2019 Waste Report Card

mmsb

Guiding our province
to a greener future.

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Introduction

Solid Waste Reduction and Diversion Progress in Canada

Concerted national action towards modernizing waste management in Canada began in 1989 when the Canadian Council of Ministers of the Environment (CCME) agreed to a target for the reduction of waste going to Canadian landfills – 50% by the year 2000. The target was developed and endorsed by ministers in response to rising waste generation rates in Canada and around the world.

By September 2014 environment ministers adopted the vision that **Canada is a world leader in waste management.** To achieve this vision and align with federal priorities, in November 2018 ministers endorsed two key strategies: a new overarching goal for waste reduction and zero plastic waste.

The Canada-wide Aspirational Waste Reduction Goal tracks jurisdictions' collective performance with reducing waste disposed of in landfills and encourages waste reduction progress in Canada. The Canada-wide Zero Plastic Waste Strategy and Action Plan outline a vision and actions to keep plastics in the economy and out of the environment.

Under these strategies, CCME's current priorities on waste are:

- to increase waste reduction and resource recovery;
- contribute to Canada's transition toward a circular economy where products and packaging are designed to be reusable, repairable and recyclable; and
- promote approaches that shift the responsibility for waste from taxpayers to producers and users.

To address these priorities, CCME is implementing the Canada-wide Action Plan on Zero Plastic Waste, while many provinces and territories are also adopting ambitious policies and programs to prevent and divert major waste streams such as organics and packaging[i].

Solid Waste Reduction and Diversion Progress in Newfoundland and Labrador

In 2002, Newfoundland and Labrador released its own Provincial Waste Management Strategy. Aligning with the 1989 national target, one of five goals in the Strategy was to divert 50% of materials currently going to disposal by 2010 (later revised to 2025)[ii].

The implementation plan and funding commitment for the Strategy were announced in 2007. Since then, provincial, municipal/regional and private infrastructure and programs have been developed to divert solid waste from landfills. Newfoundland and Labrador has five regulated provincial recycling programs for beverage containers, tires, paint, electronic products and used oil/glycol. Additionally, more than 80% of the population has access to curbside recycling services for packaging and paper products and private enterprises have developed programs to recycle materials like metals, cardboard and hazardous waste.

To measure progress on the Strategy's diversion goal, MMSB has profiled waste disposal, diversion and generation in Newfoundland Labrador periodically since 2011.

The approach is to quantify waste that is being landfilled and diverted to the extent possible. By combining the two data sets, MMSB can estimate the provincial waste profile, measure progress and highlight opportunities to further advance the Strategy.

Measuring Performance – the Target and the Baseline

The Provincial Waste Management Strategy selected a dataset that estimated both waste generation and disposal in Newfoundland and Labrador at 400,000 metric tonnes (mt) annually, or 770 kilograms (kg) per capita. Using the Strategy's estimate (and the 2002 provincial population of 519,481), diverting 50% of the 770 kg per capita of waste disposed equates to a **waste disposal target of 385 kg per capita.**

Selecting Indicators and Reporting on Progress – Solid Waste Disposed, Diverted and Generated

Statistics Canada carries out a biennial call for waste disposal data, and a portion of waste diversion data among waste managers in Canada. During its biennial call, Statistics Canada endeavors to capture disposal data from landfills and incinerators with and without weigh scales. Diversion data is mainly sourced from materials recovery facilities responsible for packaging and paper products. Other diversion data can be difficult to gather or is not readily comparable among jurisdictions. This means that while disposal data can be compared, a complete picture of diverted materials among jurisdictions is difficult to develop.

The 2018 Canada-Wide Aspirational Waste Reduction Goal replaced CCME's previous 1989 goal of 50% reduction in disposal by 2010. The 2018 goal sets targets for a percentage reduction in waste sent to landfills measured in kg per capita disposed, with 2014 as the base year. This indicator was adopted for two reasons:

- disposal data from facilities across the country can be tracked by Statistics Canada; and
- kg per capita disposed in landfills reflects all waste reduction and diversion activities outlined in the waste management hierarchy.

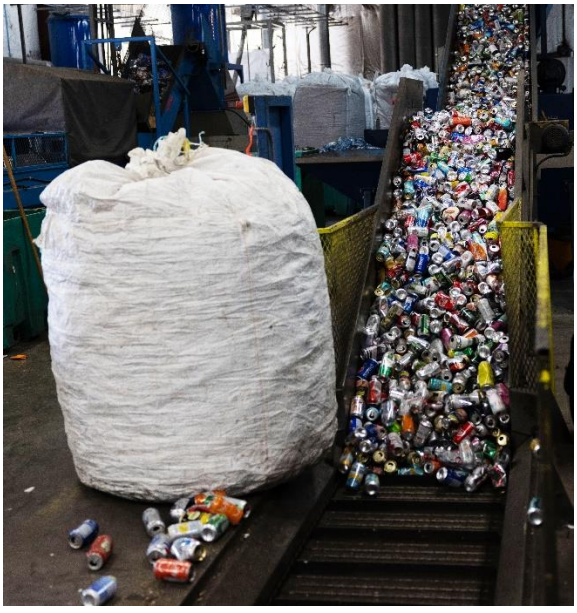
About MMSB's 2019 Waste Report Card

MMSB's 2019 Waste Report Card shares the province's progress in waste disposal using the primary indicator of kg disposed per capita. The province's diversion rate is also included as an additional indicator of progress.

Tracking the percentage of Newfoundland and Labrador's waste being diverted requires two data sets – waste disposed and waste diverted. In other words, to measure progress using the percentage of waste diverted as an indicator, a numerator (weight diverted) and a denominator (weight generated) are required. While reporting requirements for most private waste managers are limited, sufficient data was gathered to produce an estimate for the weight of material diverted and the percentage of waste diversion. With both data sets, a third indicator, waste generation in kg per capita is also presented in this report.

This 2019 waste report card is developed using weigh scale data obtained from all landfills accepting municipal and commercial waste in the province that collect detailed information on the materials that enter their landfills. Estimates were developed for the percentage of the population using landfills without weigh scale data to provide equivalent comparisons. In the absence of reporting requirements, efforts have also been made to gather as much data on materials diverted from landfills in the province as possible. Data calls were not carried out in 2017 and 2018 so 2019 data is compared to 2016 figures throughout the report.

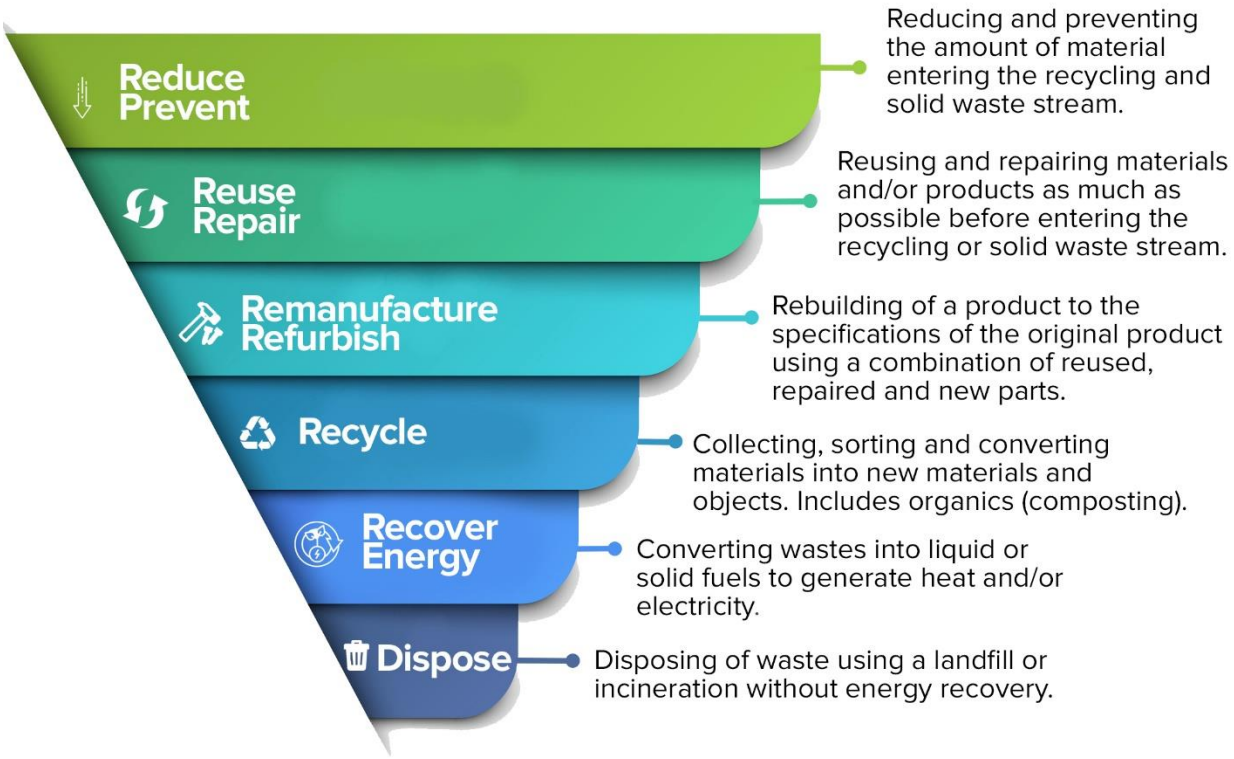
Consistent analysis depends on reliable data as the foundation for providing evidence-based direction. Data gathering, analysis and communication will help Newfoundlanders and Labradorians understand how far we have come and what else is needed to achieve our goal.



The Waste Management Hierarchy

Today's waste management hierarchy adopts a holistic approach to waste reduction, including all the activities that reduce the amount of waste generated in the first place such as waste prevention; reuse and repair; and remanufacturing and refurbishing.

Environment and Climate Change Canada advises that the first priority for manufacturers, businesses and consumers should be waste reduction activities that prevent or reduce the amount of waste being generated. The second priority should be waste diversion activities such as recycling and composting that keep generated waste out of landfills[iii].



Methodology

The scope of this analysis includes municipal solid waste (MSW) which refers to recyclables, compostable materials and garbage generated by homes, businesses, institutions and construction and demolition sites[iv]. This analysis does not include data on waste generated by primary industries such as forestry, agriculture, aquaculture and the fishery.

Calculating Waste Disposed

Waste disposal in this report refers to MSW that is sent to a municipal or regional landfill or mixed waste incinerator. Waste disposal figures are obtained from each regional service board and municipality responsible for a regional landfill in Newfoundland and Labrador. Using this data, an estimate is developed for the portion of the population not represented by weigh scale disposal data (11.5%).

A breakdown by residential and commercial sources as well as by waste category was requested of each entity responsible for a regional landfill in the province. Where that detail was not available an effort was made to normalize the categories where possible. Each entity with weigh scale data provided the residential/commercial breakdown as well as the breakdown by waste category. The only exception is Burin where the data could not be provided by waste category, thus no waste streams are excluded from Burin's calculation. In keeping with Statistics Canada's methodology, waste material generated from land clearing, clean fill, contaminated soil, asphalt, concrete, gravel, brick and waste generated by primary industries were excluded from the calculation where possible.

Calculating Waste Diverted

Waste diversion includes any physical transformation of materials in preparation for recycling or reuse. Such activities include sorting, cleaning and volume reduction as well as composting and anaerobic digestion[v]. By diverting, we decrease the need for more landfills, allowing for less raw material extraction than would otherwise be required to produce products. Most garbage collected for disposal ends up in landfills and a small amount is incinerated. This can lead to air emissions, land disturbance and water pollution. The extraction and processing of new resources needed to replace those discarded as waste leads to more pollution. Diverting waste by recycling and composting can help reduce the impact of solid waste on the environment[vi]. Unlike waste disposal, waste diversion is challenging to track in the absence of reporting requirements for stakeholders.

Diversion data was requested from four sources:

1. provincial product stewardship programs for beverage containers and tires;
2. regional service boards and municipalities responsible for curbside recycling and composting programs;
3. private companies responsible for materials such as metals, cardboard and organics; and
4. industry stewards responsible for provincial programs for paint, electronic waste and used oil/glycol.

While an adequate picture of diversion activities in the province was obtained, not all responses were received, and some estimations were required.

Updates Since 2016

The methodology (what is counted as disposed, diverted or not generated) was slightly altered starting in 2016 to better align with Statistics Canada. For example, asphalt resulting from City projects that the City of St. John's delivers to a location at the landfill for use in new asphalt production was previously counted as diversion and is now considered not generated (neither diverted nor disposed). Such changes reduced both the waste diverted and waste generated figures.

It is important to note that due to the roll-out of modern waste management services and infrastructure, the percentage of the population with access to facilities with weigh scales continues to increase. This means the reliance on estimates for a portion of the population is declining over time. Close to 27,000 more residents are represented by weigh scale data in this 2019 waste report card with the closure of several landfills in the Western region in 2018.

2019 Waste Generation

Waste Disposed

In 2019, Newfoundlanders and Labradorians sent 351,417 mt or 676 kg per person to landfills, down from 750 kg per person in 2016; 58% came from commercial and institutional sources and 42% came from residential sources.

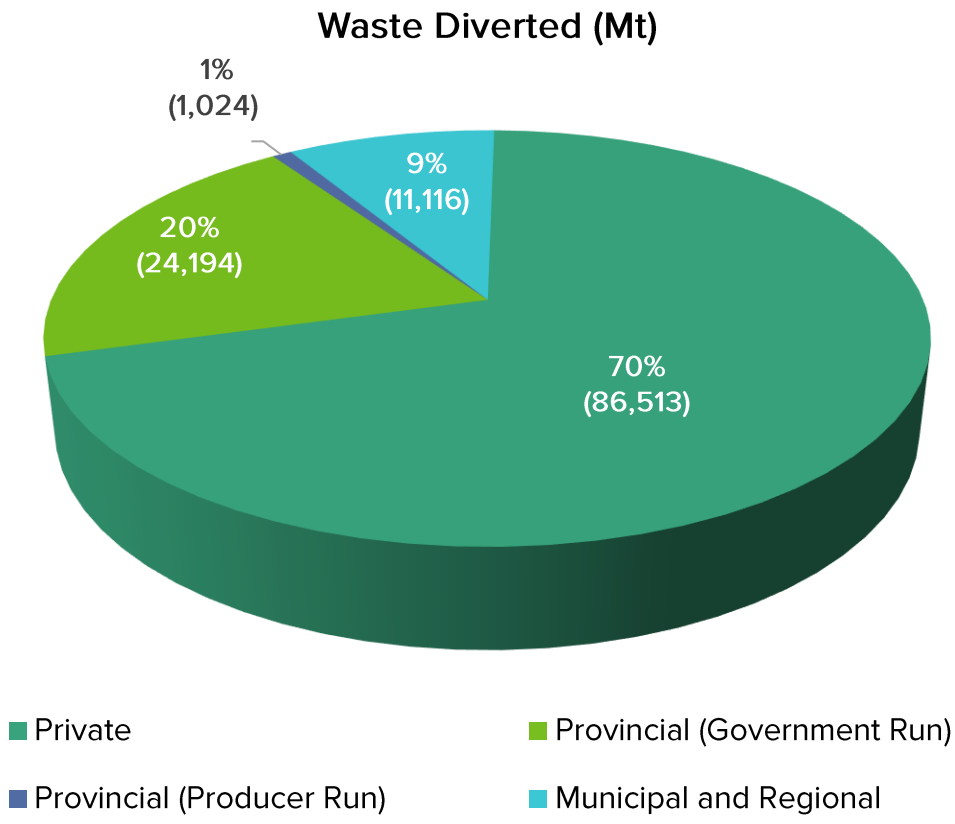
2019 Breakdown by Region			
Region	Population (Rounded)	Mt/Year Disposed	Kg/Capita/ Year Disposed
Central	72,000	39,750	552
Western	75,000	40,244	537
Burin	19,000	14,005	737
Labrador West[1]	9,100	10,114	1,111
Eastern	283,000	210,705	745
Remainder	61,615	36,599	594
Total	**519,715**	351,417	676

Waste Diverted

In 2019, an estimated 122,846 mt or 236 kg of waste per person was diverted in Newfoundland and Labrador:

- 70% came from private sector activities for materials such as metal and cardboard;
- 20% came from province-wide government-run programs for materials such as beverage containers and tires;
- 1% came from province-wide extended producer responsibility (EPR) programs for materials such as electronics and paint; and
- 9% came from municipal and regional programs such as curbside recycling for packaging and paper and leaf and yard waste.

[1] MMSB completed a separate in-depth study on Labrador west in 2017 to understand the unusually high waste disposal and waste generation rates per capita, which were largely attributed to the number of rotational and camp workers that generate waste but are not counted as permanent residents of the region in census studies.



EPR programs shift direct financial and physical responsibility (either partially or fully) for the cost of waste management to producers. EPR programs are often designed to handle components of the waste stream that are particularly costly in terms of health or environmental damage, or long-term contamination risks[vii].

Waste Generated

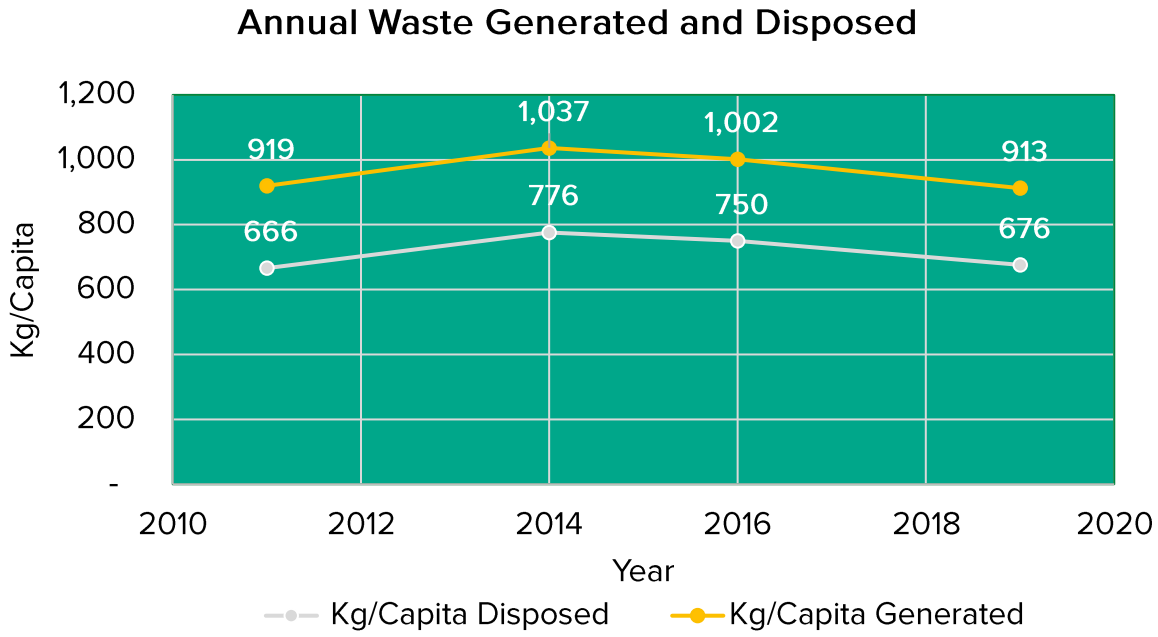
Combining waste disposed and diverted, Newfoundlanders and Labradorians generated an estimated 474,263 mt of waste or 913 kg per person in 2019. The estimated waste diversion rate is 26%.

2019 Summary			
Method	Mt	%	Kg/Capita/Year
Disposed	351,417	74%	676
Diverted	122,846	26%	236
Generated	474,263	100%	913

Tracking Performance

Progress to Date

The overall estimated waste generation rate in Newfoundland and Labrador increased from 1992 and plateaued in 2014 with slight declines year over year starting in 2015. Coinciding, the waste disposal rate also increased from 2011 to 2014 with a plateau in 2014, a slight decline in 2016 and a significant decline in 2019.



Prior to 2019, each Newfoundlander and Labradorian was generating more than 1 metric tonne of waste a year.

2016 Comparison

Waste disposed in landfills in Newfoundland and Labrador decreased by 74 kg per capita from 2016 to 2019. As such, while the amount of waste diverted decreased, the percentage of waste diverted remained constant. The following table compares the estimated amount and percentage of waste disposed and diverted in 2016 and 2019.

2016 and 2019 Comparison

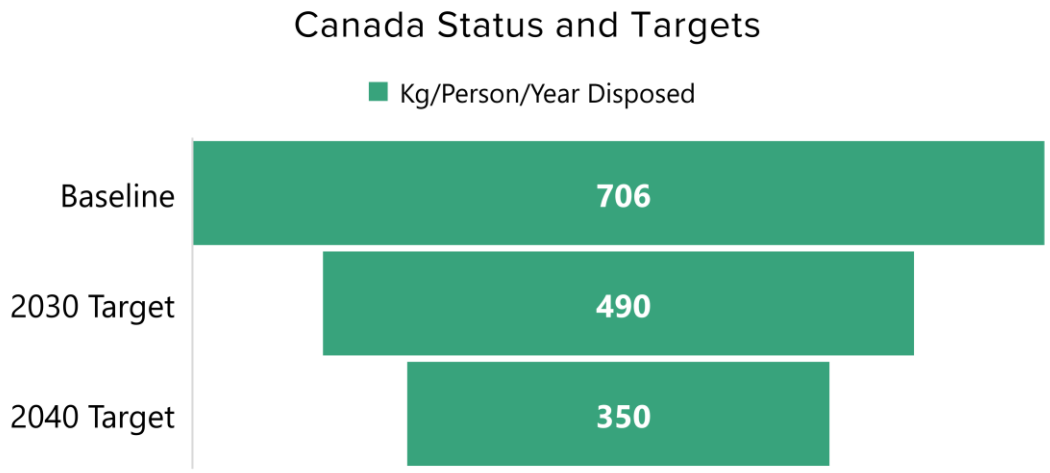
Method	2016			2019		
	Mt/year	%	Kg/capita/ year	Mt/year	%	Kg/capita/ year
Waste Disposed	389,690	75%	750	351,417	74%	676
Waste Diverted	131,008	25%	252	122,846	26%	236
Waste Generated	520,698	100%	1,002	474,263	100%	913

Half of the reduction in waste disposed from 2016 comes from residential sources and the other half from commercial sources. Commercial waste increased in Burin and Labrador West and decreased in all other regions. Decreases in residential waste were seen in every region of the province except for Central where residential waste remained constant.

Canadian Context

In 2018, Ministers of Environment across Canada endorsed a Canada-wide Aspirational Waste Reduction Goal to **reduce waste disposed to 490 kg** per person (a 30% reduction) by 2030, and to **350 kg per person** (a 50% reduction) by 2040. The base year selected was 2014 where each Canadian disposed of an average of 706 kg of waste.

The Canada-wide waste reduction goal does not set a specific jurisdiction-by-jurisdiction target. It is a collective goal that encourages jurisdictions to adopt policies and programs to prevent and divert major waste streams. The following figure shows the 2030 and 2040 pan-Canadian targets.



Newfoundland and Labrador's Goal

The 2002 Provincial Waste Management Strategy set a goal to divert 50% of the materials currently going to disposal in 2002 by the year 2010 (later revised to 2025). Both waste generation and disposal were estimated at 400,000 mt, or 770 kg per capita with the 2002 population of 519,481. This data set translates into a target of 385 kg per capita disposed annually. Newfoundland and Labrador will not meet this target in the absence of programs and policies to address priority streams such as packaging and organic waste. The 2019 review of the Strategy titled "Finishing What We Started" recommended that the province develop a new goal, reported in kg per capita, potentially aligning with the Canada-wide Aspirational Goal and reflecting an implementation plan of diversion-related recommendations in the report[viii].

Learning from our Neighbours

In 2000, Nova Scotia became the first and only province to cut the amount of waste sent to landfills in half. In 2006, Nova Scotia legislated the most aggressive waste reduction goal in Canada – a disposal target of 300 kg per capita by 2015[ix]. Provincial and municipal governments in Nova Scotia employ a variety of policy tools and programs to reduce the amount of waste disposed in landfills including disposal bans, clear bag programs and bag limits. Nova Scotia's per capita disposal rate has remained under 500 kg since 1998 and the current disposal rate is 399 kg[x].

Opportunities

Reduce, Reuse, Recycle, Rethink – Existing and New Programs

Newfoundland and Labrador continues to develop recycling programs – from curbside recycling to province-wide EPR programs for paint, electronics and oil. Waste diversion, however, is not keeping pace. Programs appear to perform well upon inception, but participation and user efficiency have decreased over time for programs like curbside recycling for packaging and paper.

Waste audits conducted by MMSB indicate that only half of the packaging and paper that could be recycled at the curb is being placed in blue bags by the public. To improve participation in and user efficiency of curbside recycling, a strong emphasis on public education is needed. An opportunity exists for MMSB, regional waste management authorities and municipalities to collaborate on a public education strategy that will promote participation in programs.

Regulating an EPR approach that shifts the responsibility for packaging and paper products from taxpayers to producers and users will further strengthen Newfoundland and Labrador's curbside recycling programs.

MMSB's waste audits also show that organic waste represents an average of 30% of residential bagged waste in Newfoundland and Labrador. There is an opportunity to reduce the amount of organic waste being sent to landfills through the promotion of existing programs such as backyard composting and support for community and neighbourhood-based composting programs.

New program and infrastructure development for organics generated by municipalities, regions, businesses and institutions could also significantly impact the bagged waste category. The Avalon Mall in St. John's as an example generates one metric tonne of food waste every day and has installed an on-site composter to cut its waste disposal rate in half.

A 2021 pan-Canadian study combined the results of 421 commercial/ institutional waste audits across Canada. It estimates that grocery stores generate 849 kg of food waste per full-time employee annually while restaurants generate close to 1,000 kg or one metric tonne per employee annually[xi].

After bagged waste, the largest waste stream recorded by the province's disposal facilities is construction, renovation and demolition (CRD) materials. For purposes of this report, CRD includes materials such as shingles, wood and drywall and excludes materials such as separated asphalt, concrete, dredging material and asbestos. CRD constitutes 10% of weigh scale disposal data (close to 34,000 mt). The majority of CRD (more than 25,000 mt) comes from commercial and institutional sources. It is important to note that CRD waste can be less predictable and less constant than other waste streams due to the frequency and timing of construction and demolition projects. Still, it appears to be one of the province's largest contributors to disposal year over year indicating that impacts to this stream could significantly impact Newfoundland and Labrador's indicators.

As outlined in the Strategy, new program development, policy tools, enforcement programs and investments in research and public education for priority streams are needed to foster further decreases in waste generation and disposal rates. Enhancing participation in current programs and working on innovative solutions to address Newfoundland and Labrador's remaining waste streams is vital to protecting our natural environment. Improving our waste reduction and recycling rates will conserve resources and landfill space, reduce greenhouse gas emissions and pollution and help to address climate change.

Conclusion

With the rollout of modern waste management services and infrastructure across Newfoundland and Labrador, the data necessary to develop regular and reliable report cards is improving. Multiple indicators are used in this report to measure Newfoundland and Labrador's progress with solid waste reduction and diversion: waste disposed (kg per capita), waste diverted (kg per capita), waste generated (kg per capita) and the percentage of waste diverted. Of these, waste disposed is the most reliable and comparable indicator. Waste diverted and waste generated help to tell more of Newfoundland and Labrador's story; however, in the absence of standardized reporting, there are limitations associated with these indicators.

Newfoundland and Labrador's waste disposal rate is currently 676 kg per capita – the lowest rate measured since 2011. Variations in waste disposal rates are seen in certain regions of the province. The cause of the variations is unknown but could be attributed to the presence of younger families, higher income levels, more access to amenities and/or higher economic activity in select areas. Similarly, it is difficult to tell whether the aggregated decreases in waste disposal seen in 2019 are stemming from conscious efforts by residents and businesses to change production, consumption and/or recycling and disposal practices or are more closely correlated with changes in demographics and economic activity.

Newfoundland and Labrador's waste diversion rate is estimated at 236 kg per capita, and its estimated waste generation rate is 913 kg per capita. This means the current percentage of waste diversion is estimated at 26%. It also means Newfoundlanders and Labradorians are also now generating less than one metric tonne of waste per capita.

MMSB looks forward to continuing to report on progress as modern waste management programs and practices are implemented across the province.

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