on O-Train extensions to Algonquin Station, Trim Station, and Moodie Station.

- ✓ The City has continued to advance investments in active transportation and multimodal “complete streets” which have contributed to an increase in walking and cycling trips. The Stage 2 LRT project provides approximately 40 kilometres of new multi-use pathways (MUP), cycling tracks and pedestrian bridges.
- ✓ The [Green Fleet Strategy](#) was approved by Council on March 26, 2025 and sets the direction for reducing GHG emissions in the City’s municipal vehicles fleet to 2040. The report highlighted Municipal Fleet contains 251 green units in service: 69 electric and 189 hybrid.
- ✓ Through the Transit Services Zero-Emission Bus Program, 234 battery electric buses have been procured, 30 have been onboarded, with another 34 more anticipated to arrive in Ottawa before the end of 2025.

Looking ahead for the Transportation sector:

- The TMP Policies and Capital Infrastructure Plan provides a framework for applying a “Climate Change Lens” to transportation project planning, design, and construction that advance climate change mitigation and adaptation. The TMP Priority Transit Network includes approximately \$2.3 billion in City-led capital investment in bus rapid transit and continuous bus lane projects. These include critically needed projects such as Baseline-Heron Transitway, Cumberland Transitway, Kanata North Transitway, South Transitway and Carling continuous bus lanes. The TMP also includes upgrades to walking and cycling infrastructure, with approximately 240 active transportation retrofit projects (\$350 million), and road urbanization and main street improvements projects (\$460 million).
- The City’s Complete Streets Policy and Implementation Framework will continue to deliver walking, cycling and transit improvements through capital works such as road renewal.
- Trial running of the O-Train Stage 2 East Extension is anticipated to commence in Q4 2025.
- An additional 290 zero-emission buses are targeted to be onboarded between 2026 and the end of 2027, bringing the total zero emission bus fleet to 354.
- Continued implementation of the Green Fleet Strategy including:
  - Investigation of technology for hydrogen add-on systems, dual fuel hydrogen/diesel configurations, and hydrogen fuel cell electric vehicles,

with recommendations for targeted pilots and trials to be delivered in 2026.

- Advanced planning for hydrogen generation, storage, and dispensing infrastructure through market analysis, technology and RFI development, partnership exploration (e.g., Hydro, OC Transpo), and initial scoping and specification work to support future pilot and trial activities through 2025–2026.

Key achievements in the Waste and Renewable Natural Gas sector since April 2023:

- ✓ The [Solid Waste Master Plan](#) was approved by Council on June 26, 2024, and sets the direction for how the City can sustainably manage waste over the next 30 years
- ✓ The City continues to utilize biogas at Trail Road and ROPEC while exploring opportunities to produce renewable natural gas in the future

Looking ahead in the Waste and Renewable Natural Gas sector:

- Several waste reduction and diversion actions in the Solid Waste Master Plan (SWMP) aim to reduce landfilling of food waste and organics, thereby contributing to a future reduction in the release of methane from landfill. An annual report will be presented to Committee and Council in Q4 2025 detailing progress and next steps for these actions.
- The City is developing a Landfill Gas Optimization strategy to determine a long-term utilization of landfill gas at the Trail Waste Facility as a renewable resource, which is anticipated to go to Council in Q1 2026.
- The City is developing a Prefeasibility study for Source Separated Organics to determine a long-term strategy and management of curbside organics as a beneficial resource which is anticipated to go to Council in Q1 2026.

Key achievements in the Electricity sector since April 2023:

- ✓ In response to the 2022 Renewable Energy Motion, the City is advancing a Distributed Energy Resource (DER) Framework focused on two key areas: Demand Response and Renewable Energy.

- ✓ The City actively participates in Ontario's Industrial Conservation Initiative (Class A program) across major facilities and is exploring expansion through capacity auctions and energy storage projects.
- ✓ The City is growing its rooftop solar program with three new installations in 2025 at Bob MacQuarrie Recreation Complex, Charles Sim Complex, and City Hall, all backed by provincial incentives.

Looking ahead in the Electricity sector:

- The City is developing a long-term corporate solar strategy that adapts to an evolving market and funding conditions with additional projects planned for 2026.

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## **2. Undertake a climate vulnerability assessment and develop a Climate Resiliency Strategy**

The purpose of the Climate Resiliency Strategy is to assess how Ottawa is vulnerable to climate change and identify strategies to mitigate the greatest risks. The strategy will assess and mitigate climate risks to Ottawa's community, infrastructure, environment and economy. It is being developed in close coordination with internal and external stakeholders to align and integrate with initiatives such as the Official Plan and Master Plans, Comprehensive Asset Management Plan, Hazard Assessment Mitigation and Prevention Program, and Climate and Health Vulnerability Assessment and Plan.

Key achievements since April 2023:

- ✓ The draft [Climate Ready Ottawa](#) strategy which included long-term strategic objectives and actions was released in March 2024 followed by additional public engagement including online surveys, in-person and virtual Open Houses and targeted stakeholder meetings.
- ✓ Early actions continue to be implemented to adapt to climate change and prepare for extreme weather through interim flood response plans at the drinking water plants, back-up generators at critical City facilities, strengthened City capacity to plan for and respond to extreme weather events, accelerated tree planting and protection, and renewed homeowner programs such as the Residential Protective Plumbing program, the Compassionate Grants program and Rain Ready Ottawa.

- ✓ The Transportation Master Plan includes policies related to building a sustainable and resilient transportation system designed for future climate conditions.
- ✓ The [Infrastructure Master Plan](#) was approved by Council in June 2024, and included a planning framework for Future Neighbourhoods, with recommendations on floodplain mapping, Low Impact Development, and stormwater system retrofits. As intensification advances, it ensures infrastructure capacity is managed while proactively addressing climate risks and building flood resilience.
- ✓ A [Climate Change Health and Vulnerability Assessment](#) was presented to the Board of Health in November 2024 that provided detailed information on climate-driven health risks from extreme heat, vector-borne diseases, food and water-borne diseases, UV exposure, and wildfire smoke.
- ✓ Climate risks and priority risk reduction projects continue to be integrated into Master Plans, Asset Management Plans, annual budgets and Long-Range Financial Plans (further discussed under Priority #4).
- ✓ Several external funding applications were approved to advance priority climate resiliency actions including ensuring safe access during flooding, enhancing communications and piloting misting stations to protect against extreme heat, and installing low impact measures to reduce stormwater runoff (further discussed under Priority #7).

#### Looking Ahead:

- The final Climate Ready Ottawa Strategy and implementation plan will be presented to Council in Q4 2025. It will put forward a series of priority actions that reduce Ottawa’s vulnerability to the top risks identified in the Climate Vulnerability and Risk Assessment (2022) and strengthen our ability to respond to and recover from climactic events.

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### **3. Apply a climate lens to the new Official Plan and its supporting documents**

The Official Plan (OP) provides a vision for the future growth of the city and a policy framework to guide the city’s physical development. The plan’s vision is for Ottawa to grow to be the most liveable mid-sized city in North America. To achieve this vision, Ottawa must be an energy conscious city where people can live, work, and play in all

future climate conditions. The Official Plan is an essential tool to meet climate change objectives through land use planning, urban design, regulatory practice, building design and environmental protection. Updates to the Transportation Master Plan (TMP), Infrastructure Master Plan (IMP), Greenspace and Urban Forest Master Plan (GUFMP), Parks and Recreation Facilities Master Plan, Solid Waste Master Plan (SWMP), the new comprehensive Zoning By-Law, and the Development Charges By-law are to align with the policy directions set out in the new Official Plan and Council's GHG emission reduction targets.

Key achievements since April 2023:

- ✓ In February 2025, Official Plan and Zoning By-law Amendments were approved to establish land use policy direction for Battery Energy Storage Systems (BESS) as both a principal and accessory use.
- ✓ [Draft 2](#) of the New Zoning By-law was released in March 2025 for public consultation.
- ✓ The Infrastructure Master Plan, the Solid Waste Master Plan, and the Transportation Master Plan were approved and incorporated a climate lens as part of their development.
- ✓ The Official Plan Monitoring Report tracks specific data indicators to assess the progress and effectiveness of the Official plan policies, goals, and objectives. A [2023 progress update](#) was released in June 2025.
- ✓ Emergency Management Program Strategic Plan (2024-2027) integrates climate preparedness with a focus on community-level resiliency, communications and partnerships.

Looking ahead:

- Draft 3 of the New Zoning By-law will be released in Q3 2025, and the final Zoning By-law and implementation will be considered by Council in Q1 2026. The new Zoning By-law will implement the land use direction established by the City's new Official Plan provisions by supporting height and density in proximity to transit stations, adding accessory provisions for renewable energy generation, adding minimums for EV charger ready parking spaces, and carrying out climate and health resiliency goals.

- Updates to the City’s existing set of Urban Design Guidelines expected to be completed in early Q3 2025 will integrate new Official Plan policies for climate mitigation and resiliency.
- The establishment of four new sets of Urban Design Guidelines expected to be completed at the end of Q2 2026 and beyond will integrate Official Plan policies for climate mitigation and resiliency.

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#### 4. Apply a climate lens to asset management and capital projects

The [Comprehensive Asset Management \(CAM\)](#) program guides the management of the City’s assets. Risk management and asset resiliency are already core principles of asset management. Further integrating climate considerations into CAM enables climate change to be considered alongside additional challenges such as aging infrastructure, growth, and limited resources. This involves embedding climate change considerations into the management of existing assets, the design of new capital projects, and City asset management policies and practices. It supports the City’s work to meet provincial regulation (O. Reg 588/17) which requires municipalities to commit to considering climate change in asset management planning, and better positions the City to respond to external funding opportunities and integrate these considerations into municipal budgets and long-range financial plans and processes.

Starting with Budget 2023, a qualitative climate lens has been applied to all capital budget requests to estimate the total City investment to reduce GHG emissions and/or building climate resiliency beyond business-as-planned.

Key achievements since April 2023:

- ✓ The 2024 [Asset Management Plans](#) were approved by Council on May 15, 2024 and identified the current state of infrastructure for City assets, including potential climate risks and opportunities to reduce GHG emissions and build climate resiliency.
- ✓ The 2025 [Asset Management Plans](#) were approved by Council on June 11, 2025 and added additional information regarding target levels of service, funding plans and service area gaps, risks to service, as well as climate change adaptation and mitigation costs. At the same time, the City’s [Comprehensive Asset Management Policy](#) was updated, which included embedding climate mitigation, adaptation

and resilience into infrastructure planning, investment and risk management to ensure long-term sustainability and service reliability.

- ✓ The 2025 [Long Range Financial Plan VI – Water, Wastewater and Stormwater \(Rate\) Supported Programs](#) was approved by Council on June 11, 2025; the Long Range Financial Plan VI – Tax Supported Capital will go forward in Q2 2026. This is the first time the Long-Range Financial Plan was developed using a climate lens incorporating climate considerations into long-term capital planning.
- ✓ More than \$1.1 billion of capital investments was approved as part of the annual budget process from 2023 to 2025 that go beyond business-as-planned including:
  - \$1.03 billion to reduce GHG emissions, including investments towards zero-emission buses, lower emission municipal fleet vehicles, energy conservation measures in municipal facilities, and waste diversion enhancements.
  - \$129 million to build climate resiliency, including investments towards protection against flooding and erosion such as flood plain mapping and the Wet Weather Implementation Program, building electrical reliability at ROPEC during extreme weather events, acquisition of greenspace, and backup emergency generators
  - \$16 million to implement the Climate Change Master Plan and supporting strategies Energy Evolution and Climate Ready Ottawa.

Looking ahead:

- Beginning in 2026, Council will receive an annual asset management progress report which will assess progress in implementing actions impacting cost, risk, service trends; factors impeding the ability to improve trends seen in the asset management plans; and strategies to address those factors.

## **5. Establish a carbon budget and accounting framework and explore the feasibility of including embodied carbon**

Around the world, more and more cities are adopting or exploring the implementation of a carbon budget. A carbon budget sets a cap on the amount emissions that can be emitted to achieve the City's GHG reduction targets; a carbon budget accounting framework tracks project-level emission impacts against the carbon budget to forecast

progress towards achieving the targets. It is a strategic decision-making tool used to support financial management and emission reductions while maintaining current and future levels of service. Establishing carbon budgets allows for improved accountability and transparency, short and long-term strategic planning, and collaboration across departments. Corporately, a carbon budget could be embedded within the financial budgetary framework and be tracked annually.

Key achievements since April 2023:

- ✓ A climate lens continues to be applied to the annual budget process, a core step in the development of a climate budget framework.

Looking ahead:

- A dedicated position is being seconded to the Finance and Corporate Services Department to focus on the development of a corporate carbon budget to support forecasting project-level emission reductions and progress towards achieving the GHG targets.

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## **6. Explore carbon sequestration methods and the role of green infrastructure**

Carbon sequestration is the process through which forestry, agricultural, and wetlands practices capture carbon dioxide caused by activities such as burning fossil fuels and stores it over the long-term. It does not replace the need for action to mitigate climate change and transition off fossil fuels; rather, it complements it. The value of carbon sequestration was identified in both the City's Urban Forest Management Plan and the Significant Woodlands Policy. Understanding and quantifying the climate benefits of trees, forests and wetlands will support the justification for the active management of the City's forests and wetlands.

Key achievements since April 2023:

- ✓ A pilot project with [Habitat – Nature](#) to evaluate the ecosystem services provided by the City's urban street trees and park trees, including carbon sequestration.
- ✓ Completion of the five-year update to Ottawa's tree canopy and launch of a Forest Resource Inventory project for use in an upcoming assessment of ecosystems services, including carbon sequestration.

- ✓ Collaboration with the local Conservation Authorities on updated wetland mapping which will be used in an upcoming assessment of ecosystem services, including carbon sequestration.

Looking ahead:

- An assessment and valuation of ecosystem services, including carbon storage and sequestration, for Ottawa’s forest and wetlands is targeted to begin in 2026 pending budget approval.

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## **7. Encourage community action through education, incentives, support and advocacy to senior levels of government**

To mobilize climate mitigation and adaptation actions across all sectors, the City of Ottawa can play a leadership and coordinating role in:

- Climate education
- Leveraging external funding and other resources where feasible
- Recommending, advocating for, and promoting incentives to catalyze action (e.g., utility rebates, home protection grants, etc.)
- Advocating to senior levels of government for accelerated action and ambition to meet the urgency of climate change and provide additional resources for municipalities and the public to reduce their greenhouse gas emissions and build climate resiliency

Key achievements since April 2023:

- ✓ Rain Ready Ottawa (RRO) was approved as a permanent program in May 2024 to support residents in retrofitting on-site stormwater management (SWM) practices to protect local watercourses and build resiliency to rainfall events. Since April 2023, RRO has approved 175 applications and distributed more than \$240,000 in rebate funding, supporting 344 projects and private investments worth \$2.3 million.
- ✓ Delivery of the Better Homes Ottawa Loan Program, which has enabled the completion of an additional 132 retrofit projects since November 2023 on

residents' homes, reducing community GHG emissions by approximately 360 tonnes annually.

- ✓ Residential Protective Plumbing and Compassionate Grants programs were renewed with simplified application procedures, increased rebate amounts, and more project categories to help support more households in building flood resiliency.
- ✓ External funding leveraged to advance reducing emissions, including:
  - Zero Emission Vehicle Infrastructure Program (ZEVIP): \$430K for City municipal fleet electric vehicle charging infrastructure and \$170K to expand the City's public electric vehicle charging network
  - Federation of Canadian Municipalities (FCM) Green Municipal Fund and Ontario Municipal Energy Plan Program: \$200K to explore the feasibility of the Gladstone District Energy System
  - FCM Sustainable Buildings: \$63.7K to explore the feasibility of designing a new Riverside South Community Centre and Library Branch to net zero
- ✓ External funding leveraged to advance building climate resiliency, including:
  - Health Canada Climate Change and Health Capacity Building program: \$632K for Ottawa Public Health to address gaps in the OPH Climate Change and Health Vulnerability Assessments
  - FCM Local Leadership in Climate Adaption: \$70K to complete a feasibility study to ensure safe access to Britannia Water Purification Plant during flooding
  - FCM Local Leadership in Climate Adaptation: \$70K to complete a feasibility study on raising vulnerable roads within the Ottawa river floodplain for safe access during major flooding events
  - FCM Local Leadership in Climate Adaptation: \$689K in funding to help manage uncontrolled stormwater runoff through low impact development in the Dovercourt parking lot
  - FCM Local Leadership in Climate Adaptation: \$140K to develop and implement a screening tool to assess climate risks to critical City facilities

Looking ahead:

- A publicly facing dashboard will be launched as a climate education tool, with an initial focus on where Ottawa’s emissions come from and emission trends.
- The Better Homes Ottawa Loan program is expected to support at least 36 additional retrofits city-wide for single family and co-operative housing within the next year.
- Climate Ready Ottawa will include actions to support community preparedness.
- External funding will continue to be explored and leverage where possible to accelerate action and leverage City investments.
- Opportunities for enhanced collaboration and coordination with community partners, businesses and other interested parties will be explored further through the development of a new climate change and resiliency department led working group.

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## **8. Develop a governance framework to coordinate stakeholder efforts and mobilize the community**

Transitioning to a clean, renewable, and resilient city will require broad and deep participation in mitigation and adaptation efforts. Major stakeholders in the National Capital Region including the senior levels of government, the National Capital Commission, the City of Gatineau, Hydro Ottawa, the conservation authorities, community groups, not-for-profits, and institutions such as universities also have strategies underway to address climate change. This priority will explore governance approaches to support and encourage collaboration over the course of what will be a profound transition.

Key achievements since April 2023:

- ✓ The [2023-2026 City Strategic Plan](#) was approved by Council in July 2023 and identified “a city that is green and resilient” as one of the four strategic areas of focus and were supported by the following strategic objectives:
  - Reduce emissions associated with the City’s operations and facilities; increase waste reduction and diversion

- Plant, grow and preserve the urban tree canopy in parks and along roadways
  - Increase resiliency to extreme weather and changing climate conditions and
  - Improve key infrastructure through asset management
- ✓ Two environmental corporate strategic risks were identified through the City's Strategic Plan and are being tracked through the Strategic Plan monitoring efforts (the last update was received by Council on [June 11, 2025](#)):
- Extreme weather and climate impacts - Risk of increases in extreme weather events and climate impacts on infrastructure, public health and well-being, the natural environment and the economy.
  - Climate Change GHG reduction targets; Energy Evolution - Risk of failure to meet short, mid, and long-term corporate and community GHG reduction targets due to delayed or inadequate implementation of Energy Evolution.
- ✓ The [Climate Change Council Sponsors Group](#) was re-established as part of the Advisory Body Review in July 2023, the latest meeting with this group occurred in August 2025.
- ✓ A new Strategic Initiatives Department was created in April 2024 to deliver on Council's highest priorities and to advance work in the priority areas of economic development, housing solutions and investments, and climate change and resiliency. Within the new department, a new dedicated service area, Climate Change and Resiliency, was created to respond to climate change issues and driving positive environmental results for the City by focusing efforts to advance key climate change strategies and associated priorities, programs, projects and policies.
- ✓ In June 2024, the Office of the Auditor General (OAG) completed an [audit of the CCMP](#). The objective of the audit was to provide reasonable assurance that the City has the appropriate plans, strategies, and tools in place to support the achievement of the targets and priority actions outlined in the CCMP in four key areas: governance, strategic direction, resourcing, and performance management and reporting.

- ✓ In July 2025, the GM of Strategic Initiatives re-established the Climate Change Tiger Team (now called Climate Change Executive Steering Committee). The CCMP Executive Steering Committee is the senior strategic guidance body made up of the City's General Managers and the Chief Medical Officer of Health. This group will meet at least twice a year to provide strategic direction and advice on climate related projects and issues impacting the organization.
- ✓ Climate-related financial disclosures, which focus on disclosures related to governance, strategy, risk management, and metrics and targets, were included in the 2022, 2023 and 2024 [Annual Financial Reports](#).

Looking ahead:

- A governance and accountability framework, as well as key performance indicators, are to be established for the climate change portfolio by end of Q4 2025 in response to the recommendations from the Climate Change Master Plan audit. The planned governance model will reflect an integrated governance structure and the principles of distributed leadership to incorporate internal and external stakeholders. The framework will assign shared accountability, roles and responsibilities for climate change projects across the organization and in partnership with community partners and stakeholders.
- An assessment will be undertaken to explore how the City can enhance its current climate-related financial reporting to align with the newly released public sector accounting standards.
- Staff intend to make available the next progress update in late 2026.

## **GREENHOUSE GAS (GHG) EMISSION INVENTORIES**

### **Background**

In January 2020, City Council adopted the Climate Change Master Plan (CCMP), setting targets to achieve a 100 per cent reduction in community emissions by 2050 and in corporate emissions by 2040, using 2012 levels as the baseline (Figure 1). These targets align with the Intergovernmental Panel on Climate Change's recommendation to limit global warming to 1.5°C.

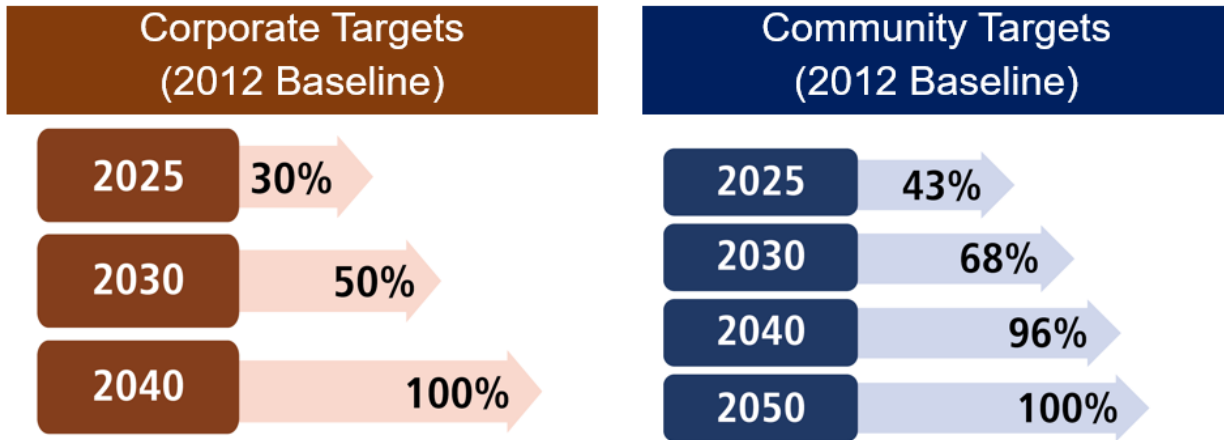


Figure 1: GHG reduction targets for community and corporate

Greenhouse gas (GHG) emission inventories are the primary tool for measuring progress toward achieving community and corporate GHG targets and are based on the best available information at the time of their calculation. They provide a snapshot of sector-based energy use and associated emissions and follow established international, federal, and provincial methodologies for consistency and comparability. Emissions are reported in tonnes of equivalent carbon dioxide emissions (tCO<sub>2e</sub>), which are calculated based on carbon dioxide, methane, and nitrous oxide emissions. Annual emissions can be influenced by a range of factors, including frequency of data availability, accuracy of data, population, weather patterns, regulatory and technological changes, energy prices and availability, carbon intensity of energy sources, and shifts in consumer behaviours.

The City undertakes two types of GHG emissions inventories: corporate inventories and community inventories.

Corporate inventories track emissions from municipal operations in four sectors:

- Facilities: buildings, streetlights, and traffic lights
- Fleet: municipal, transit, and police fleets
- Solid waste: the Trail Road Waste Facility and former Nepean landfill
- Wastewater: treatment of wastewater at the Robert O. Pickard Environmental Centre

Community inventories track total emissions from activities within the geographic boundaries of Ottawa (including emissions from municipal operations) in four sectors:

- Buildings: residential, commercial, institutional, and industrial sectors

- Transportation: on-road, aviation, railway, and off-road transportation
- Waste: public and private landfills and wastewater treatment
- Agriculture: crop production and livestock operations

Prior to this report, the most recently publicly available GHG inventories were for the 2020 calendar year. In April 2023 ([ACS2023-PRE-EDP-0017](#)), staff flagged that the 2021 GHG emissions inventories were delayed in order to undertake a fulsome third-party review of the methodologies, data sources, and assumptions used in the 2020 inventories to confirm accuracy, consistency and alignment with best reporting practices. The review confirmed the City's approach with one major material adjustment (a correction to the community solid waste methane factor). All recommendations have been fully applied to the inventories.

The following sections provide an overview of the outcomes of the third-party review, the results of the community and corporate inventories up to 2024, and progress towards achieving the GHG reduction targets.

### **Outcomes of the Third-Party Review**

The City hired Dillon Consulting Ltd to undertake a review of the quantification methodology and data sources for the 2020 community and corporate GHG inventories, as well as calculate the 2021 and 2022 GHG inventories. City staff subsequently completed the 2023 and 2024 inventories, building off Dillon's recommendations.

As part of Dillon's review of 2020 inventories, material discrepancies exist if the per cent difference between Dillon's recalculation and the City's reported emissions are greater than two per cent for the community inventory and five per cent for the corporate inventory. A material discrepancy was found in the community solid waste calculation methodologies whereby an incorrect data input was used for methane generation potential resulting in community solid waste emissions being underreported. Dillon also recommended that the City further review the availability of annual waste generation and disposal data for residential and industrial, commercial, and institutional sectors as the current sources are either no longer publishing data or are dated. As a result, staff subsequently undertook a detailed review of solid waste data sources and availability and recalculated historical community solid waste emissions and total community emissions from 2012 to 2019 using the new data inputs for consistency and comparability. No further material discrepancies were found as part of Dillon's review.

### **Corporate Emissions (2012-2024)**

Excluding the pandemic years, corporate greenhouse gas emissions met and even exceeded the 2025 target as recently as 2022. In 2024, the City's corporate emissions were approximately 26 per cent ( $\approx 95,000$  tCO<sub>2</sub>e) lower than in 2012, nearing the 2025 target of a 30 per cent reduction. Corporate emissions reached their lowest point in 2021, which coincides with the preventative safety measures and guidelines imposed by the federal government during the COVID-19 pandemic. Emissions in the fleet, solid waste, and facilities sectors have decreased since 2012 by 18 per cent, 42 per cent, and 14 per cent, respectively. Overall, significant progress has been made in reducing corporate emissions compared to the 2012 baseline; however, there has been a recent upward trend in corporate emissions.

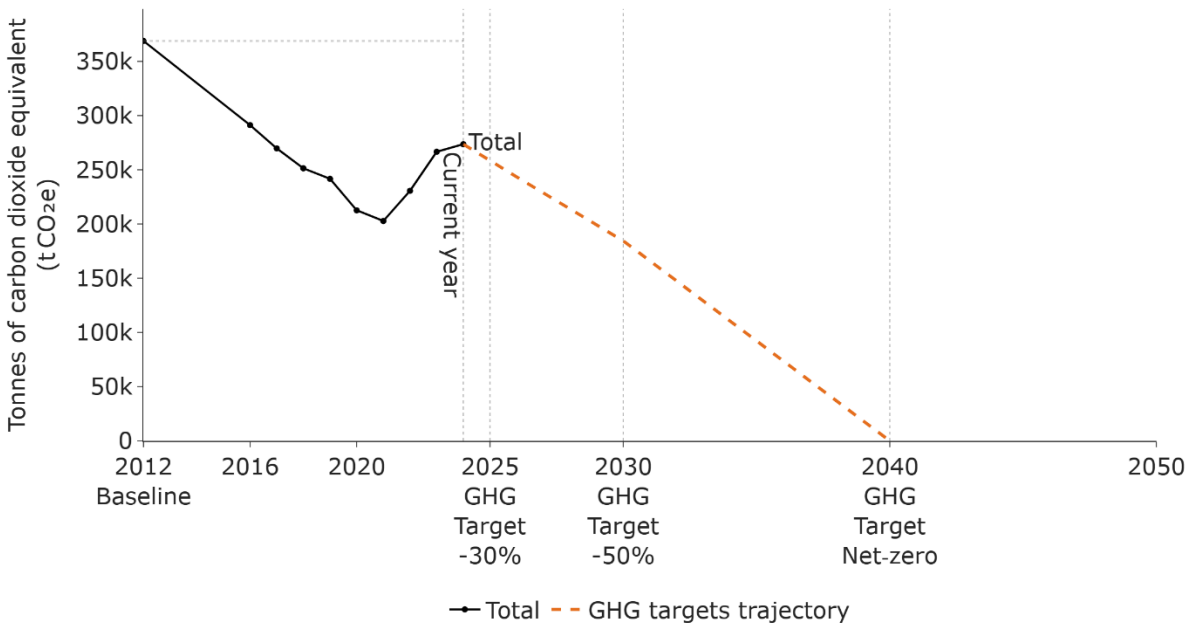


Figure 2: Ottawa corporate inventory with historical and GHG targets trajectory; the GHG target trajectory shown represents linear pathways to meet the targets. They are illustrative benchmarks and not predictions or commitments. Actual reductions

*may vary in pace and pattern. 10 kilotonnes of CO<sub>2</sub>e is equivalent to 2,333 gasoline-powered passenger vehicles driven for one year.*

Over the last five years, GHG emissions at City facilities have increased due to a substantial rise in the electricity grid emission factor (nearly double since 2020<sup>3</sup>), despite a decline in natural gas consumption, likely as a result of weather variations and energy initiatives. Emissions from the Trail Waste Facility (TWF) have increased since 2021, and while the collection efficiency of landfill gas is expected to vary in the coming years, the total landfill gas generated will continue to increase as more waste is placed at TWF. Emissions from the fleet remained relatively consistent in recent years although the transit fleet is expecting to electrify nearly half of the conventional bus fleet by 2027, which is expected to reduce bus emissions by almost 47 per cent and which offset future emissions from other sectors.

Across Canada, major municipalities are tracking corporate emissions and progress towards achieving their targets; however, differences in reporting timelines, baseline years, and asset portfolios can make direct comparisons challenging. Using Ottawa's baseline year of 2012 as a reference point and comparing to Toronto and Vancouver to 2022 (their latest reporting year), Toronto's corporate emissions remain approximately 9.6 per cent above 2012 despite recent reductions and Vancouver's are roughly 25 per cent higher.

Looking ahead, and based on the 2012 baseline and Council approved strategies, preliminary projections suggest the City may fall approximately 9 per cent short of the 2030 corporate target under a high emission reduction scenario and approximately 11 per cent short under a low emission reduction scenario (Figure 3). These estimates are indicative and will be refined through future carbon budgeting and strategic planning as the City advances toward its 2040 net-zero target.

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<sup>3</sup> Mainly due to higher reliance on natural gas for electricity generation in Ontario

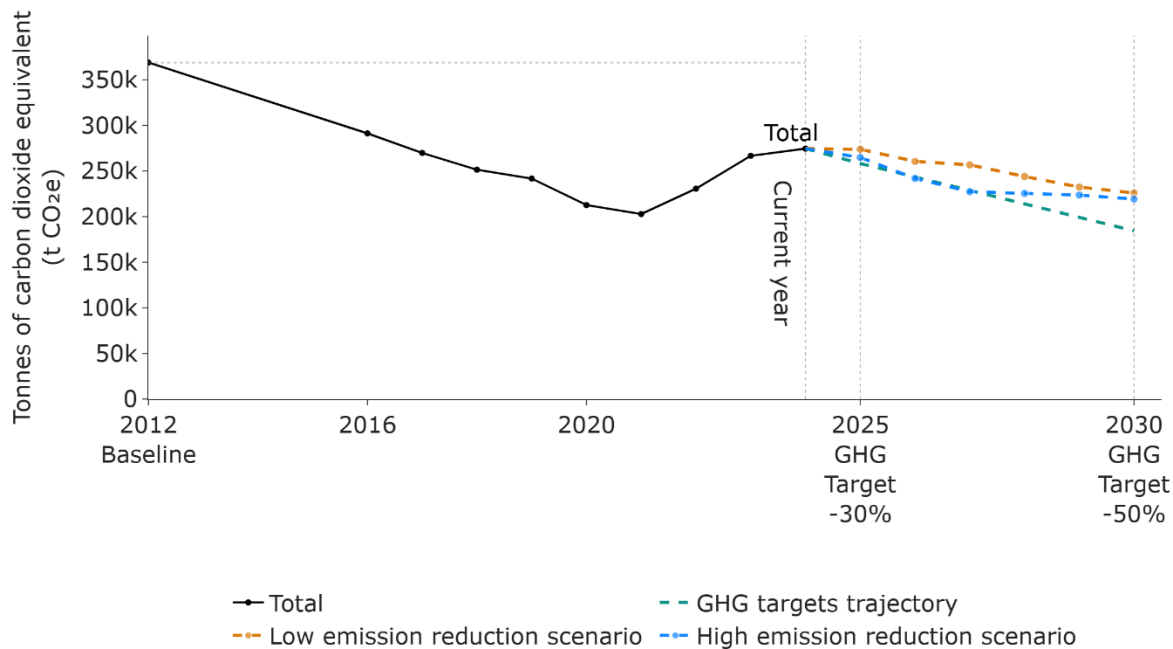


Figure 3: Projections for 2025 and 2030 targets

## Breakdown by sector

In 2024, the transit fleet and solid waste operations were the largest contributors to corporate emissions, with diesel and landfill emissions as the primary sources. Emissions under the direct municipal operational control account for roughly 4 per cent of the 2024 total community emissions (Figure 4). Further to Figure 4 and Figure 5, the overview of 2024 corporate emissions is as follows:

- Fleet emissions remain the largest source of total corporate emissions, despite a nearly 18 per cent reduction compared to 2012. Transit vehicles account for approximately 33.4 per cent of total corporate emissions, followed by municipal fleet at 10.1 per cent and police fleet at 1.7 per cent.
- Solid waste is the second largest source contributing 31 per cent of total corporate emissions although emissions have decreased by almost 42 per cent since 2012.
- Facilities are the third largest emitter that represents 19 per cent of corporate emissions with a 14.3 per cent decrease compared to 2012. However, facility emissions rose almost 4 per cent since 2019 due to contributing factors outlined earlier. Over the last few years, this increase has been also influenced by a higher electricity grid emission factor, mainly driven by Ontario's increased reliance on

natural gas for electricity generation<sup>4</sup>. In 2024, natural gas accounted for nearly 66 per cent of facility emissions, but its use has declined in recent years, likely due to weather variations and energy initiatives.

- Wastewater is the smallest contributor and makes up 4 per cent of corporate emissions but has increased by 4.5 per cent since 2012 aligning with population growth.

Although corporate inventories are by nature a lagging indicator and a year behind due to reasons outlined, the City continues to advance many actions towards net-zero. The electrification of almost half of OC Transpo's buses by 2027 and the implementation of the Green Fleet Strategy will reduce emissions in the City's fleet. The City's rooftop solar program, the Distributed Energy Resource Framework (DER), and the forthcoming Corporate Building Retrofit Strategy, when combined, will expand on-site renewables and energy retrofits across municipal buildings. And the forthcoming Landfill Gas Optimization Strategy and implementation of the Solid Waste Master Plan will explore long-term utilization of landfill gas as a renewable resource and reduce emissions at Trail Waste Facility. Together, these initiatives are expected to better position the municipality to reduce its emissions, and the future carbon budget exercise will support quantifying emission reductions at the project level. (Figure 3).

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<sup>4</sup> [2024 Annual Planning Outlook and Emissions Update](#) (2024) by The Independent Electricity System Operator (IESO)

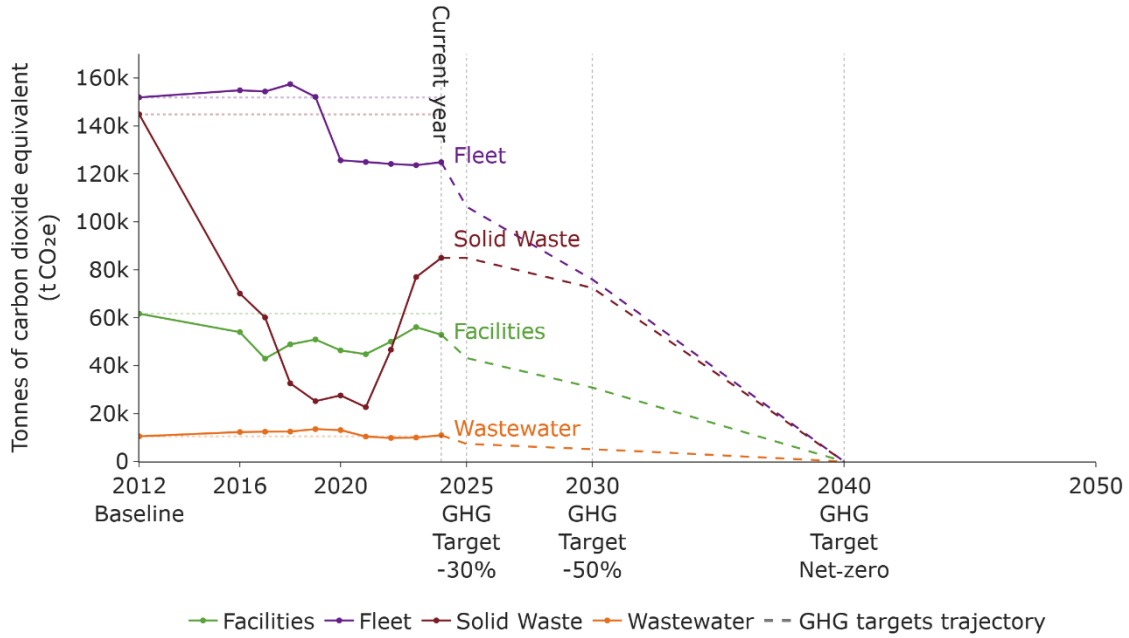


Figure 4: Corporate emissions by sector; the GHG target trajectories shown represent linear pathways to meet the targets. They are illustrative benchmarks and not predictions or commitments. Actual sectoral reductions may vary in pace and pattern. 10 kilotonnes of CO<sub>2e</sub> is equivalent to 2,333 gasoline-powered passenger vehicles driven for one year.

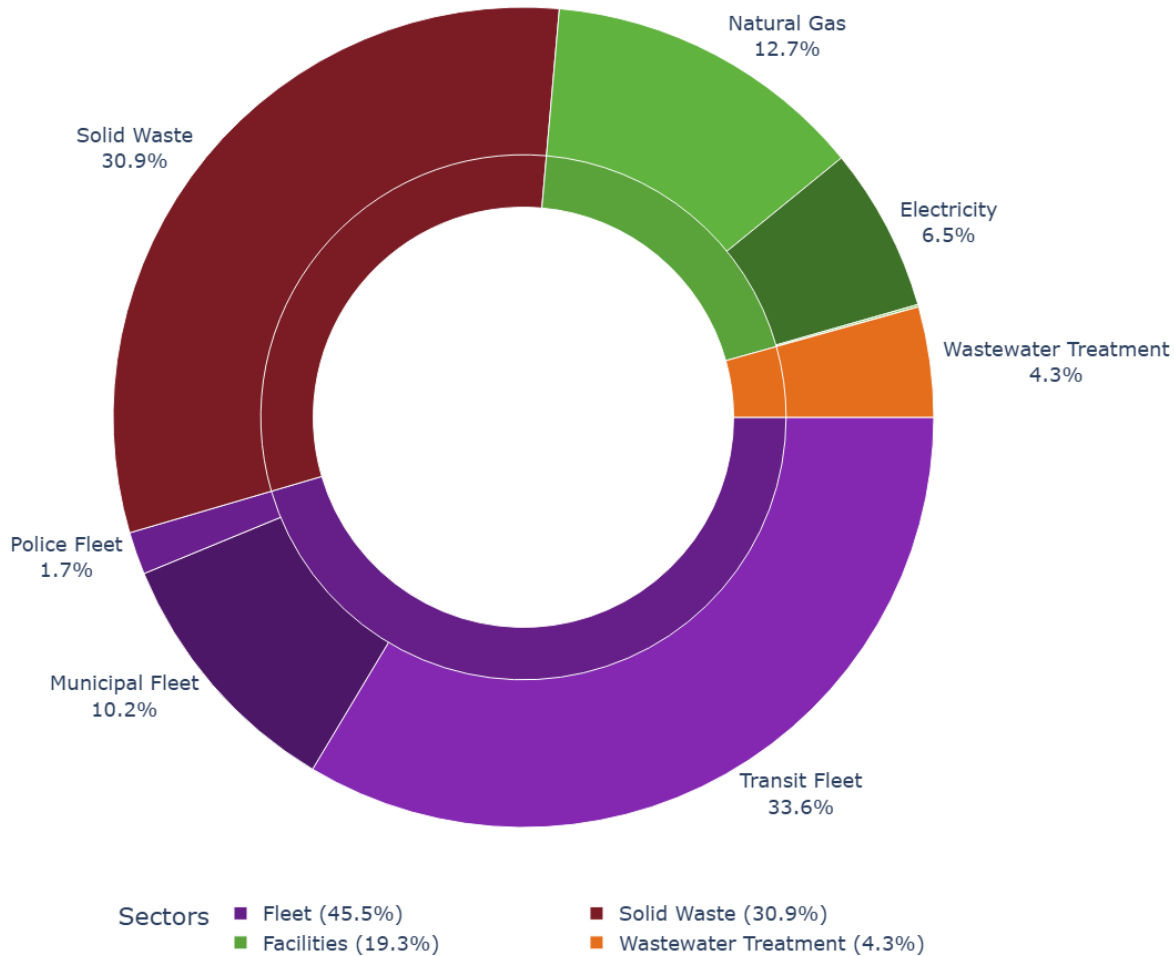


Figure 5: Proportional breakdown of CO<sub>2</sub>e emissions by sub-sector for corporate inventory. There is an Asterisk (\*) on facilities in order to show there is a small amount of propane and heating/fuel oil that is not clearly visible on the graph. There is a small amount of propane and heating/fuel oil that is not clearly visible on the graph for facilities (less than 0.1 per cent). All percentages shown within each sector represent their share of total corporate emissions, not just within their sub-sector.

### Community Emissions (2012-2024)

Since 2012, Ottawa's population and employment have increased almost 17.5 per cent and 13.5 per cent, respectively, yet per capita community emissions are about 19 per cent lower in 2024. This means that even as the city added thousands of new residents, homes, and jobs, each person's share of emissions has fallen almost consistently. In 2024, Ottawa's total community GHG emissions were roughly 5 per cent ( $\approx 343,000$  tCO<sub>2</sub>e) lower than the 2012 baseline (Figure 6). Similar to corporate emissions, the lowest emissions were recorded in 2020 due to the impact of the preventative safety measures and guidelines imposed by the federal government during the COVID-19

pandemic. Since then, emissions have increased as normal activities resumed, mirroring trends in municipalities across Ontario and Canada<sup>5</sup>.

Population and economic growth add building floor area, travel demand, and waste generation. Without decarbonization, these can increase per capita emissions and slow absolute reductions. For the City's corporate portfolio, growth also raises service levels (e.g., more facilities, transportation infrastructure, and waste handling), potentially increase emissions that consequently impacts achieving corporate targets.

As previously noted, major municipalities are tracking community emissions and progress towards achieving their targets; however, differences in reporting timelines, baseline years, and asset portfolios can make direct comparisons challenging. Using Ottawa's 2012 baseline as reference compared to 2022, Toronto's community emissions are about 5 per cent below 2012 levels, Vancouver's have increased by approximately 9 per cent since 2012<sup>6</sup>, and Calgary shows a downward trend below its 2012 figures. Within this national picture, the progress of Ottawa's community emissions is not unique. Despite municipalities having influence over 50 per cent of emissions<sup>7</sup>, a 2023 research study by the Federation of Canadian Municipalities and ICLEI Canada<sup>8</sup> and a report by Clean Air Partnership<sup>9</sup> found that most municipalities are not on track to meet their community-level targets because of limited authority, resources, and reliance on provincial or federal action and private sector transformation. Consistent with this recent research, Ottawa is not expected to achieve the 2025 target of a 43 per cent emissions reduction. Further, advancing significant emissions in the community will require coordinated action across all sectors, as municipal levers alone, such as land use policy, incentives, and advocacy, while important to advance, are not sufficient.

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<sup>5</sup> City of Toronto, [Sector-based Emissions Inventory](#) (2022). City of Calgary, [Community-wide GHG Emissions](#) (2022)

<sup>6</sup> The figure for 2012 is linearly estimated.

<sup>7</sup> [Building a legacy of local climate action | Federation of Canadian Municipalities](#)

<sup>8</sup> [The State of Climate Action in Canadian Municipalities](#) (2023)

<sup>9</sup> [Climate Accountability Toolkit: A Roadmap for Municipalities](#) (2024)

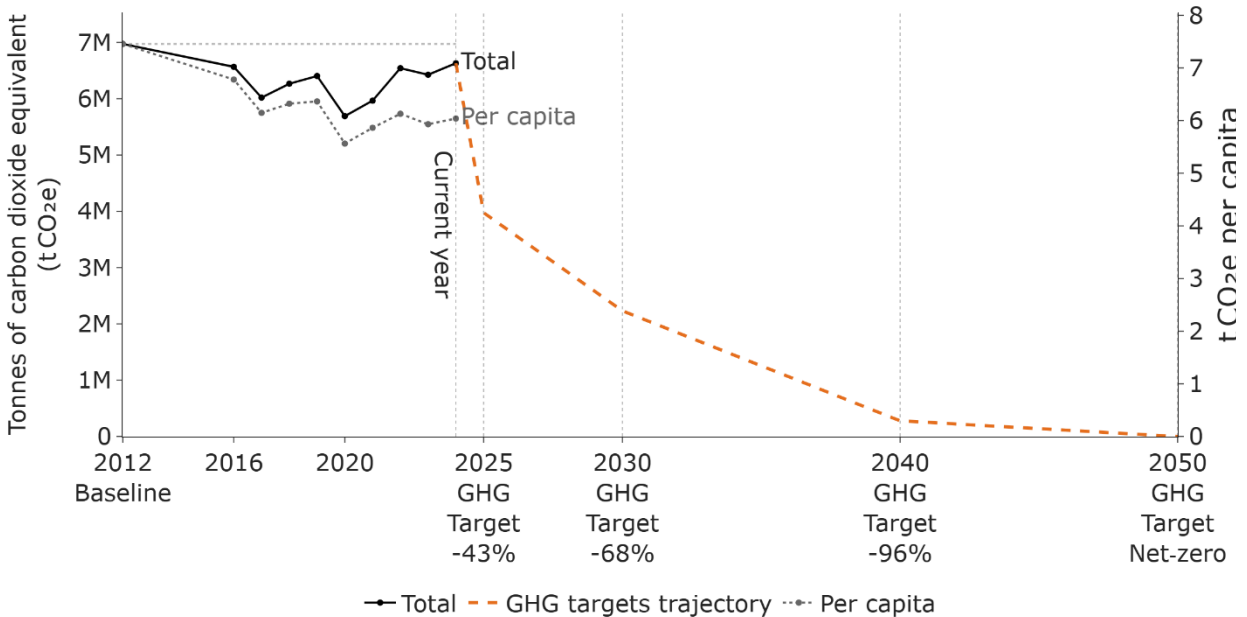


Figure 6: Ottawa community inventory with historical and GHG targets trajectory; the GHG target trajectory shown represents linear pathways to meet the targets. They are illustrative benchmarks and not predictions or commitments. Actual reductions may vary in pace and pattern. Every one million tonnes of CO<sub>2</sub>e is equivalent to 233,255 gas-powered passenger vehicles driven for one year.

## Breakdown by sector

According to Figure 7 and Figure 8, the overview of 2024 community emissions is as follows:

- Transportation was the leading source of community emissions at 44 per cent and emissions were 5 per cent higher than in 2012. Gasoline and diesel from on-road travel contributed roughly 75 per cent of total transportation emissions, followed by aviation, off-road equipment, and rail.
- Buildings were the second largest contributor at 41 per cent but emissions were down almost 16 per cent compared to 2012. Natural gas accounted for approximately 75 per cent of these emissions followed by electricity at 18 per cent.
- Waste emissions were the third largest contributor at 12 per cent and were 5.5 per cent higher than in 2012. Public and private landfills accounted for almost 95 per cent of total waste emissions.
- Agriculture continued to represent a smaller share of overall emissions at about 3 per cent and was 2 per cent lower than in 2012.

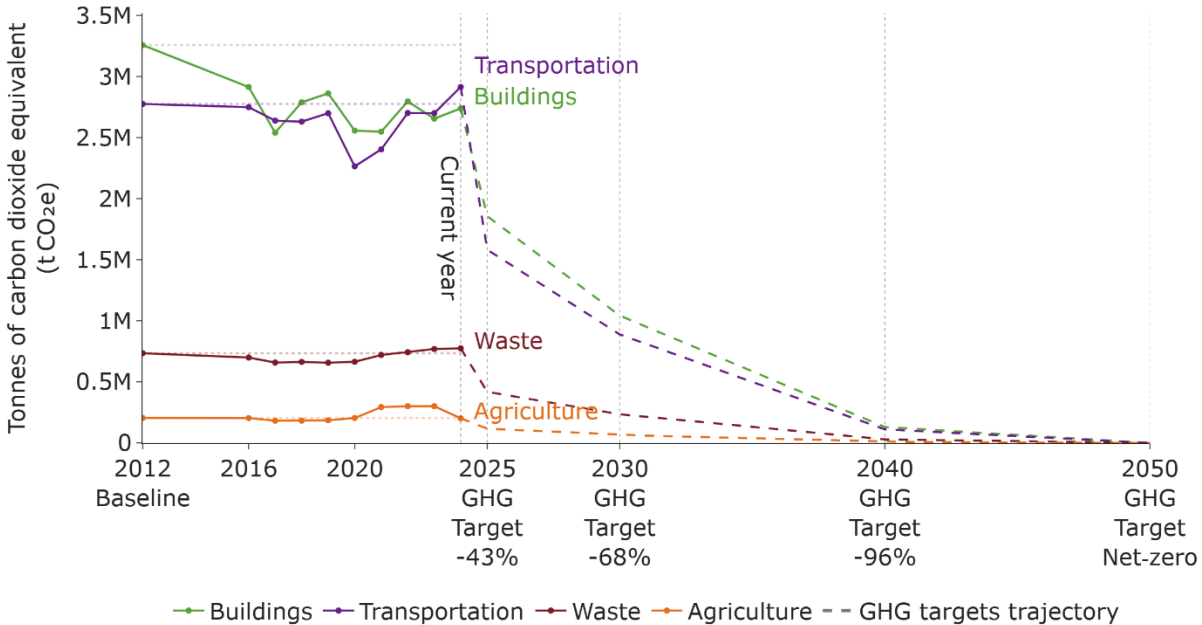


Figure 7: Ottawa community emissions by sector; the GHG target trajectories shown represent linear pathways to meet the targets. They are illustrative benchmarks and not predictions or commitments. Actual sectoral reductions may vary in pace and pattern. Every one million tonnes of CO<sub>2</sub>e is equivalent to 233,255 gas-powered passenger vehicles driven for one year.

Although the community inventory is by nature a lagging indicator and is a year behind due to previously mentioned reasons, major shifts are also in progress that are expected to positively impact community emissions. O-Train Lines 2 and 4 entered service in March 2025, and O-Train Line 1 east extension is approaching completion, supported by a multi-billion-dollar Transit Priority Network and active transportation projects under the new Transportation Master Plan. Transit-oriented development policies and land use updates under the Official Plan, including the new Zoning By-law, are expected to further contribute to reducing emissions within the transportation sector. Regarding buildings, Better Homes Ottawa Loan Program and Better Buildings Ottawa continues to support unlocking building retrofits in private housing and large buildings. These important foundational efforts are expected to contribute to reducing emissions, although their impacts will take time to materialize. Furthermore, they require sustained collaboration and action among residents, businesses, utilities, and various levels of government, but they collectively set the stage for accelerated community-wide GHG emissions reductions.

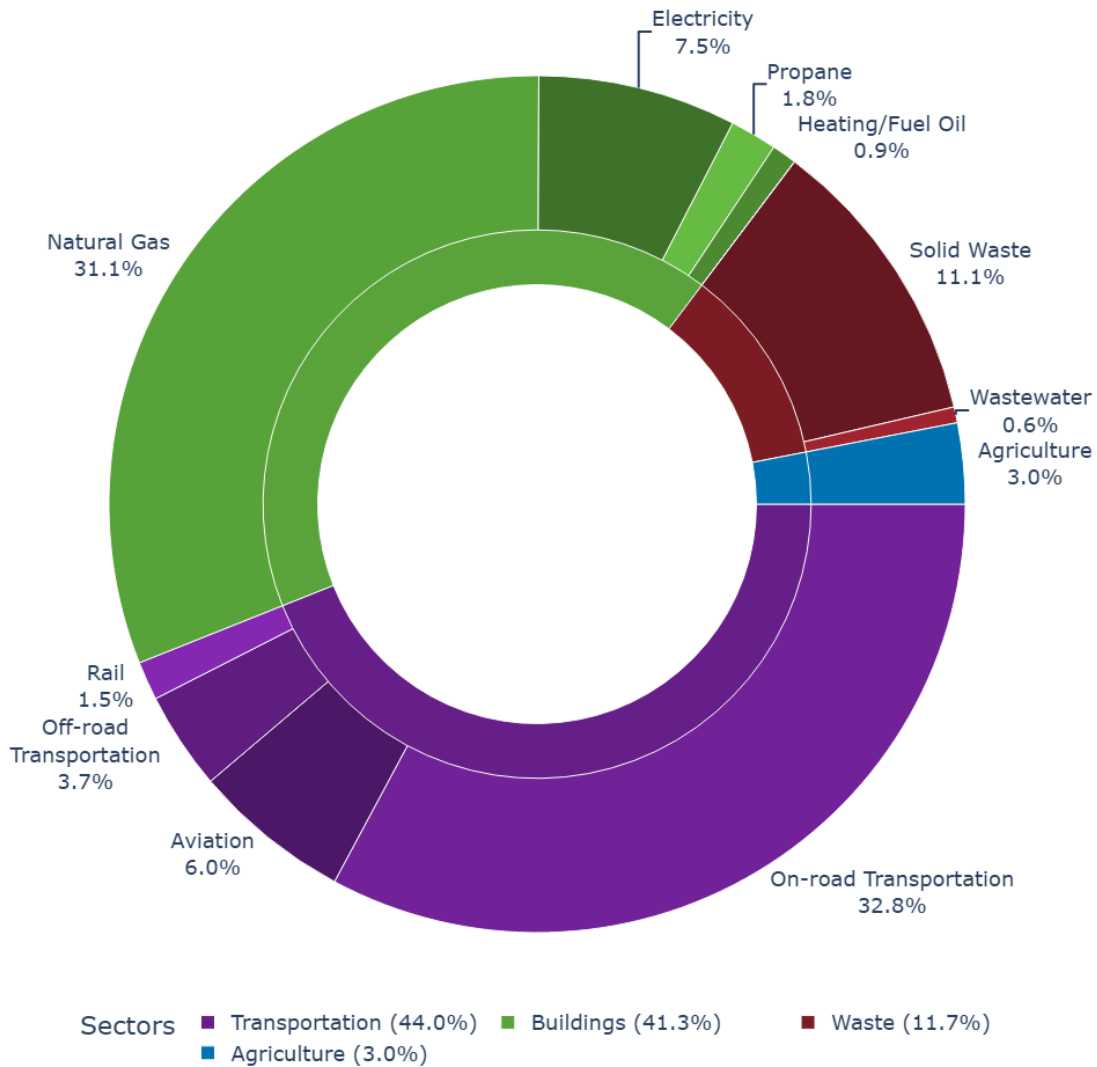


Figure 8: Proportional breakdown of CO<sub>2</sub>e emissions by sub-sector for the community inventory. All percentages shown within each sector represent their share of total community emissions, not just within their sub-sector.

### Next Steps

The next GHG corporate and community inventories will be undertaken in 2026 to track emissions from 2025. Additionally, a publicly facing dashboard will be launched in 2025 as a climate education tool, with an initial focus on where Ottawa’s emissions come from and emission trends.

### FINANCIAL IMPLICATIONS

The work described within the report is done from within existing operating and capital

budget(s), as well as external funding opportunities. Future requirements are subject to Council approval through the annual budget process and in accordance with master plans and long-range financial plans.

## **LEGAL IMPLICATIONS**

There are no legal impediments with respect to receiving this report for information.

## **COMMENTS BY THE WARD COUNCILLOR(S)**

This section is not applicable as it is a city-wide report.

## **CONSULTATION**

No public consultation was required for this report. Public consultation will be completed for each of the Climate Change Master Plan priorities as required.

## **ACCESSIBILITY IMPACTS**

The City of Ottawa follows a legislative accessibility framework and, as such, adheres to the *Integrated Accessibility Standards Regulation (IASR)* of the *Accessibility for Ontarians with Disabilities Act, 2005 (AODA)*, as well as the City's Accessibility policy, Accessibility Design Standards (ADS) and other accessibility-related procedures and guidelines. Further, for projects involving Transit Services and its infrastructure, the City of Ottawa also adheres to the federal *Accessible Canada Act (ACA)*, given that some OC Transpo bus routes cross Provincial borders.

Persons with disabilities are disproportionately negatively impacted by climate change. When disability intersects with other identities and factors, such as poverty, the impacts are even greater. Nevertheless, there is inadequate research into the factors that shape the capacity of the ways that persons with disabilities may be affected by initiatives for mitigating or adapting to climate change. Therefore, broader consultation with persons with disabilities will take place as the Climate Change Master Plan progresses.

## **ASSET MANAGEMENT IMPLICATIONS**

As per the progress update for Priority #4, the City's Comprehensive Asset Management Policy embeds climate mitigation, adaptation and resilience into infrastructure planning, investment and risk management to ensure long-term sustainability and service reliability.

The 2024 Asset Management Plans identified the current state of infrastructure for City assets, including potential climate risks and opportunities to reduce GHG emissions and build climate resiliency.

The 2025 Asset Management Plans added additional information regarding target levels of service (per Climate Change Master Plan, Energy Evolution, and Climate Resiliency Strategy), funding plans and service area gaps, risks to service, as well as climate change adaptation and mitigation costs.

Beginning in 2026, Council will receive an annual asset management progress report which will assess progress in implementing actions impacting cost, risk, service trends; factors impeding the ability to improve trends seen in the asset management plans; and strategies to address those factors.

## **CLIMATE IMPLICATIONS**

The vision of the Climate Change Master Plan is to take unprecedented collective action to transition Ottawa into a clean, renewable and resilient city by 2050. Climate implications associated with policies, programs, and plans to achieve this vision will be assessed as the priorities continue to be further developed and implemented.

Additionally, the completion of the GHG inventories, setting GHG targets, and advancing initiatives under the Climate Change Master Plan help the City to meet its requirements as participants in the Global Covenant of Mayors and the Race to Zero.

## **DELEGATION OF AUTHORITY IMPLICATIONS**

No delegation of authority is being requested as part of this report.

## **ECONOMIC IMPLICATIONS**

Economic implications associated with the Climate Change Master Plan eight priorities will be explored and considered as the priorities are further developed and implemented.

## **ENVIRONMENTAL IMPLICATIONS**

Environmental implications associated with the Climate Change Master Plan eight priorities will be explored and considered as the priorities are further developed and implemented.

## **INDIGENOUS, GENDER AND EQUITY IMPLICATIONS**

One of the guiding principles of the Climate Change Master Plan is that all decision-making processes incorporate equity and inclusion considerations. Indigenous, gender and equity implications associated with the Climate Change Master Plan eight priorities will be explored and considered as they are developed and implemented.

## **RISK MANAGEMENT IMPLICATIONS**

Two environmental corporate strategic risks were identified and are being tracked through the City's Strategic Plan monitoring efforts (the last update was received by Council on [June 11, 2025](#)):

- ✓ Extreme weather and climate impacts - Risk of increases in extreme weather events and climate impacts on infrastructure, public health and well-being, the natural environment and the economy.
- ✓ Climate Change GHG reduction targets; Energy Evolution - Risk of failure to meet short, mid, and long-term corporate and community GHG reduction targets due to delayed or inadequate implementation of Energy Evolution.

## **RURAL IMPLICATIONS**

Rural implications associated with the Climate Change Master Plan eight priorities will be assessed and considered as the priorities are further developed and implemented.

## **TECHNOLOGY IMPLICATIONS**

There are no technology implications associated with this report.

## **TERM OF COUNCIL PRIORITIES**

The 2023-2026 City Strategic Plan identified “a city that is green and resilient” as one of the four strategic areas of focus and is supported by the following strategic objectives:

- Reduce emissions associated with the City's operations and facilities;
- increase waste reduction and diversion;
- Plant, grow and preserve the urban tree canopy in parks and along roadways;
- Increase resiliency to extreme weather and changing climate conditions; and
- Improve key infrastructure through asset management.

This report supports tracking progress towards achieving this strategic area of focus.

**DISPOSITION**

The Strategic Initiatives Department will continue to coordinate the advancement of the Climate Change Master Plan priorities in collaboration with all City departments.

## **Supplementary document: Methods of quantifying emissions for corporate and community inventories**

### **Overarching logic of GHG emissions calculations** (Prerequisite for corporate and community inventories calculations)

In the scope of GHG Inventories, emissions calculations are based on three different methods:

1. Direct emissions data: If quantified emissions are available (e.g., from a facility or process), we use those numbers directly.
2. Consumption or process data: If consumption or process data (e.g., electricity or gasoline) is available, the data is used to calculate three greenhouse gases of CO<sub>2</sub>, CH<sub>4</sub>, and N<sub>2</sub>O. These are then converted to CO<sub>2</sub>e (carbon dioxide equivalent).
3. Statistical data: If neither of the above data types is available, national or provincial emissions statistics are scaled based on Ottawa's share of the population to estimate emissions.

These three methods are commonly used by municipalities across Canada and are aligned with the international standard set by the GHG Protocol.

### **Extra details on calculation methods** (Optional to read)

CO<sub>2</sub>e for CO<sub>2</sub> (=1)<sup>10</sup>, CH<sub>4</sub> (=28)<sup>1</sup>, and N<sub>2</sub>O (=265)<sup>1</sup> is calculated based on IPCC Fifth Assessment. Diesel and gasoline are two major fuels for the fleet. Each of these fuels has a renewable content, which is excluded from final reporting as it is biogenic<sup>11</sup>. The carbon content of natural gas, which is used for emissions calculations, is calculated based on the data received each year from utilities. The emissions factors for various sources of energy are based on the National Inventory Report<sup>12</sup>.

### **Corporate Inventory**

Corporate inventory is quantified using the first two methods for:

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<sup>10</sup> Values in parentheses are the carbon dioxide equivalent of that gas.

<sup>11</sup> Biogenic fuel is the amount of emissions produced due to natural processes. In this report, biodiesel and ethanol renewable contents are 4 per cent and 10 per cent based on Ontario's regulatory reports.

<sup>12</sup> For example, the consumption intensity of electricity is reported in grams of CO<sub>2</sub>e per kWh. Propane, diesel, gasoline, ethanol, biodiesel, on-site transportation, on-site transportation 4-stroke engine, and other similar items emissions factors come from the National Inventory Report.

- Fleet (Municipal, transit, and police – method 2)
- Facilities – (Buildings, traffic lights, streetlights, pump stations - method 2)
- Waste (Trail Road and Nepean – method 2)
- Wastewater (R.O. Pickard Environmental Centre and population data – method 2)

All data for the corporate inventory is provided by City departments. Most of the data requires pre-processing before being used in GHG calculations. This includes verifying and reconciling overlapping data from different departments to avoid double-counting.

### **Community Inventory**

- Community Inventory is quantified mainly using the second and third methods for:
- Buildings:
  - Propane, heating oil, and wood (national statistics – method 3)
  - Electricity (data for calculations – method 2)
  - Natural gas (data for calculations – method 2)
- Transportation
  - On-road (data for calculations – method 2)
  - Air, rail, and off-road (national statistics – method 3)
- Solid waste
  - Residential waste (data from Trail Road method 2)
  - ICI waste<sup>13</sup> (Calculated using the Landgem tool method 2 although data is estimated)
- Wastewater (actual data proportioned to population – method 2)

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<sup>13</sup> Industrial, Commercial and Institutional (ICI) Waste

All data undergoes pre-processing before being used for emissions quantification. This step ensures consistency, accuracy, and alignment with standard methodologies.

**Notes on reporting**

Certain emission sources are included in both the corporate and community inventories, in accordance with standard GHG reporting practices.

This document presents a high-level overview of the methods used to calculate emissions. More detailed technical methodologies are available for each emissions category.