Method for determining municipal reimbursement:

The method for determining municipal reimbursement needs to capture the collection, transportation and processing cost incurred for each packaging stream managed by a **participating municipality** while accounting for materials that are not packaging and are present in those streams. The Department has derived a method for determining municipal reimbursement with the intent to capture the cost associated with the management of **packaging material** for **recycling** and **reuse**, and, in the case of packaging material that is not **readily recyclable**, management prior to disposal. While the method for determining municipal reimbursement accounts for revenue from packaging material sold, the cost for disposal of packaging material is not included. The Department proposes to cap the reimbursable cost for recycling packaging material that is not readily recyclable and the reimbursable cost for reuse of packaging material at 5x the cost/ton of recycling the most expensive readily recyclable packaging material. Capping the reimbursable cost/ton for these management methods provides a limit on reimbursable cost and, to the extent that cost is a proxy for feasibility, it limits reimbursement for recycling that might be environmentally adverse.

Calculating municipal reimbursements will require annual inputs from participating municipalities and inputs defined and documented by the stewardship organization or SO. When a municipality elects to participate in the program, which may happen at any time, the SO will consult with the municipality to outline the costs that it will report and define the inputs that will be provided by the SO. A municipality can estimate SO defined inputs until consultation with the SO takes place. Henceforth, all inputs are underlined.

The terms **packaging material** and commodity are used extensively throughout this document. Packaging material is a discrete type of material, or a category of material that includes multiple discrete types of material with similar management requirements and similar commodity values. Packaging material types will be discussed in more detail during March stakeholder meetings. For now, likely examples of packaging material types include corrugated cardboard, colored HDPE, and natural HDPE. The word commodity is used to refer to processed recycling that is ready to be sold to the material reprocessing market. While a packaging material type might be turned into its own commodity by one municipality, as tends to be the case with corrugated cardboard, a different municipality may have a different management practice, as is the case with colored HDPE and natural HDPE: some manage them separately, some manage the two together, and others manage them along with other plastic material types and produce mixed plastics bales.

The Department finds it practical and sensible to calculate a municipality's cost of managing packaging material by commodity because many processing costs and revenue are commodity specific. Therefore, figuring commodity cost/ton is central to the proposed method for determining municipal reimbursement. For any commodity, the commodity cost/ton represents the cost of managing all packaging material types present in that commodity, and it is assigned to all packaging material types it includes. Municipalities will report tons commodity delivered, and it will be adjusted to reflect the amount of packaging material present, or % material type in commodity. The cost of managing packaging material, or material type cost/ton, is then used for comparison among municipalities because different municipalities produce different commodities. For similar municipalities, the median cost of managing a packaging material type, or median material type cost/ton, and the adjusted number of tons delivered, or material type tons recycled by a municipality, is then used to determine municipal reimbursement.

I. Commodity cost/ton = [(M labor cost + M equipment cost + M structure cost + M energy cost) / tons commodity delivered] + M revenue shared/ton commodity delivered + M shared hauling cost/ton + M nonspecific cost/ton + M contracted commodity cost/ton + M profit and overhead cost/ton – M revenue/ton commodity delivered

Note, not all inputs will be relevant to all processes.

- Tons commodity delivered is the total tons of a given commodity delivered for recycling by the municipality over the course of the year. It is the weight recorded at the receiving facility.

- M labor cost = (the sum, for each municipal employee, of) % time spent on a specific packaging stream * total compensation paid

  - The % time spent on a specific packaging stream will be defined using audits conducted by the SO and account for seasonal variation. The % time spent on a specific packaging stream may include education, administrative tasks, collecting, sorting, baling, transporting, etc. that is specific to a packaging stream.

  - A municipality reports total compensation paid to each employee or group of employees. Employees used interchangeably can be reported together.

- M equipment cost = (the sum, for each piece of municipal equipment used, of) % use on a specific packaging stream * (maintenance cost + depreciation + debt interest paid + lease)
  - For off-road equipment, such as balers, forklifts, skid steers, compactor, etc., the SO will use audits to define the % use on a specific packaging stream. The cost

associated with the time equipment is used to simultaneously process packaging streams that result in multiple commodities needs to be allocated using the M nonspecific cost/ton equation.

- For on-road vehicles, % use on a specific packaging stream = (the sum, for all municipal transportation routes for a given packaging stream, of) miles traveled per route * number of trips on route / total vehicle miles traveled. The SO is responsible for documenting miles traveled per route through consultation with a municipality. The municipality reports number of trips on route and total vehicle miles traveled. If multiple packaging streams are transported together, the cost needs to be allocated using the M shared hauling cost/ton equation.

- Maintenance cost is reported by the municipality and is the amount spent in parts, labor, and supplies to service or operate a piece of equipment. Maintenance cost includes supplies such as bale wire and personal protective equipment required for the operation of a piece of equipment. If municipal staff performs maintenance, it should be figured as: (hours spent maintaining a piece of equipment / total annual hours worked) * total compensation paid.

- Depreciation for each piece of equipment will be determined in consultation with the SO. The SO will document both the annual depreciation, which is the price paid divided by the expected lifespan, and the year depreciation ends, which is the purchase year plus the expected lifespan. The municipality must report price paid and expected lifespan for a piece of equipment at the time of purchase or at the onset of program participation.

- The debt interest paid is the interest paid on debt incurred to buy a piece equipment. This will be reported by the municipality.

- The lease is the price paid to borrow or lease a piece of equipment. This will be reported by the municipality.

- M structure cost = (the sum, for each municipal structure used, of) % use on a specific packaging stream * (maintenance cost + depreciation + debt interest paid + lease)

  Audits conducted by the SO will define the % use on a specific packaging stream for each municipal structure. Examples of structures includes containers, warehouses, buildings, trailers, roll-off containers, etc. If a space in a structure is used to process multiple packaging streams, the cost of that space needs to be allocated using the nonspecific cost/ton equation.

- Maintenance cost is reported by the municipality and is the amount spent in parts, labor, and construction materials to service a structure. If municipal staff performs maintenance, it should be figured as: (hours spent maintaining a structure / total annual hours worked) * total compensation paid.

- Depreciation for a structure will be determined in consultation with the SO. The SO will document both the annual depreciation, which is the price paid divided by the expected lifespan, and the year depreciation ends, which is the purchase year plus the expected lifespan. The municipality must report price paid and expected lifespan for a structure at the time of purchase or at the onset of program participation.

- The debt interest paid is the interest paid on debt incurred to buy a structure. This will be reported by the municipality.

- The lease is the price paid to borrow or lease a structure. This will be reported by the municipality.

- M energy cost = (the sum, for each piece of municipal equipment or structure used, of) total metered energy * % metered energy used * % use to a specific packaging stream * average cost/unit of metered energy

    - Total metered energy is the amount of energy provided on a given invoice, meter, or tank used to supply equipment or structures. This input will be reported by the municipality.

    - The % metered energy used will be defined using audits conducted by the SO.

    - The % use on a specific packaging stream is the same input used for equipment and structure cost equations.

    - Average cost/unit of metered energy is provided by the municipality.

- M revenue shared/ton commodity delivered is money paid to an entity that provides a packaging stream to a municipality, such as when a municipality pays a hauler for delivering a packaging stream. M revenue shared/ton commodity delivered also needs to be used in cases where one municipality is contracting with another municipality to avoid double-counting of tons commodity delivered. For instance, if Town Delivery provides a packaging stream to Town Processing for further management, any compensation provided to Town Delivery from Town Processing is revenue shared. Note, revenue shared could be a negative value. The reimbursement for tons commodity delivered resulting from the shared packaging stream is assigned to Town Processing. However,

this cooperation allows Town Delivery to be a participating municipality with regard to packaging material managed through the stream: Town Delivery is providing for the collection and recycling of this packaging stream, and Town Processing is fulfilling the reporting requirement. M revenue shared/ton commodity delivered is reported by the municipality.

- M revenue/ton commodity delivered is the revenue received by a municipality from the sale of a commodity. It must be subtracted from the commodity cost/ton unless it is not returned directly but rather is used to offset a cost. Revenue/ton commodity delivered is reported by the municipality.

- M contracted commodity cost/ton: The cost of services contracted by a municipality needs to be assigned to a commodity. The method for determining M contracted commodity cost/ton will depend on the contract.

    - When the contract is for the management of a single packaging stream, resulting in the sale of a single commodity, detailed accounting of costs is not required. The M contracted commodity cost/ton = contracted municipal cost / tons commodity delivered. Contracted municipal cost is the full contract amount paid by the municipality. Contracted municipal cost and tons commodity delivered inputs will be provided by the municipality.

    - When a contract is not for management of packaging streams only, as is the case when a municipality contracts a private company to operate a transfer station, the M contracted commodity cost/ton = [(C labor cost + C equipment cost + C structure cost + C energy cost) / tons commodity delivered] + C revenue shared/ton commodity delivered + C shared hauling cost/ton + C nonspecific cost/ton – C revenue/ton commodity delivered. Contractor inputs are determined using the same method as the municipal inputs. Contracted entities will have the option to report these inputs directly to the SO.

    - When the contract is only for the management of packaging streams, as is the case when a municipality is sending a comingled packaging stream to a materials recovery facility or MRF, commodity cost/ton includes M profit and overhead cost/ton paid by the municipality. To determine M profit and overhead cost/ton, figure M contracted commodity cost/ton before proceeding to the method below.

        - Weighted average contracted commodity cost/ton = [(the sum, for each commodity managed under a contract, of) total commodity cost] / total tons managed under contract

- Total commodity cost = M contracted commodity cost/ton * tons commodity delivered
  - M contracted commodity cost/ton is figured using the method proposed for contracts that are not for the management of packaging streams only.

- Total tons managed under contract is the sum of tons commodity delivered for all commodities managed under the contract.

  - Municipal contract cost/ton = contracted municipal cost / total tons managed under contract

  - M profit and overhead cost/ton = municipal contract cost/ton – weighted average contracted commodity cost/ton

- M nonspecific cost/ton: When mixed packaging streams are sorted into multiple commodities—or when administrative, education, collection or processing activities are not specific to a single commodity—the method of reporting will need to allocate these costs among the resultant commodities. These costs do not get included in the M or C labor cost, M or C equipment cost, M or C structure cost and M or C energy cost inputs because they are not specific to the management of a single commodity. Curbside collection of mixed recyclables is accounted for with transporting using the shared hauling cost/ton equation.

  - M nonspecific cost/ton = (nonspecific cost * % allocation) / total tons commodity delivered

    - Nonspecific cost = N labor cost + N equipment cost + N structure cost + N energy cost. Inputs are determined using the same method as the M labor cost, M equipment cost, M structure cost and M energy cost except that % time on a specific packaging stream and % use on a specific packaging stream are replaced by % time spent on nonspecific activity and % use on nonspecific activity, respectively. The SO will determine these replacement inputs using audits.

    - The % allocation = the ratio of amount to commodity / total amount to all commodities. Amount could be measured in terms of volume, weight, count, or some other unit.

- M shared hauling cost/ton: Municipalities hauling packaging streams that will be sold as multiple commodities will need to adjust reporting to allocate hauling cost among those commodities. In the case of mixed loads, when multiple baled commodities are hauled together, the cost for such trips should be allocated among commodities by weight. If the load contains loose or unbaled commodities, the cost will need to be allocated based on volume because volume, not weight, limits the size of the load. The costs associated with

shared hauling does not get included in M, N, or C labor cost, M, N, or C equipment cost, M, N, or C structure cost, or M, N, or C energy cost inputs because they are not specific to the management of a single commodity. Cost of curbside collection of mixed recyclables is included in this input.

- M shared hauling cost/ton = (shared hauling cost * % allocation) / tons commodity delivered.
    - Shared hauling cost = SH labor cost + SH equipment cost + SH structure cost + SH energy cost. These inputs are determined using the same method as the municipal inputs except % time on a specific packaging stream and % use on a specific packaging stream are replaced by % time spent on shared hauling and % use on shared hauling, respectively. The SO will determine these replacement inputs using audits.
    - The % allocation will depend on the method of hauling a packaging stream.
        - When a packaging stream is loose and comingled, % allocation = volume occupied by materials to be sorted into a given commodity / volume occupied by materials to be sorted into all commodities. In this case, the SO will define % allocation using audits.
        - When a packaging stream is loose and source separated, % allocation = volume used to transport materials for a given commodity / total volume available to transport all materials. In this case, the SO will document % allocation during consultation with a municipality.
        - In the case of hauling multiple baled commodities, % allocation= tons commodity delivered / total tons delivered. Unbaled paper sent to a mill can be considered baled for the purposes of allocating shared hauling cost. In this case, the municipality would report % allocation.

II. Procedure for determining median material type cost/ton:

1) Calculate commodity cost/ton for all commodities produced from packaging streams for all participating municipalities.

2) Assign commodity cost/ton to each material type in a commodity. Note, a municipality's cost of managing a material type (package) is equal to the cost of managing the commodity with which it is sold.

3) Determine the median material type cost/ton to **similar municipalities**.

4) If necessary, cap median material type cost/ton of a packaging material that is not readily recyclable or a packaging material that is being managed for reuse. For these management methods, the maximum allowed reimbursement is 5x the cost/ton of the most expensive median material type cost/ton for any readily recyclable packaging material to similar municipalities.

III. Cost of managing packaging material that is not readily recyclable = median management cost/ton * per capita tons

- Median management cost/ton is the median cost to similar municipalities of management cost/ton.
  - Management cost/ton is the cost of collecting, processing, and transporting material to a disposal facility. Management cost/ton is figured in the same way as commodity cost/ton. The tipping fee at a disposal facility is not a reimbursable cost.
- Per capita tons = (total tons of packaging material that is not readily recyclable to Maine / Maine population) * municipal population
  - Total tons of packaging material that is not readily recyclable to Maine is reported to the SO by producers.
  - Maine population and municipal population are defined using the most recent 10-year census data.

IV. Municipal reimbursement = (The sum, for a material type, of) (material type tons recycled by a municipality * median material type cost/ton to similar municipalities) + cost of managing packaging material that is not readily recyclable

- Material type tons recycled by a municipality = tons commodity delivered * % material type in commodity
  - The % material type in commodity is determined using audits conducted by the SO. Separate audits for commodities sold with different bale specifications. Details surrounding audits are to be discussed during March stakeholder meetings.

Important statutory terms:

"Packaging material" means a discrete type of material, or a category of material that includes multiple discrete types of material with similar management requirements and similar commodity values, used for the containment, protection, delivery, presentation or distribution of a product, including a product sold over the Internet, at the time that the product leaves a point of sale with or is received by the consumer of the product. "Packaging material" does not include a discrete type of material, or a category of material that includes multiple discrete types of material, that is:

(1) Intended to be used for the long-term storage or protection of a durable product and that can be expected to be usable for that purpose for a period of at least 5 years;

(2) A beverage container, as defined in section 3102, subsection 2, subject to the requirements of chapter 33;

(3) A container for architectural paint, as defined in section 2144, subsection 1, paragraph A, as long as a paint stewardship program is in operation, has been approved by the department pursuant to section 2144 and the stewardship organization operating that program:

(a) Has demonstrated to the department's satisfaction that it recycles at least 90% of the containers of architectural paint collected under the program; or

(b) Subject to the approval of the department, if unable to satisfy the requirements of division (a), has demonstrated to the department's satisfaction that it recycles at least 80% of the containers of architectural paint collected under the program; or

(4) Excluded from the definition of "packaging material" by the department by rule adopted pursuant to subsection 13, paragraph D.

"**Participating municipality**" means a municipality that has complied with the requirements of subsection 9 and is eligible for reimbursement of certain costs in accordance with subsection 10.

"Readily recyclable" means, with respect to a type of packaging material, that the type of packaging material meets the criteria and standards for recyclability as determined by the department by rule pursuant to subsection 13, paragraph A, subparagraph (2).

"**Recycle**" means the transforming or remanufacturing of an unwanted product or the unwanted product's components and by-products into usable or marketable materials. 'Recycling' does not include landfill disposal, incineration or energy recovery or energy generation by means of combusting unwanted products, components and by-products with or without other waste. 38 MRS §2146 references this recycling definition in 38 MRS §1771

"Reuse" means a change in ownership of a product or component in a product for use in the same manner and purpose for which it was originally produced.

"Similar municipalities" means 2 or more municipalities that, as determined by the department by rule pursuant to subsection 13, paragraph A, subparagraph (3), have similar population sizes and similar geographic locations and share other department-specified criteria.