



Greenhouse Gas Reporting Guide: Post-collection

This reporting guide is a resource to assist you in submitting Greenhouse Gas (GHG) emissions data related to your residential recycling program's post-collection operations.

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Introduction

This reporting guide is a resource to assist you in submitting Greenhouse Gas (GHG) emissions data related to your residential recycling program's post-collection operations.

As per section 4.6.2 of the [Waste Packaging and Paper Stewardship Plan](#) and section 7.2(b) of collectors' Services Agreements, MMSW will be collecting greenhouse gas (GHG) emissions data associated with the program's collection and recycling of residential waste packaging and paper.

In this reporting guide you will find information on how to collect and report your GHG data related to transporting, processing and marketing waste packaging and paper at sorting facilities. Please see the GHG Reporting Guide: Collection for information on reporting data from activities associated with collection of waste packaging and paper.

If you have any questions, please contact us at greenhousegas@multimaterialsw.ca or 1-855-886-4558.

What are GHG emissions?

GHG emissions are generated from the burning of fossil fuels across a variety of activities associated with the operation of residential recycling programs. GHG emissions can include the many fuel types used in vehicles like trucks or forklifts, as well as the energy used in buildings (electricity, natural gas) for heating and cooling. They also include emissions associated with the manufacturing of paper products (flyers, brochures, utility bill inserts, etc.) which may be used for promotion and education purposes.

When do I need to begin reporting GHG data?

GHG reporting is an annual reporting obligation under section 7.2(b) of collectors' Services Agreement. The first GHG report is due **by January 31, 2021** and will include GHG emissions data from January 1 to December 31, 2020.

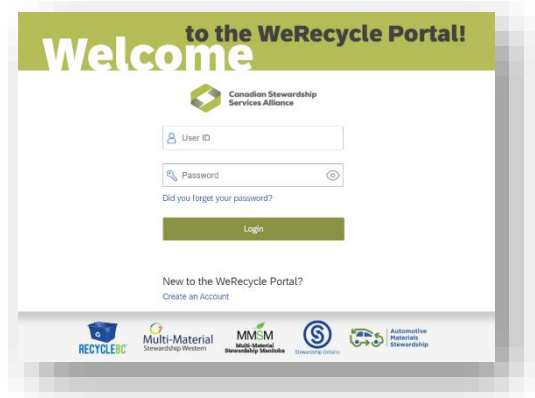
GHG reports are due by January 31 each year. For example, GHG data for the January to December, 2021 operational year will be due by January 31, 2022.

How do I report GHG emissions data?

GHG emissions data is to be reporting via the [WeRecycle Portal](#). Please see the GHG Reporting Portal User Guide for more information on submitting your GHG report via the portal.

Maintaining records of how you collect GHG data

MMSW may require additional information regarding your GHG data collection methodology or calculations to ensure accuracy. Please store any supporting documentation related to your data reporting in case such information is needed. We recommend storing your GHG-related data in one location (e.g. an Excel spreadsheet) so it is organized and can be easily retrievable.



What GHG data do I need to report for post-collection operations?

Generally, GHG post-collection data will come from three activities:

- Hauling (transportation of waste packaging and paper to sorting facilities).
- Facilities (buildings and equipment for processing waste packaging and paper).
- Shipping to end markets (transportation of waste packaging and paper to markets for reuse).

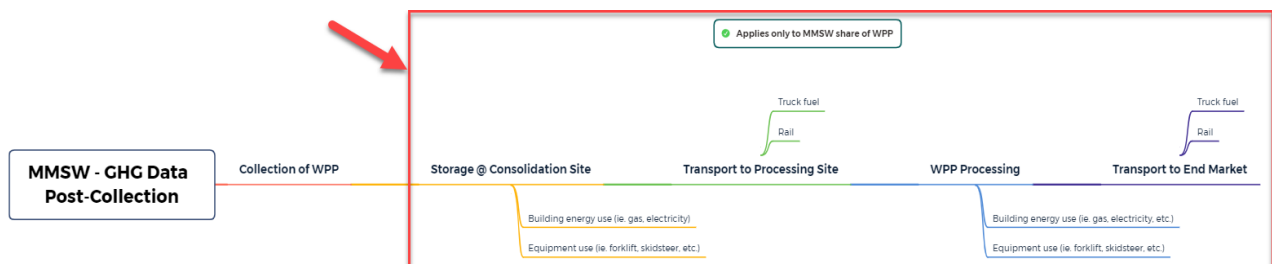
Eligible GHG data includes any emissions from operations connected to your residential recycling program. This includes post-collection operations that may or may not be conducted by your own municipality, regional waste authority or First Nations community. If you have sub-contracted any portion of services for provision of a residential recycling program, or if your sub-contractor is using third party services (ie. processing and/or marketing of waste packaging and paper), those GHG emissions are also to be reported.

As a municipality, regional waste authority or First Nations community, do you:

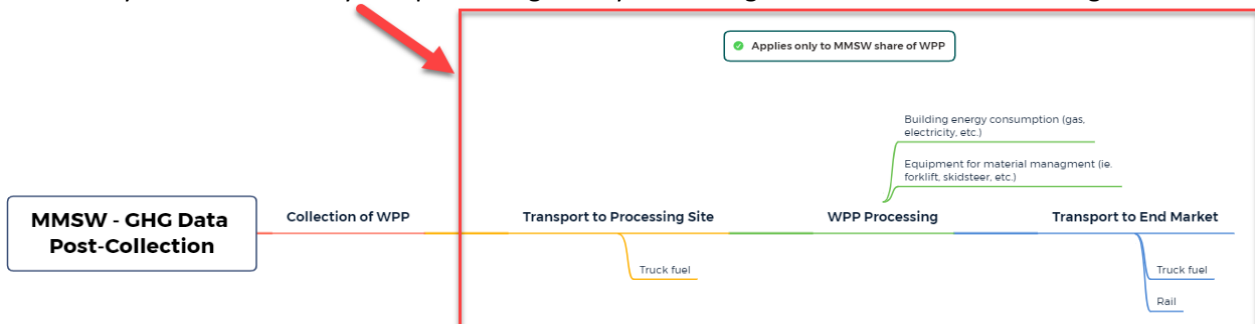
- Transport collected waste packaging and paper to a receiving facility such as a consolidation site or a material recovery facility (MRF)?
- Operate/own a receiving facility such as a consolidation site or MRF?
- Process or sort collected waste packaging and paper into marketable categories?
- Sell and ship collected waste packaging and paper to markets for reuse?

If the answer to any of the above is no, then you will need to work with your sub-contractor and/or their third-party service provider(s) to obtain the required GHG data from those activities.

Post-collection refers to any material management activities that take place after initial collection of waste packaging and paper. Once waste packaging and paper is collected, post-collection begins when the material continues its journey after being removed from the collection truck. This may include a temporary stop at a consolidation site. See the example diagram below:



Or, material may be hauled directly to a processing facility for sorting and sale to remanufacturing markets.



Description of Post-collection GHG emissions data requested

Hauling

- What classes of vehicles are being used for the hauling of waste packaging and paper from residential collections to post-collections receiving facilities?
 - Light duty truck - (SUVs, minivans, full size vans, pickup trucks with a gross vehicle weight rating under 3856 Kg (8500lbs) and a curb weight under 2722 Kg (6000 lbs).
 - Heavy duty - (road vehicles with a gross vehicle weight over 3856 Kg (8500 lbs) and a curb weight over 2722 Kg (6000 lbs).
- What is the total amount of fuel consumed and type of fuel used by all vehicles which transport waste packaging and paper from collections to post-collection receiving facilities?
- If the total amount and type of fuel consumed per vehicle class is not available, then we will need to know the number of kilometers travelled by each vehicle type (i.e. total mileage) in order to calculate the estimated volume of fuel consumed. Alternatively, you can use the relevant % of time used to operate the vehicle for waste packaging and paper collection.

Facility

Equipment

Please report what kind(s) of fossil fuel-based equipment are used at your/sub-contractor/third party’s post-collection facilities. For example, does a particular facility have any forklifts, skid steers, loaders, etc.? Do they run on gasoline, diesel, liquefied petroleum gas (propane) or natural gas?

In total for all of your fossil fuel-based equipment used, please report your total fuel usage. Please determine the amount of fuel purchased for your equipment by facility and record the total in litres. If different pieces of equipment use different fuels, please record the equipment and fuel usage separately. Please also include the percent of the time this type of equipment is used for MMSW-related use.

Below is an example of how you can record your information, or the information received from your sub-contractor/third party in preparation for when you need to submit it to MMSW:

Type of Equipment	Forklift	Type of Equipment	Front-end loader
% of the time dedicated to MMSW materials	25%	% of the time dedicated to MMSW materials	10%
Type of Fuel Used	Diesel	Type of Fuel Used	Diesel
Month	Total Fuel Usage (L)	Month	Total Fuel Usage (L)
January	398	January	612
January	$398 \times .25 = 99.50 \text{ L}$	January	$612 \times .10 = 61 \text{ L}$

Electricity consumption

Please report how much electricity gets consumed at each of your facilities. This information is typically available from SaskPower. Please check your utility bill for amount of consumed electricity.

Below is an example for how you could record the information for this section in preparation for reporting through our system:

Month	Usage (kWh)
January	1,394

Please note that we are only concerned with the kWh attributable to MMSW's allocation. More on our recommended methodology for attributing allocation below.

Please notify us if you are not able to find out the electricity consumption solely for your post-collection facility.

Heating consumption

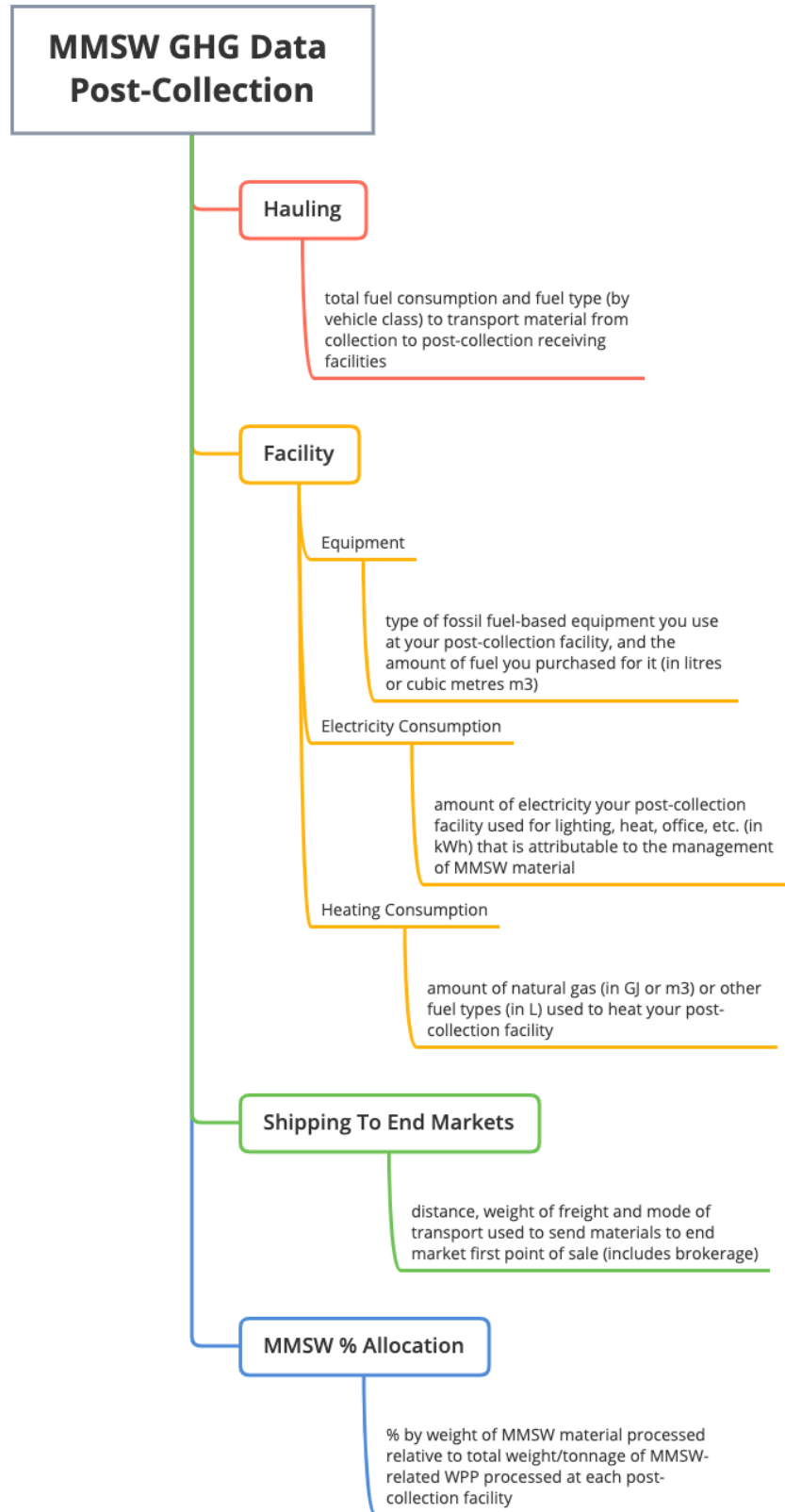
If your heat is generated by natural gas or another fuel type (diesel, kerosene, light fuel oil, heavy fuel oil, propane, ethane, butane), please record how much is being consumed at each post-collection facility. For natural gas, the amount should be in gigajoules (GJ or m³); other fuel types should be reported in litres (L).

There are two suggested ways for you to get this information:

- 1) You can view usage on heating bills.
- 2) If the post-collection facility is your sub-contractor's or a third-party organization, then you can report the total area of the facility in square metres or square feet and the type of fuel used for heating the building.

Shipping to end markets

What is the total distance waste packaging and paper was shipped to end markets? Total distance would be calculated by multiplying the distance for one trip by total number of trips taken for the year to the same destination. Total weight of all material shipped during the calendar year is also required. Also, please report what the mode of transport is for each material. Is it by ground transport, marine, or rail?



How do I determine MMSW GHG data vs. my other post-collection activities?

MMSW recognizes that your post-collection activities may not be entirely related to MMSW materials. MMSW only requires you report on GHG data that relates to MMSW-related activities within your recycling program.

To accurately report only MMSW GHG data, we recommend you apply a consistent methodology for calculating this allocation. We recommend the following methodology for determining that allocation related to your hauling, facility and shipping to end market activities.

Regional waste authorities

If you are a Regional Waste Authority, you do not need to conduct allocations per member. GHG data can be reported for your entire membership in aggregate.

Hauling allocation

Shared Route Collections

Check with your sub-contractor to determine if your collected waste packaging and paper is on a shared route with other collectors. If it is, the amount of GHGs generated by hauling activities will need to be allocated based on your annual share of waste packaging and paper hauled to receiving facilities.

For example: once you determine total fuel used (or total kilometres driven) for waste packaging and paper, then apply an allocation to determine your community's share of GHG emissions on collection routes.

Total Fuel Usage = 750 L	
Community A Households	80
Community B Households	20
Total Households Serviced by Full Truck	100
Community A Share GHG	80% x 750 L = 600 L
Community B Share GHG	20% x 750 L = 150 L

If share of households is unknown, you may alternatively allocate based on a percentage share of total weight of waste packaging and paper.

Facilities allocation

In order to properly calculate the portion of GHG emissions from each of your post-collection facility's heat and electricity utilities associated with the MMSW program, we recommend you apply a consistent methodology for calculating this allocation for every facility.

Similar to the allocation process for obtaining end of life (EOL) data for marketed tonnes of waste packaging and paper, the percent of annual MMSW weight of material processed by the facility relative to the total weight/tonnage of your waste packaging and paper processed would be used as the percent allocation. This would then be applied to the total energy use for the facility to determine only the MMSW portion of GHG data to be reported.

The following table provides an example of this allocation. For this example, the collector is the 'Town of Gotham' and is part of the MMSW program.

Annual tonnes WPP to MRF – all sources	1000
Town of Gotham annual tonnes WPP to MRF	300
% share applied to facility GHG data for Town of Gotham	$300/1000 = 30\%$
Total electricity used by MRF	700 kWh
Total electricity usage reported by Town of Gotham	$700 \times .30 = 210 \text{ kWh}$

Shipping to end markets allocation

Similar to the allocation process for obtaining end of life (EOL) data for marketed tonnes of waste packaging and paper, the percent of annual weight of MMSW waste packaging and paper shipped to end markets would be used as the percent allocation. This would then be applied to the total fuel use for shipping to end markets to determine the GHG data to be reported.

The following table provides an example of this allocation. For this example, the collector is the ‘Town of Gotham’ and is part of the MMSW program.

Annual tonnes WPP shipped to market	975
Town of Gotham annual tonnes WPP shipped to markets	278
% share applied to GHG data for Town of Gotham	$278/975 = 29\%$
Total fuel used for shipping to end market(s)	890 L
Total fuel usage reported by Town of Gotham	$890 \times .29 = 258 \text{ L}$

Questions and support

Information about GHG reporting, reporting guides, webinar materials and FAQs can all be found on the MMSW GHG reporting webpage: mmsk.ca/ghg.

Please contact the MMSW GHG team should you need assistance with filing your reports or if you have any questions:

- greenhousegas@multimaterialsw.ca
- 1-855-886-4558 (option 4)