Calculating GHG Emissions: Just Keep Swimming

Matthew Regier – City of Saskatoon
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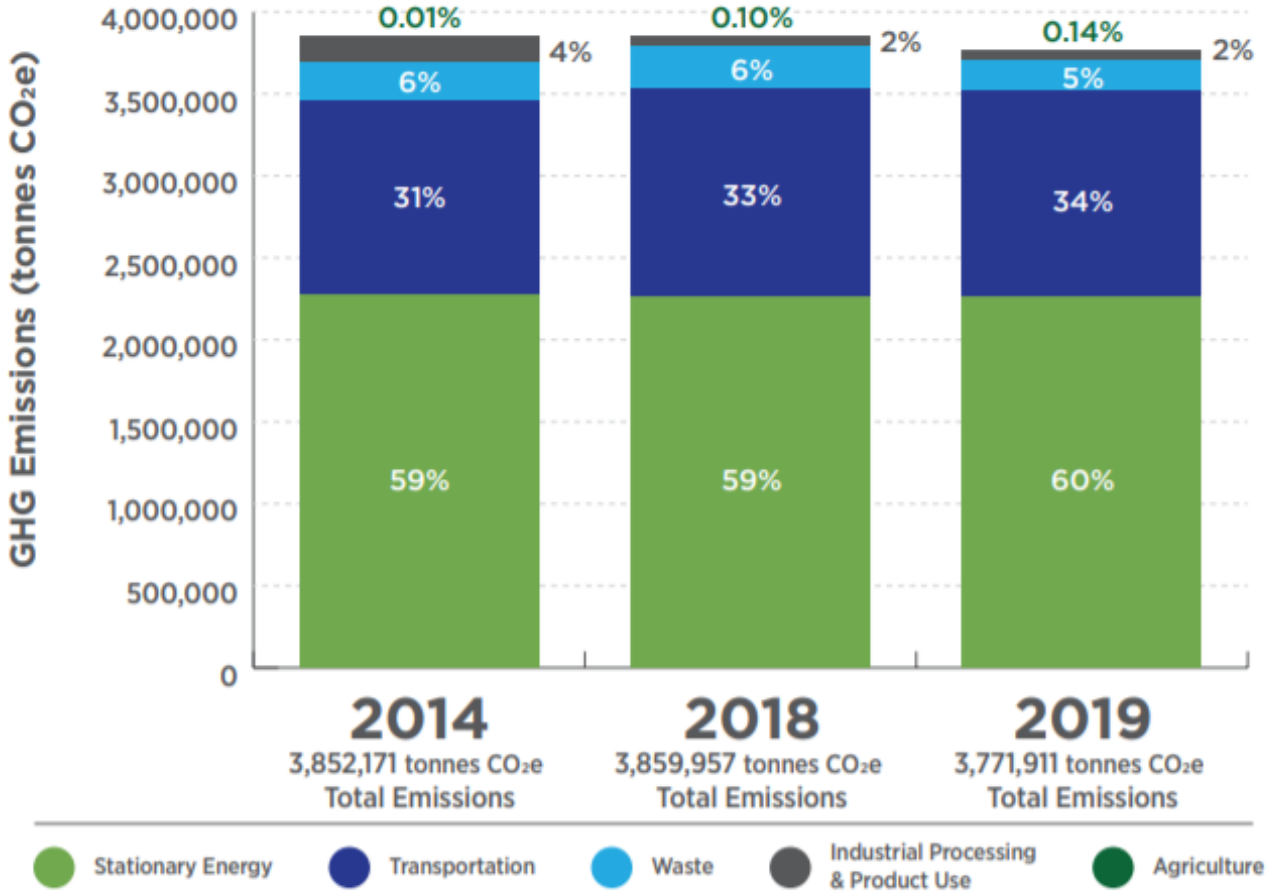
Why do we calculate GHG emissions?

- GHG emissions inventory
  - Baseline, monitor progress, reporting requirements, etc.
- Project-level emissions
  - Business cases, impact of decisions, funding application, etc.



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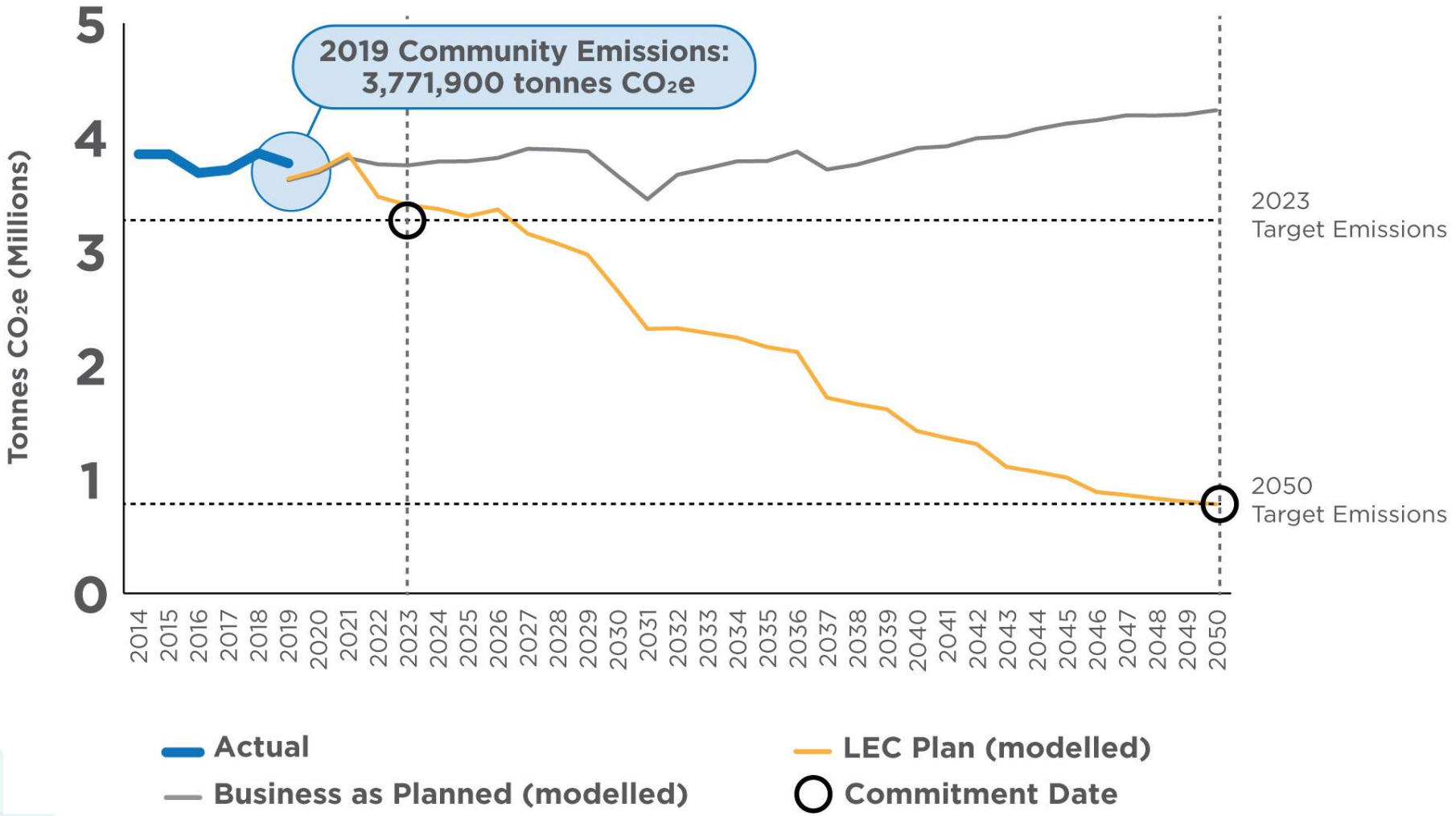
Saskatoon's Greenhouse Gas Targets



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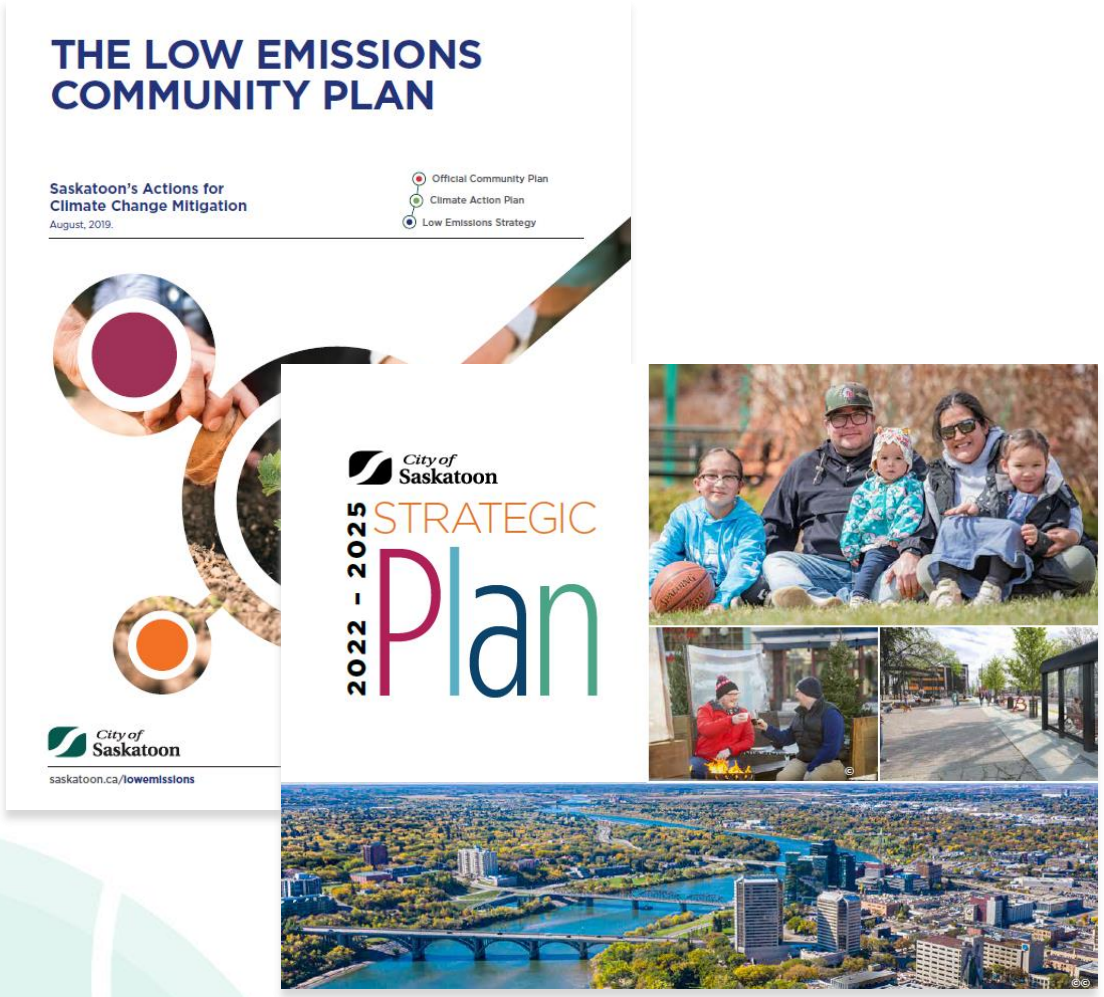
Whom do we report to and why?



ICLEI Local Governments for Sustainability CANADA

FCM FEDERATION OF CANADIAN MUNICIPALITIES | FÉDÉRATION CANADIENNE DES MUNICIPALITÉS

PARTNERS FOR CLIMATE PROTECTION

CDP
DISCLOSURE INSIGHT ACTION

GLOBAL COVENANT of MAYORS for CLIMATE & ENERGY

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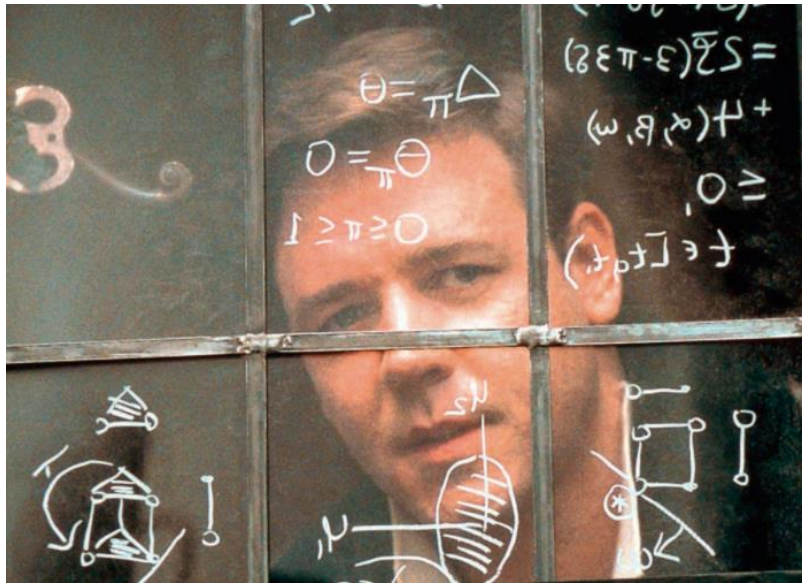
How do we calculate GHG emissions?

- Global Protocol for Community-Scale Greenhouse Gas Emission Inventories: An Accounting and Reporting Standard for Cities (WRI, C40, ICLEI)
- ISO 14064 – GHG identification, quantification, verification, and reporting



Sectors and sub-sectors

Sectors and sub-sectors
STATIONARY ENERGY
Residential buildings
Commercial and institutional buildings and facilities
Manufacturing industries and construction
Energy industries
Agriculture, forestry, and fishing activities
Non-specified sources
Fugitive emissions from mining, processing, storage, and transportation of coal
Fugitive emissions from oil and natural gas systems
TRANSPORTATION
On-road
Railways
Waterborne navigation
Aviation
Off-road
WASTE
Solid waste disposal
Biological treatment of waste
Incineration and open burning
Wastewater treatment and discharge
INDUSTRIAL PROCESSES AND PRODUCT USE (IPPU)
Industrial processes
Product use
AGRICULTURE, FORESTRY AND OTHER LAND USE (AFOLU)
Livestock
Land
Aggregate sources and non-CO_2 emission sources on land
OTHER SCOPE 3

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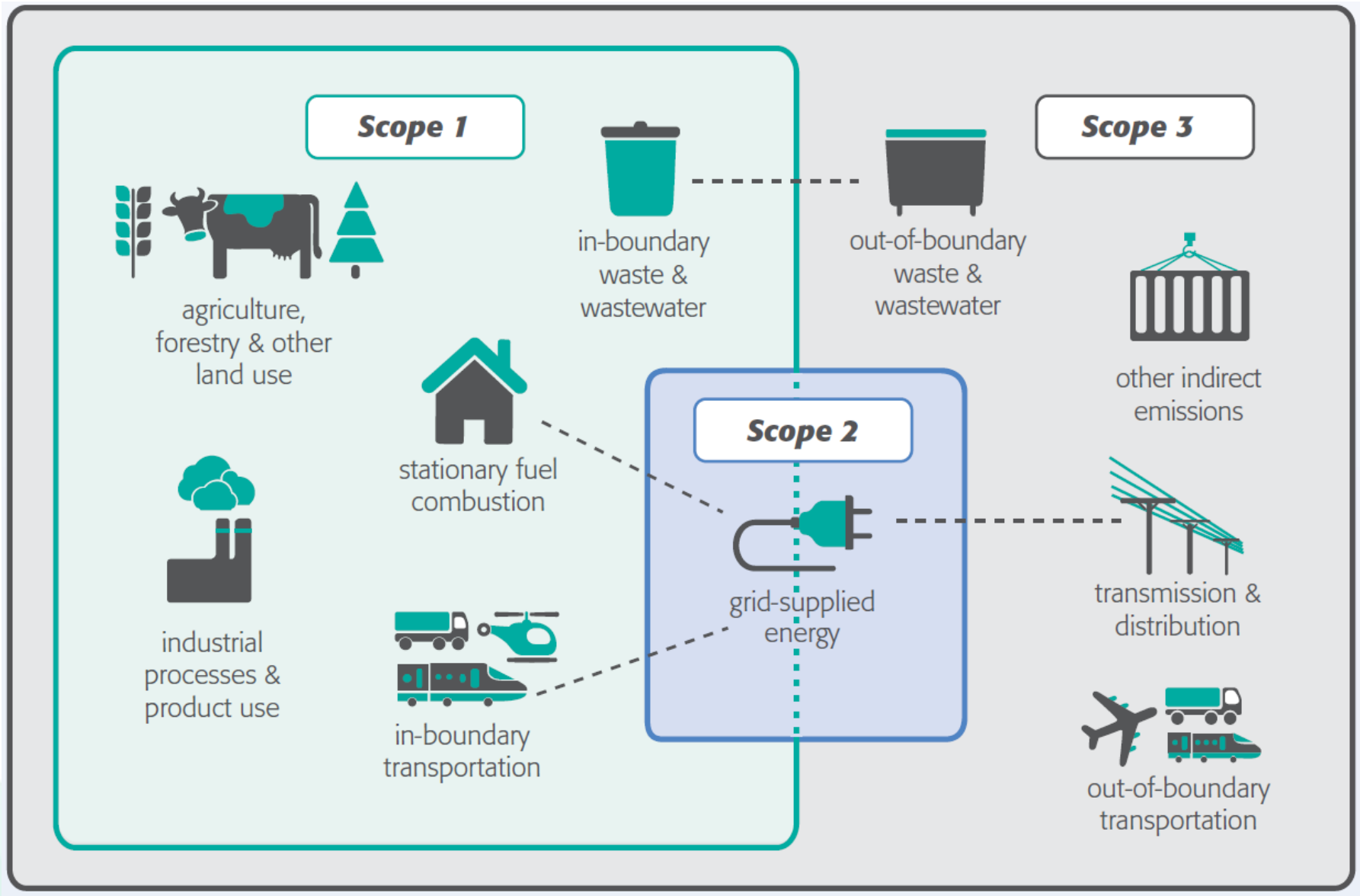
Scopes



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Challenges

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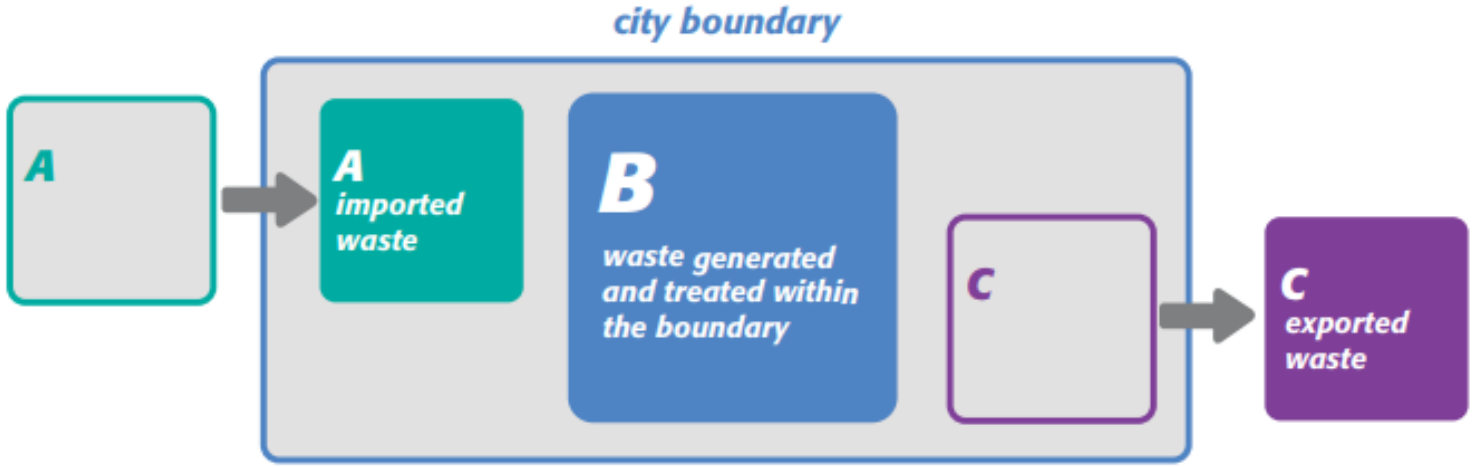
- On-road Transportation

Methodology	Advantages	Disadvantages
Fuel sales	• More consistent with national inventory practices • Well suited to aggregation with other city's transportation inventories if all fuel sold in boundary is classified as scope 1. • Less costly • Less time-consuming to conduct • Do not require high level of technical capacity	• Does not capture all on-road travel, as vehicles may be fueled at locations outside the city boundary but driven within the city • Does not disaggregate the reasons for travel emissions, e.g., origin, destination, vehicle efficiency changes, modal shift, etc. • Does not comprehensively demonstrate mitigation potential • Does not allow for allocating emissions by scope (unless additional steps are taken)
VKT and model-based (induced activity, territorial, resident activity)	• Can produce detailed and more actionable data for transportation planning • Integrates better with existing city transport models and planning processes	• More expensive, time consuming, and less comparable between cities due to variation in models used

- Solid Waste



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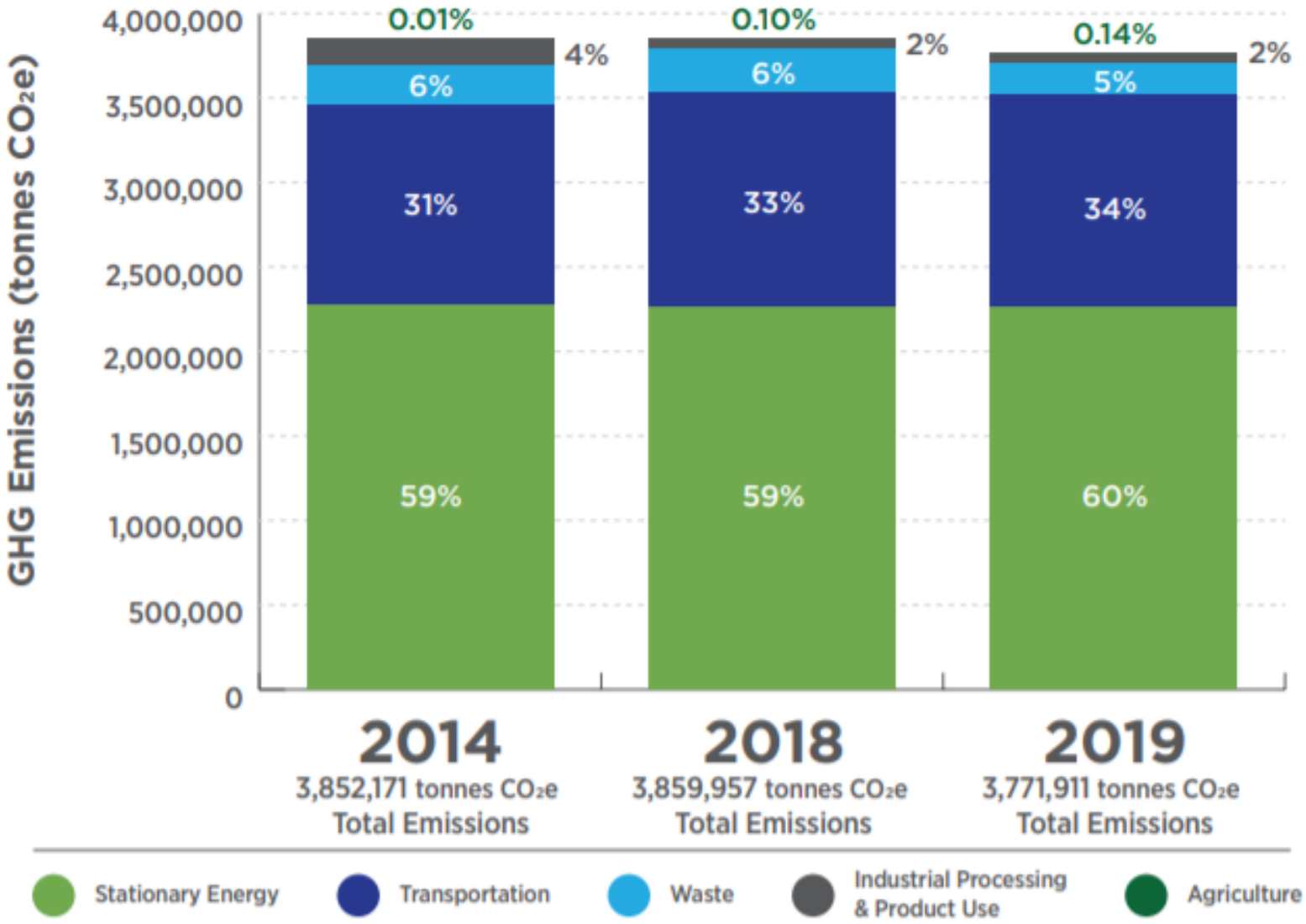
Have we made any progress?



Emission Reductions:
80,260 tonnes CO_2e

Total Results
(2014-2019)
-2.1%

Per Capita Results
(2014-2019)
-14.7%

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Tips/Lessons Learned

- Build strong relationships with data providers
- Never assume you know everything
- Don’t let the perfect be the enemy of the good
- Be patient with the process
- Learn from your mistakes

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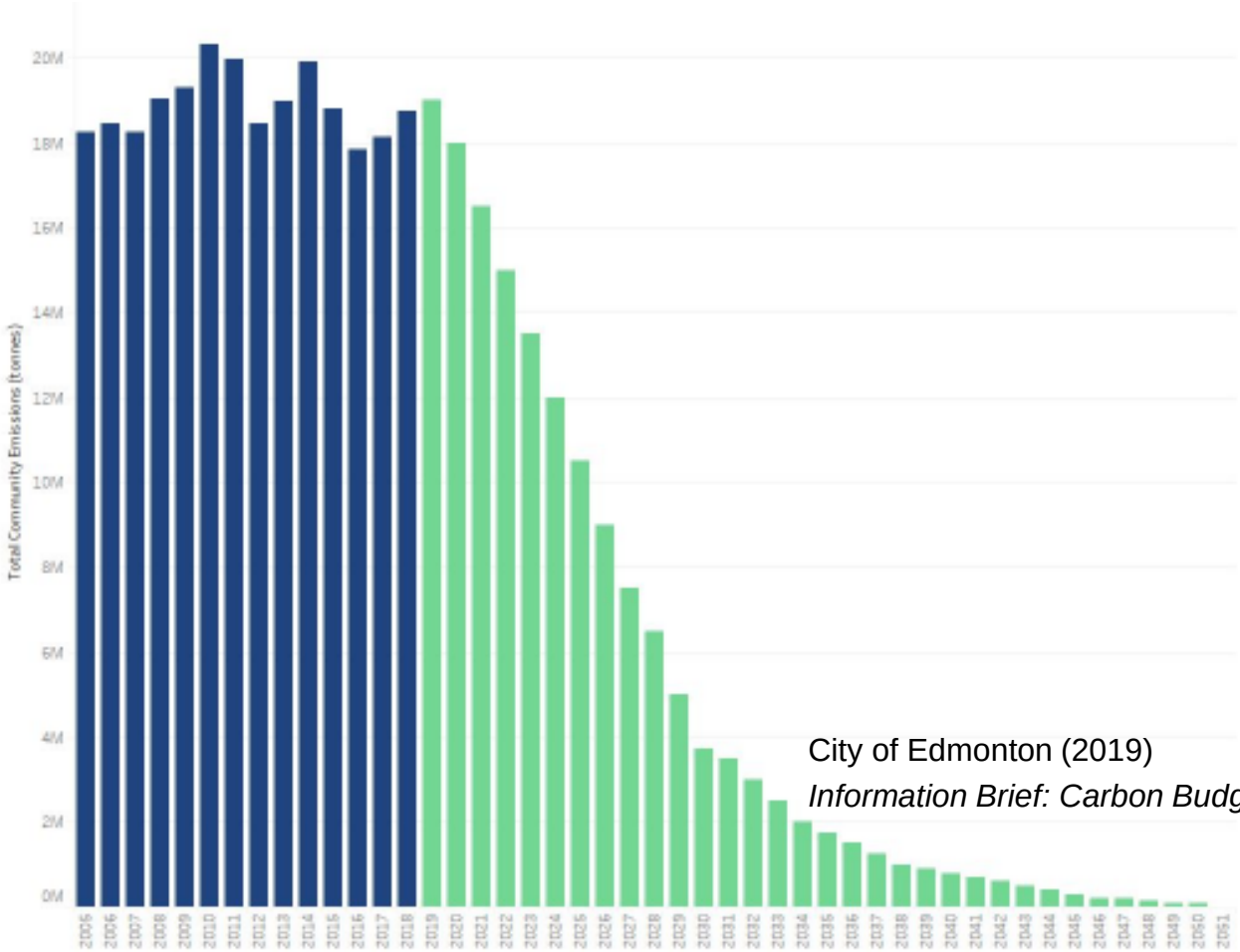
What's next?

- "Just keep swimming!" (Dory, 2003)
- Carbon budgets
- Carbon markets



City of Edmonton (2019)
Information Brief: Carbon Budget and Accounting

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Thank you!

matthew.regier@saskatoon.ca