

Breakout 2B: Decarbonization Policies

Building Performance Standards



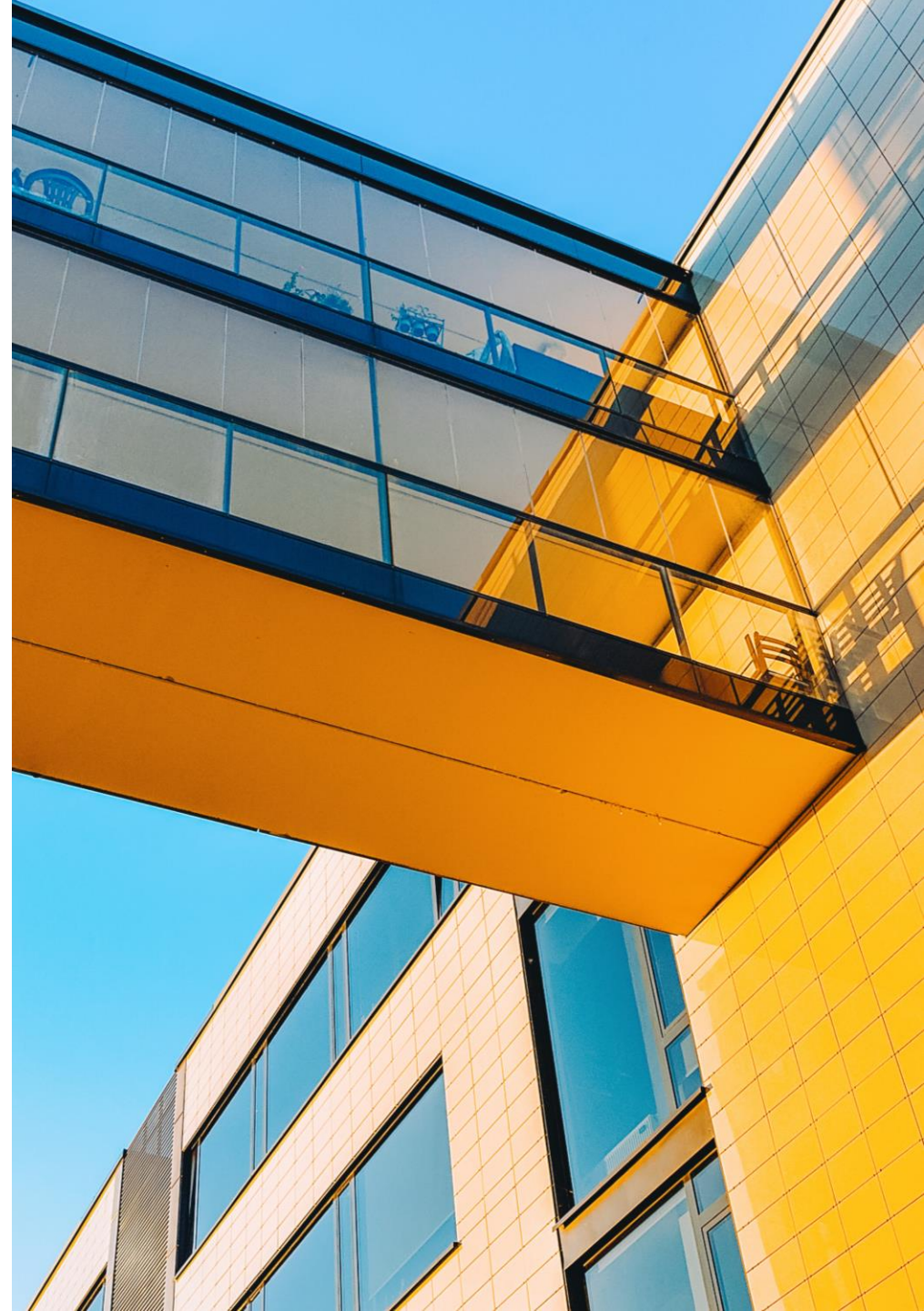
Moderated by:
Corey Diamond, Executive Director



April 17, 2024

Agenda

1. Opening, context setting and introduction
2. Introductory remarks from panelists
3. Q&A
4. Participant discussions
5. Participant replay



Today's Panelists



Trina Kennedy
Senior Program Officer

Natural Resources Canada



Valérie Anne Brouillard
Senior Engineer, Transport,
énergie et bâtiment

Ville de Montréal



Rae-Anne Miller
Project Director – Net Zero
Buildings & Emissions
Performance Standards
City of Toronto



Building Performance Standards

NRCan's role in the development, implementation and compliance of BLD and BPS in Canada



NATIONAL BUILDING
DECARBONIZATION
FORUM | APRIL 2024

Trina Kennedy, Senior Program Officer,
Buildings Division, Office of Energy Efficiency,
Natural Resources Canada



Canada

April 17, 2024

Background – Timeline

- Canada's commitments to reduce GHG emissions by 2030 and achieve net-zero emissions by 2050 are enshrined in law in the ***Canadian Net-Zero Emissions Accountability Act***.
- The **2030 Emissions Reduction Plan** outlines the actions and strategies needed to meet these targets and builds on previous commitments, such as those made by federal and provincial/territorial governments to mandate the labelling of building energy use as early as 2019.
- New actions are focused on accelerating code adoption and deep retrofits and working with partners to develop **Canada's Green Buildings Strategy**, with plans for new measures to promote building benchmarking, performance standards, and labels.
- Canada's support for benchmarking, labelling and disclosure (BLD) of building energy data responds to stakeholder recommendations and significant interest and demand from jurisdictions that see energy **efficiency for buildings as key to achieving their GHG emission targets**.
- Many of these strategies include **measures to regulate carbon emissions** from buildings through building energy benchmarking and reporting, with some jurisdictions laying the groundwork for continuous improvement through building performance standards (BPS).

Benchmarking and Buildings Performance Standards – The NRCan Strategy

We support provincial/territorial and municipal governments in implementing Benchmarking, Labelling and Disclosure (BLD) and Buildings Performance Standards (BPS) policies by:








- Facilitating P/T/M governments and buildings stakeholder working groups
- Supporting the development of tools and resources (ENERGY STAR Portfolio Manager, BLD Model National Framework, BPS Toolkit)
- Provided financial assistance through contribution agreements for Benchmarking Labelling and Disclosure Pilot Projects (2018-2021)





ENERGY STAR Portfolio Manager is a free, secure, bilingual, online benchmarking tool developed to help commercial and institutional building owners and managers track the energy use of their buildings or portfolios of buildings

Adapted for Canadian users by NRCan

-  Energy consumption (source, site, weather normalized)
-  Greenhouse gas emissions (indirect, direct, total, avoided)
-  Assess whole building energy and water consumption
-  Track changes in energy, water, greenhouse gas emissions, and cost over time
-  Create custom reports
-  Share/report data with others
-  Secure API that allows automated energy data transfer from/to service providers



A night city skyline with various skyscrapers illuminated. Overlaid on the image are several digital elements: a circular icon with a plug symbol at the top center, a horizontal bar with three lightbulb icons, and a circular icon with a dollar sign. The background is a dark blue sky with city lights.

WHAT ARE THE BARRIERS

- Access to automated utility energy data for buildings
- Access to automated aggregated* utility energy data for MURBS and mix-use buildings

*Whole building data aggregation is the act of combining monthly value for each energy type, regardless of number of tenants, accounts, or meters to reflect total building usage while maintaining privacy of individual tenants



Action Speaks Louder than Words

What NRCan is doing to facilitate BLD and BPS adoption and compliance

Guidance & Training Resources

NEW! [Utility Guidance on Whole Building Data Sharing](#)

Coming soon!

NRCan's Building Performance Standards Policy Toolkit – First Edition

[Free ENERGY STAR Portfolio Manager Training provided by CIET](#)

Coming soon!

Supporting Benchmarking and Building Performance Policies for Commercial, Institutional and Multifamily Buildings - Free Presentation Decks/Webinars (5 Modules) for Utility Providers and governments

Stakeholder Engaging & Convening

Individual and group discussions with jurisdictions and influencer organizations

BLD/BPS Community of Practice (for Canadian Municipalities and Provincial Governments)

Utility Data Sharing Network for Canadian utility providers

Utility Providers -On-going Web Services Implementation and Maintenance Support

Free Tools

 **ENERGY STAR® PortfolioManager®**

Coming soon!

 **ENERGY STAR® PortfolioManager®**
Building Emissions Calculator

Coming soon!

 **ENERGY STAR® PortfolioManager®**
Data Explorer

Building Performance Standards – Thinking Ahead

It's not just about helping with the implementation of Building Performance Standards, we also offer free tools, programs and resources for building owners and operators to successfully meet their regional BPS. NRCan presents:

- **50001 Ready Canada** A free online tool and recognition program that provides step-by-step guidance that helps you implement your energy management system
- **Tuning Up: A Framework for Existing Building Commissioning** is a model blueprint for increasing the uptake of Existing Building Commissioning (EBCx) in Canada. It is intended to broaden awareness and to help identify opportunities



Thank you!

For additional NRCan buildings energy efficiency information visit our websites or contact us at buildings-batiments@nrcan-rncan.gc.ca



Canada

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BPS and the Montreal Roadmap to Building Decarbonization



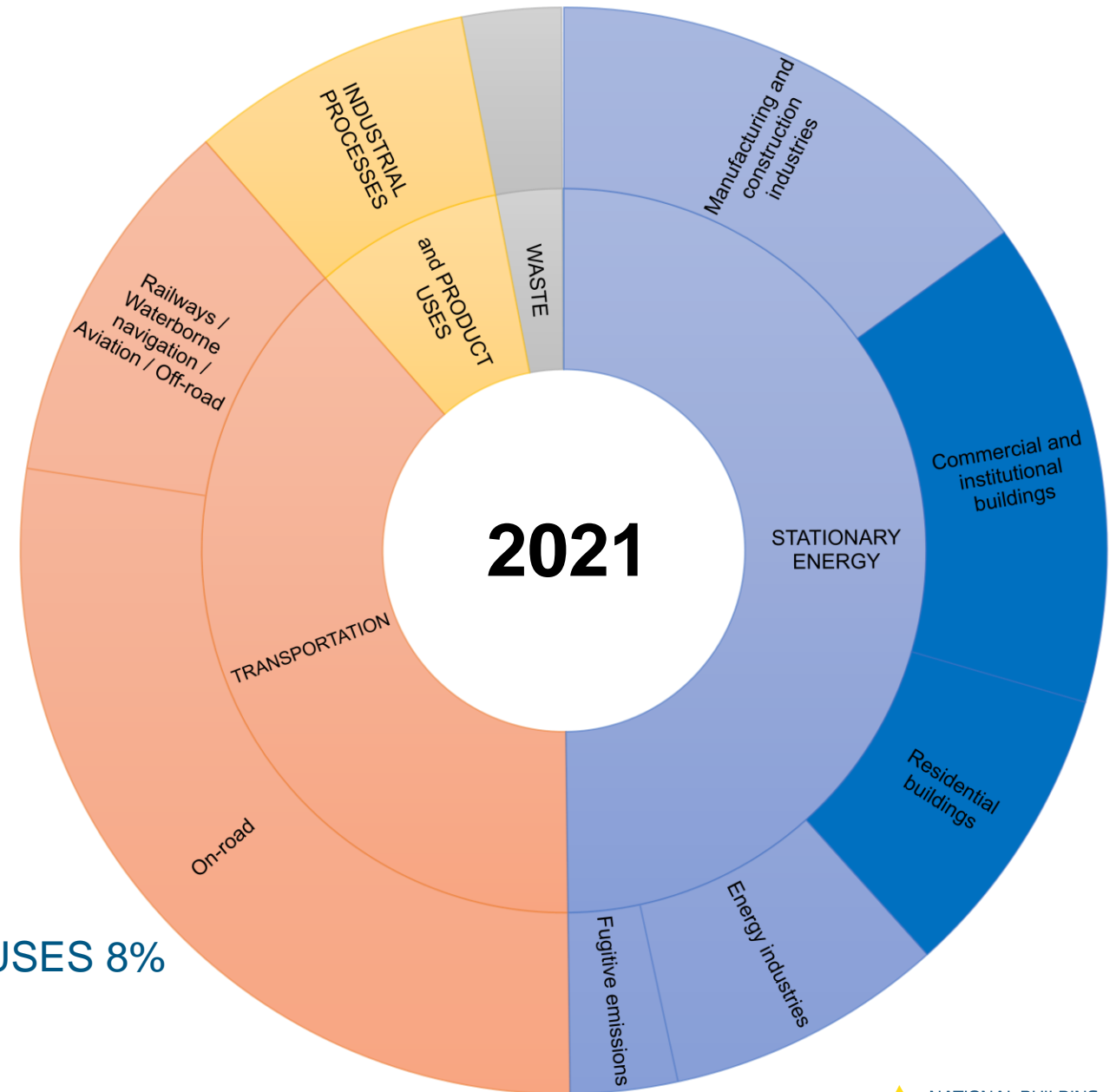
Valérie Anne Brouillard, P.Eng, M. Eng. CEA
Senior Engineer
Bureau de la transition écologique et de la résilience

Montréal 

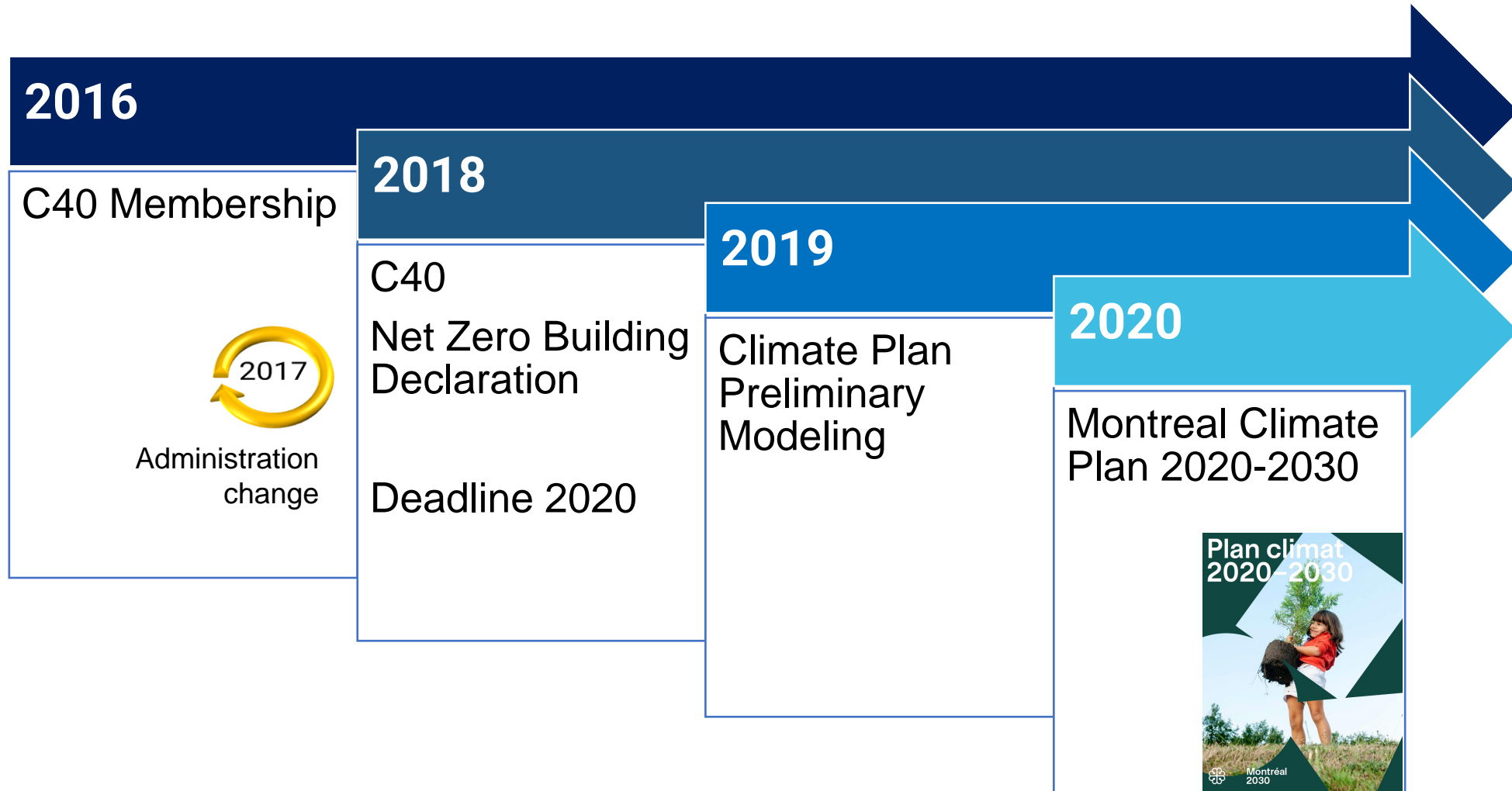
April 17th, 2024

Montreal GHG emissions

- STATIONARY ENERGY 50%
Residential 9% ; C&I 14%
- TRANSPORTATION 39%
- WASTE 3%
- INDUSTRIAL PROCESSES and PRODUCT USES 8%
- AGRICULTURE, FORESTRY and OTHER LAND USE 0,1%



Where does this all come from ?



Roadmap to Building Decarbonization

2021

By-Law 21-042

Large Building
GHG Emission
Reporting and
Benchmarking

2022

2040 Roadmap

Public
Consultation

2023

By-Law 23-046

GHG Emissions
of New Buildings

Enforcement :
2024 Small Buildings
– Ban on all fuels
2025 Large Buildings
- Ban on fossil fuels

2024

**Mandatory
Reporting of
existing fossil
fuel equipment**

2028-2040

BPS on Large Buildings

Gradual
imposition of
performance
thresholds

Reporting

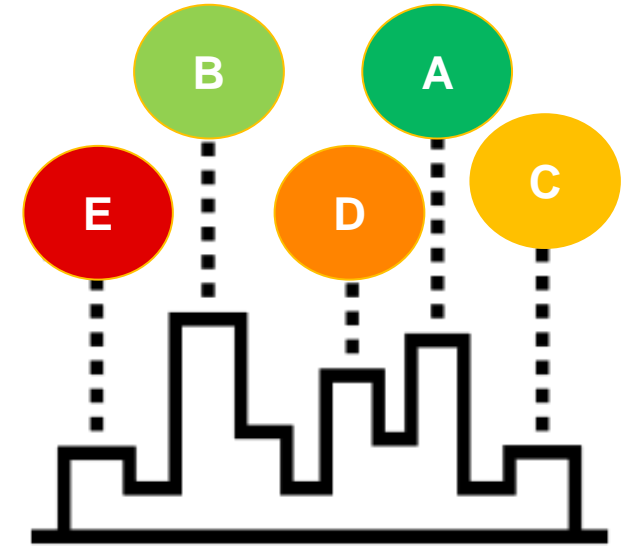
Send building energy consumption data

Benchmarking

Compare a building with similar buildings on GHG emissions or/and Energy Consumption

Performance

Mandatory performance standard to be achieved according to building use



By-Law 21-042 Progressive Implementation



Municipal
200 buildings
2,000 m² and +



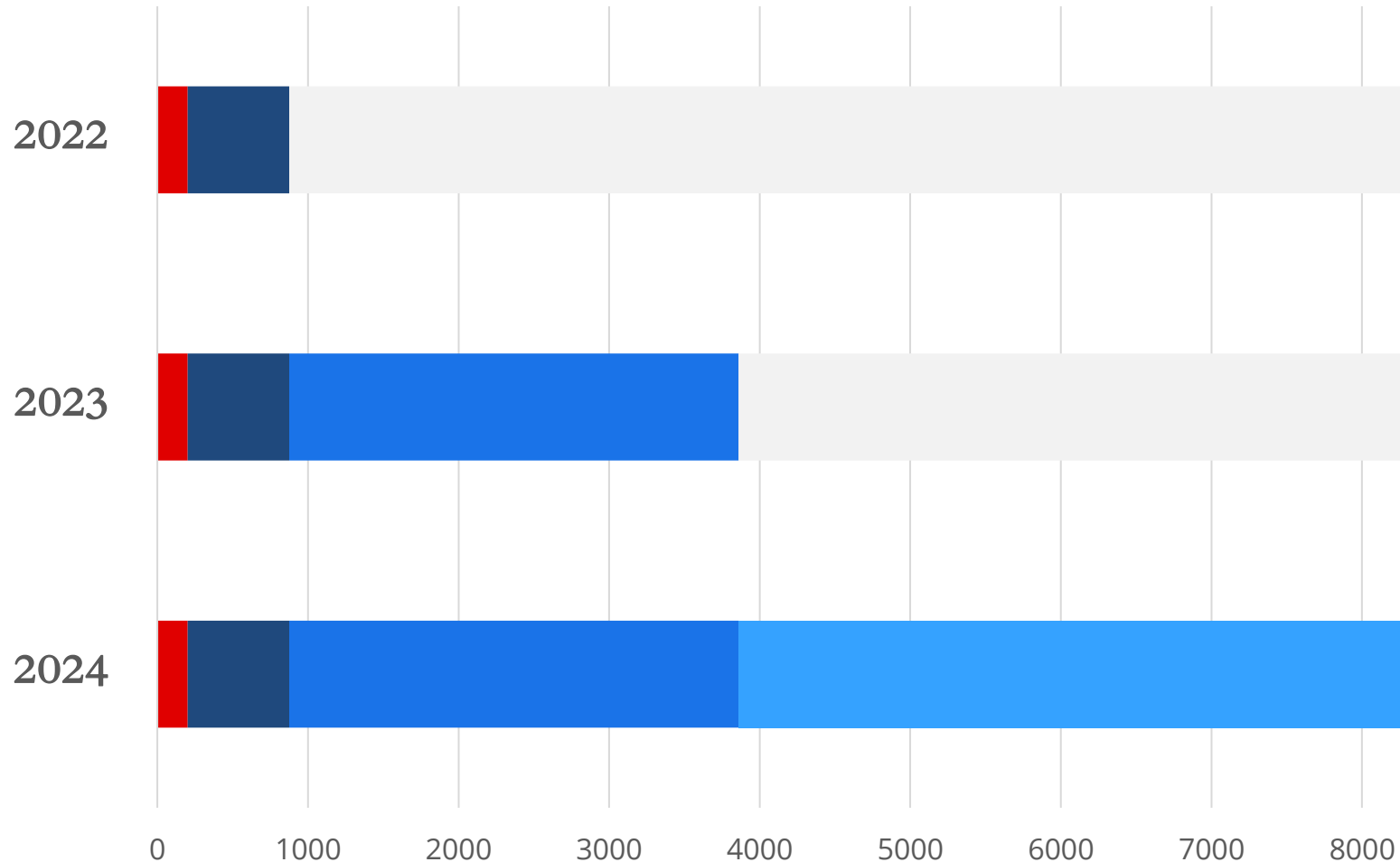
Very large commercial
631 buildings
15,000 m² and +



Large commercial and MURBS
2,985 buildings
5,000 m² to 14,999 m²
(or 50 units and +)



Medium commercial and MURBS
4,400 buildings
2,000 m² to 4,999 m²
(or 25 to 49 units)



2022 Reporting Evaluation

Compliance Rate

(As of February 2024)

82%

(681/831)

- » February 2023 Default to report notice
- » March 2024 Non-compliance notice
(24 new reports received since)



100%

Municipal Buildings
(200/200)



88%

Institutional Buildings
(194/220)



70%

Commercial Buildings
(287/411)

2023 Preliminary Reporting Evaluation

Compliance Rate

(As of February 2024)

42 %

(1,605/3,803)

» March 2024 Default to report notice
(135 new reports received since +
167 buildings info updated in Buildings List)



100%
Municipal Buildings



66%
Very Large



33%
Large

Steps to a Successful Benchmarking Program

- Take every opportunity to broadcast the by-law
- Don't underestimate the need for owners to talk to a "real person"
- Utilities Data Transfer needs to be available and as easy as possible
- Utilities Data Aggregation is a must, most building owners don't have access to their renters' energy bills
- Having Provincial Government support is always a plus
- Think early on about data management and quality control



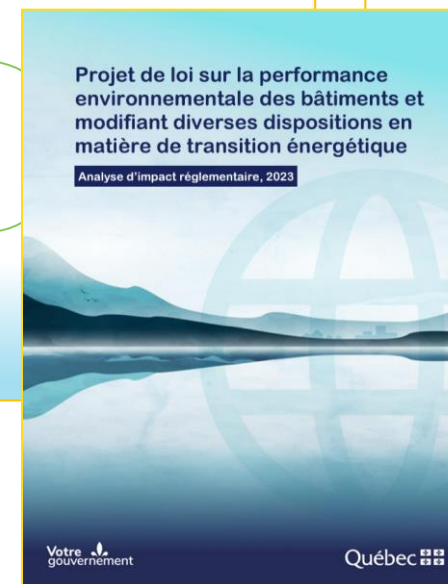
How to involve Utilities as a BPS stakeholder

- ✓ Reporting all energy consumption data is important for Utilities
- ✓ Arrive well-prepared with only one reporting solution
- ✓ Make sure to have all technical information in hand (talk to NRCan up-front)
- ✓ Having a By-Law in place or to come helps prioritize their API project development
- ✓ Make them challenge each other

For A Greater Good



**Reporting starts
2022
GHG Benchmarking**



**Benchmarking and BPS
Implementation in Large Buildings
GHG and Energy Efficiency**

Montréal 

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Cote GES* du bâtiment

En vertu du Règlement sur la divulgation et la cotation des émissions de GES des grands bâtiments, les propriétaires doivent afficher la performance de leur bâtiment en matière d'émissions de GES.

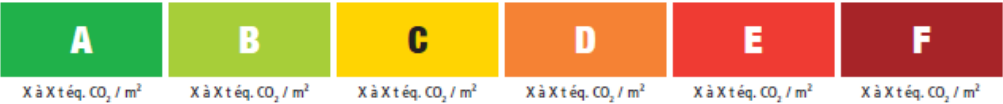
C

Cote du bâtiment
en 2025 : D

Cote du bâtiment
en 2024 : D

Cote actuelle du bâtiment

Cote moyenne des bâtiments d'un même type d'utilisation : D



| Description du bâtiment | |
|-------------------------|--------------------------------|
| Adresse | Type d'utilisation du bâtiment |
| | |

Date d'émission de la cote : 30 juin 2026

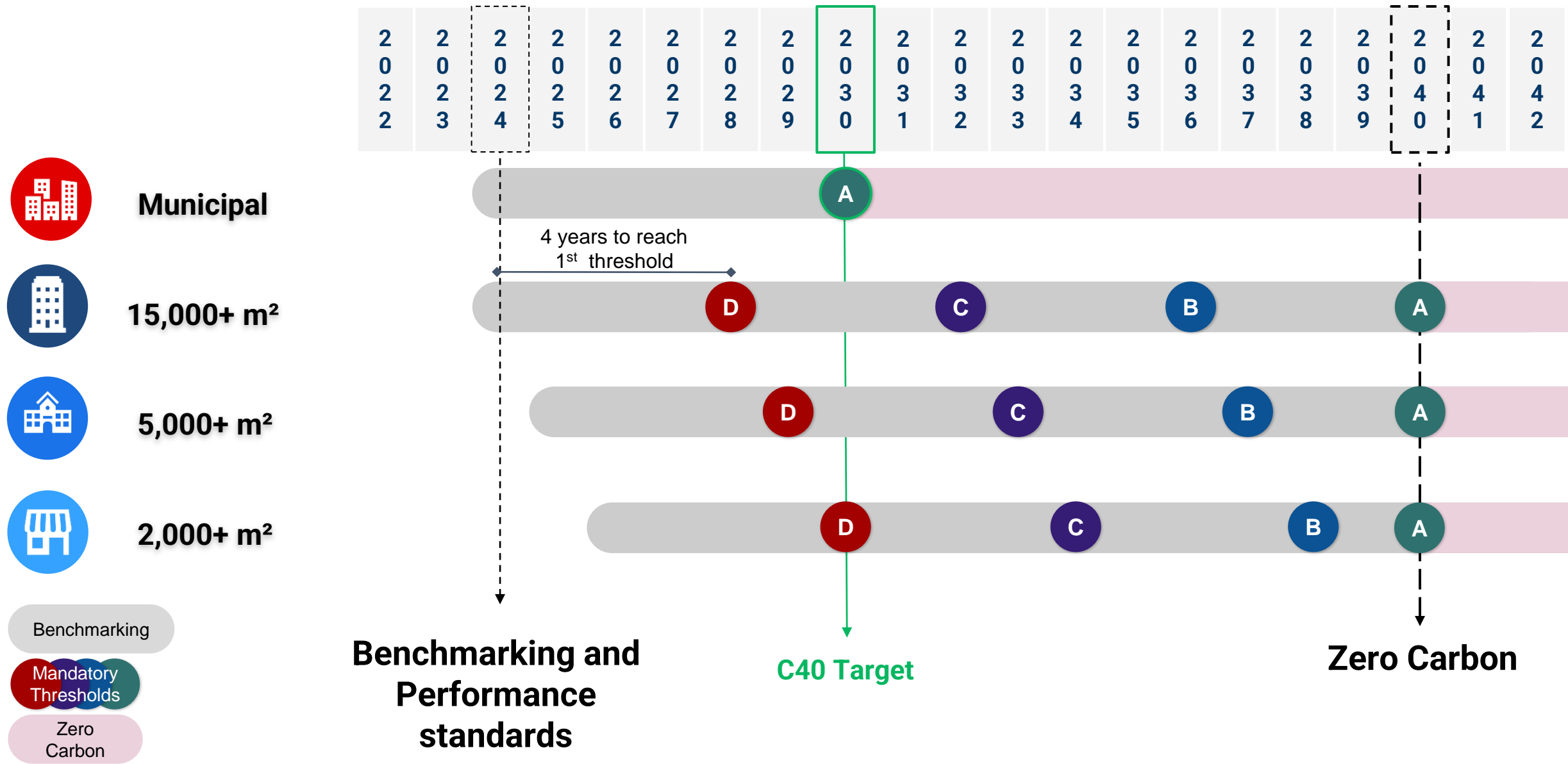
Pour plus d'information



* gaz à effet de serre



Montreal Benchmarking and Performance Standards Timeline



Merci !

Montréal 



Photo: Montreal 2040 Roadmap to zero emission buildings - Public consultations



City of Toronto Building Emissions Performance By-Law

Reporting and Standards



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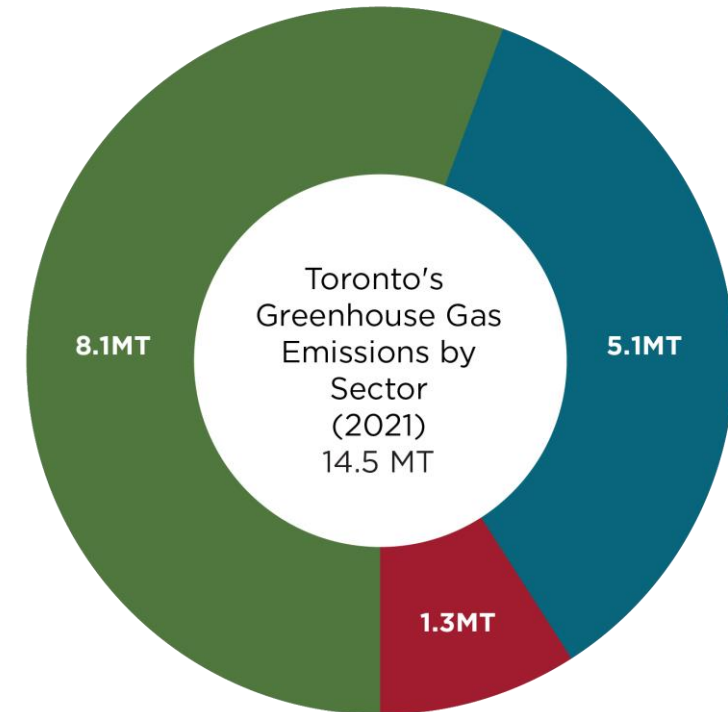
Rae-Anne Miller, Project Director



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TransformTO: City of Toronto's Climate Action Strategy

- The City of Toronto's TransformTO Net Zero Strategy sets out the actions required to reach net zero greenhouse gas emissions by 2040.
- Buildings are the largest source of GHG emissions in Toronto today, accounting for 56 per cent of total community-wide emissions.
- In 2021 the City's Net Zero Existing Buildings was adopted by council.

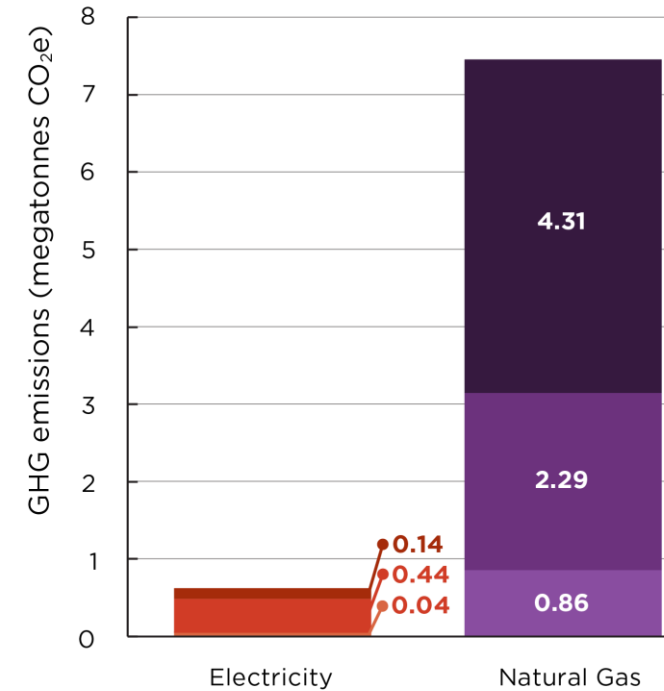
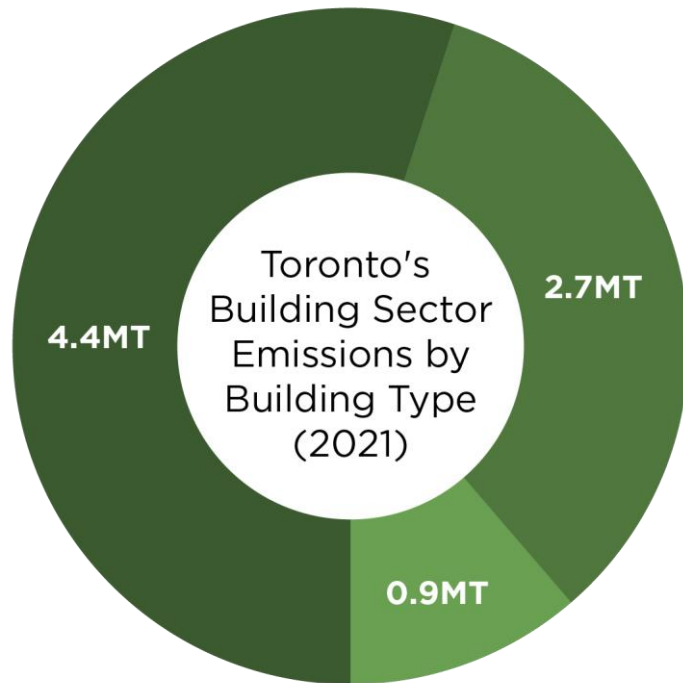


 **56%**
Buildings

 **35%**
Transportation

 **9%**
Waste

Emissions Breakdown for Buildings in Toronto



- Electricity Residential
- Electricity Commercial & Institutional
- Electricity Industrial
- Natural Gas Residential
- Natural Gas Commercial & Institutional
- Natural Gas Industrial

Toronto's Energy & Water Reporting By-Law

- Council adopted Municipal Code Chapter 367, Building Emissions Performance in December 2023.
- Buildings in Toronto are now required to report energy & water use directly to the City of Toronto in addition to the Province.
- **Reporting Timelines:** the first business day of July each year
2024: $\geq 50,000 \text{ ft}^2$ ($4,645\text{m}^2$)
2025: $\geq 10,000 \text{ ft}^2$ (929m^2)
- The City's process and requirements models that of the province to make it simple for reporters.

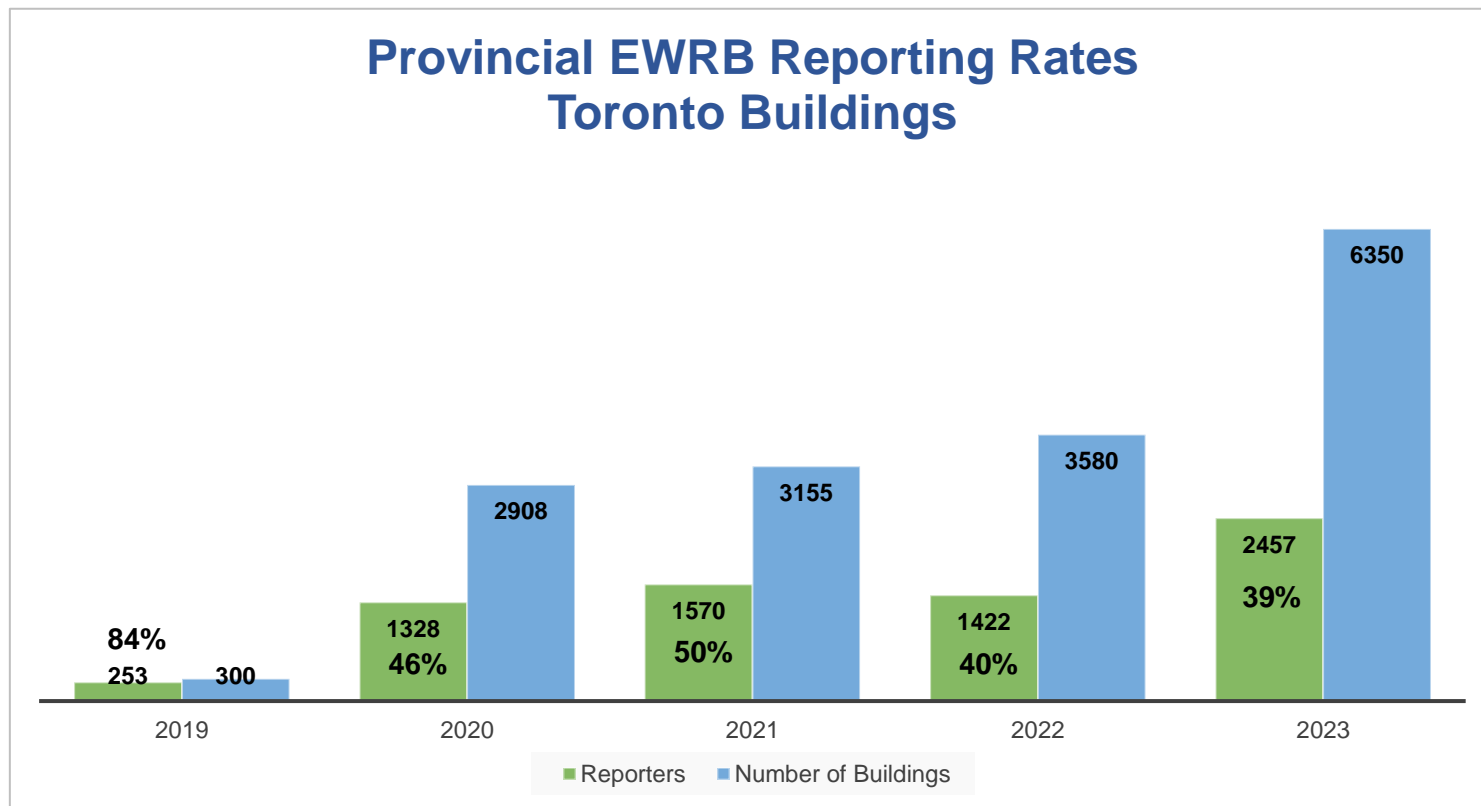


Reporting Tips and Support

- The City has been supporting building owners report their data since the Provincial regulation came into effect in 2018
 - Targeted Outreach
 - Webinars
 - Instructional Videos
- Expanding supports to smaller buildings



Reporting Tips and Support: Reporting Rates for Toronto



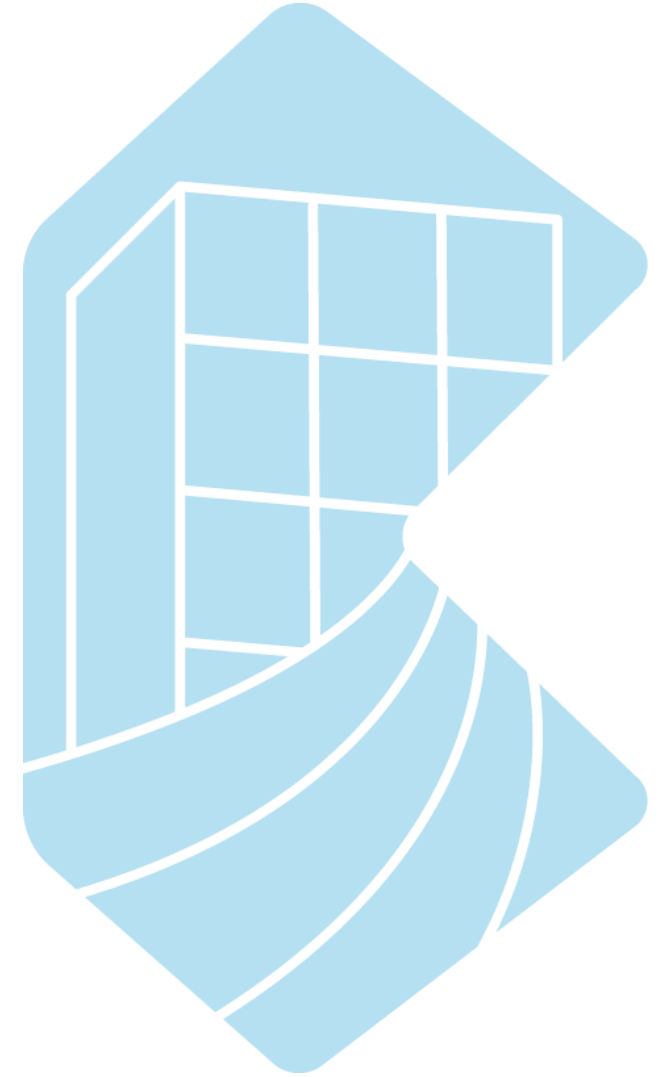
- Compliance rates for Toronto buildings has represented approximately 50% of total compliance for Ontario



What's Next?

Emissions Performance Standards

- Toronto City Council has directed staff to propose a by-law that would set emissions performance standards for buildings
- Emissions performance standards (EPS)
 - Set emissions limits for buildings and will require owners to improve emissions performance over time
 - Requirements will be phased in over time - Impacts and penalties will not be immediate
 - Building owners who can't/choose not to comply with standards are subject to financial repercussions
 - Revenues from these to be reinvested in community climate action
 - Toronto plans to apply EPS to all buildings, from the largest office towers to low-rise residential homes



What's Next?

Emissions Performance Standards

- Currently engaging with internal and external stakeholders to inform the broader engagement plan
- The City will be establishing a number of working groups and has committed to developing a group with a specific focus on equity
- Progress report in Q2 2024
- Broad stakeholder engagement will be conducted across multiple sectors to ensure all voices are heard (Q3/Q4)



Thank you!

Rae-Anne Miller
Project Director
Environment & Climate
City of Toronto



Table Discussions



Corey Diamond, Executive Director



Efficiency
Canada

April 17, 2024

Table Discussions

1

Individually reflect on the following question, then **discuss** them at your table:

- In the region(s) where you work, what is the **status** on decarbonizing existing buildings?
- What **questions**, if any, do you have on implementing building performance standards in your region?
- What are the main areas of **pushback or tension** you have experienced or seen with respect to implementing these types of building performance policies?

2

Discuss these **additional questions**. You will be asked to **share responses** with the room.

- What were your **key takeaways** from this session's panelist and table discussions?
- What can we **collectively do to overcome** the tensions limiting the pace of decarbonization of existing buildings?

Thank you!