



STEWARD CONSULTATION COMMITTEE

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# A Proposed Modernized Fee Methodology

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Consultation Document  
April 14, 2016

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## Executive Summary: Introducing a Modernized Fee Methodology

Since May of 2015, a committee of dedicated stewards, the Steward Consultation Committee (SCC) developed a proposed new fee methodology that takes a principle-based approach, is easy to understand, fair, and able to stand the test of time. Developed for stewards by stewards, it has been designed to respond to their concerns that the existing methodology is too complex, difficult to understand and may be unfair to certain material categories. The new methodology focuses solely on the allocation of costs and commodity revenues to each material in a manner that reflects each material's impact on the recycling system.

It is based on the following set of guiding principles that the SCC developed to test the viability of all the options they considered while building their proposed methodology:

1. All obligated materials should bear a fair share of the costs to manage the packaging and printed paper program, irrespective of whether a material is collected because all obligated stewards who put obligated materials into the marketplace should contribute to the recycling system.
2. The material management costs allocated to each material should reflect the material's cost to collect and manage it in the recycling system because a material's unique characteristics can drive costs in distinctive ways.
3. The commodity revenue should be attributed only to the materials that earn revenue because materials that are marketed have value and should benefit from earned revenue.

The new methodology consists of four steps:

1. Allocate the **gross cost** (collection and processing) of the recycling system where:
  - a. 60% of the gross costs are allocated based on the materials' relative share of supplied quantities calculated by using both the supplied quantities (steward reported) and the material's specific cost to manage and
  - b. 40% of the gross costs are allocated based on the materials' relative share of the collected quantities calculated by using both the collected quantities of material and the material's specific cost to manage
2. Allocate **commodity revenue** earned based on the materials' relative share of the materials that are sold to recycling end markets, using both the quantities of the material sold into recycling end markets and its unique commodity price.
3. Allocate **program management** costs (administrative costs) of the stewardship program
  - a. First on the materials' relative share of stewards reporting into the category to reflect the costs associated with steward support services
  - b. Second on the materials' relative share of gross costs to reflect the costs of administering the recycling supply chain services.
4. Add **promotion and education** and/or **market development** costs to specific materials as needed.

The SCC is recommending this new methodology be adopted by packaging and printed paper stewardship organizations because the current methodology, with its reliance on the three-factor formula is increasingly failing to function as it was originally intended and has arguably reached the end of its useful life.

The new methodology ensures that all obligated materials bear a share of the recycling system costs and those costs are allocated based on how each material impacts cost in the system. Consequently, it will change the way that costs are allocated to material categories. Stewards with large quantities of plastic packaging are likely to see the largest fee increases and stewards with large quantities of printed paper will see the largest fee decreases, when compared to today's fees.

CSSA, together with third party experts is reviewing the many inputs to the fee calculation, including bale and curb studies, Activity Based Costing (ABC) studies, and their methodologies as is standard practice. For ABC studies in particular, the review will consider options for addressing the issue of limited access to facilities in Ontario.

It is important to note that the SCC was driven by the objective of developing a fair methodology that is principle-based. We ask stewards to consider these principles as well as the approach taken by the SCC when developing the proposed methodology when providing your feedback and not simply consider the direction of potential fees.

We look forward to receiving your comments and feedback once you have taken some time to read this document and consider the information and arguments contained herein.

## Introducing a Modernized Fee Methodology

In the past year, a committee of stewards developed a proposed new methodology that takes a principle-based approach, is easy to understand, fair, and able to stand the test of time. It has been designed to respond to steward concerns that the existing methodology is too complex, difficult to understand and potentially unfair to certain material categories.

The new methodology focuses solely on the fair allocation of costs and commodity revenues to each material in a manner that reflects each material's impact on the recycling system.

## Developed by Stewards for Stewards

The methodology and its principles were developed by a dedicated group of stewards, known as the Steward Consultation Committee (SCC), that collectively represent all materials, as well as the interests and concerns of the wider steward community. Together, SCC members pay over 30% of the fees of the four blue box programs in British Columbia, Saskatchewan, Manitoba and Ontario and represent from 20% up to 50% of materials supplied in each material group. Co-chaired by Neil Antymis of PepsiCo and Scott Tudor of Sobeys, the SCC participated in over 40 hours of workshops, considered several submissions and presentations from stakeholder groups, and digested hundreds of pages of information before unanimously settling on the proposed new fee setting methodology that they believe is a vast improvement over the old one.

The SCC was initially convened in Q1 2015 and began its series of ten workshops in May, 2015 with the final workshop completed in January 2016. The workshops were designed to enable the SCC to answer the following question:

**“How should stewards share the cost of meeting their regulatory obligation to fund the recycling of packaging and printed paper?”**

The first four workshops deepened the SCC's understanding of how the current methodology and a typical recycling system works; including the factors that impact costs in the system.

They also listened to the diverse views of various stakeholder

groups, whom were invited to submit comments and present to the SCC. The SCC also spent some time reviewing Stewardship Ontario's two previous efforts to improve the fee methodology; once in 2012



and again in 2014. The SCC's early workshops were also used to identify guiding principles that would be used to inform the development of the new methodology.

The remaining six workshops were dedicated to exploring options for how recycling costs, commodity revenues and program management costs should be allocated to packaging and paper material groups in accordance with the principles. More details about the methodology options considered by the SCC are discussed below in the section entitled "How did the SCC Arrive at this Methodology?"

## Status Quo is Not an Option



The current methodology, with its reliance on the three-factor formula is increasingly failing to function as it was originally intended and has arguably reached the end of its useful life.

The three-factor formula allocates the system net cost based on three distinct factors:

- Factor 1 is used to allocate 35% of the total net costs based on each material's recovery rate;
- Factor 2 is used to allocate 40% of the total net cost based on the net cost of each material;
- Factor 3 is used to allocate 25% of the total net cost based on the Equalization factor (i.e., 25% of the cost is attributed, on a relative basis, to materials that are not achieving the target recovery rate).

In recent years, we've seen the three-factor formula compromised in Ontario and Manitoba in situations where materials are performing over target, indicating that its applicability will continue to falter as the recovery rates of materials improve. In Ontario, all of the printed paper sub-categories perform well above the 60% target threshold, with the exception of "other printed paper" and consequently this material stands alone in assuming the printed paper category's costs associated with Factor 3. When calculating 2015 fee rates for Manitoba, all printed paper categories performed above target, which meant that the formula was unable to be used as designed and a 'workaround' was needed to allocate these costs. This meant that every printed paper material category was allocated Factor 3 even though they were performing over target.

Generally, the three-factor formula works within the confines of the cost transfer barrier that prohibits cost transfers between the printed paper and packaging categories when applying the three factors despite the fact that all printed paper categories are performing at higher recovery rates than many packaging categories. This has led many printed paper stewards to argue that the current methodology is no longer functioning as intended, i.e., to transfer cost from high performing materials to low performing materials, and that paper categories have essentially been subsidising lower performing packaging categories, such as many plastics, for some time.

## Project Approach – What was in and out of the SCC’s Scope of Work?

The SCC began with a “blank slate” that allowed them to step back from today’s paradigms and consider all options for allocating costs and attributing revenue to each material. While they recognized that in Ontario a methodology change will require Ministerial approval; they did not want that fact to constrain their work. They, therefore, agreed that the project’s scope would include:

- Validation or refinement of the guiding principles for fee setting
- Consideration of options for allocating the approved collection, processing, commodity revenues and program management costs (administrative costs)
- Subject each option to a “business case” review to ensure its costs and benefits are well understood
- Recommend one or more options to the steward community for review.

The SCC focused solely on how best to allocate the costs once they had been approved by the Boards of each stewardship program, and, where required, their regulators (Ontario). The project scope did not include a review of opportunities to reduce or manage the annual obligation.

That said, the SCC did recognize cost control and cost efficiency are key priorities for stewards. This, and a number of other topics were identified by the SCC as important to stewards, and the SCC felt they should remain priorities for the stewardship organizations but were deemed out of scope for the fee project because they are not directly related to calculating fees. These topics include:

- continued efforts to harmonize new Extended Producer Responsibility (EPR) legislation;
- having to pay for material that they do not supply; and
- exemptions for particular kinds of businesses.

See Appendix 1 for more discussion on topics acknowledged by the SCC as being priorities for stewards but considered outside the fee project’s scope.

## Project Objectives

The four primary objectives for the fee review project accepted by each of the four programs (Multi-Material British Columbia, Multi-Material Stewardship Western, Multi-Material Stewardship Manitoba, Stewardship Ontario) were as follows:

1. **Produce a harmonized and easy to understand fee setting methodology** that can be used in each of the four programs.
2. **Define material fee rate categories** that align to a program's ability to measure costs and revenues because stewards want assurance that the effort they invest in reporting in each material category is warranted either because it will differentiate the material's share of recycling system costs and/or it will differentiate the amount of commodity revenue that will be attributed to the material.

3. **Identify options to fairly allocate** recycling costs to each material based on how it impacts costs in the recycling system.
  
4. **Determine the appropriate level of reliance on waste system studies** needed to inform cost and revenue allocations. In other words, the SCC wanted to verify that stewards are benefitting from the cost invested in various studies that inform fee calculations today. These studies include density studies that enable the conversion of a material's weight to its volume; material composition studies to identify what is managed and sold in the system and also, Activity Based Cost (ABC)<sup>1</sup> studies which track the collection and processing activities associated with the materials as they travel through the recycling system.

Please note the SCC did not modify these objectives to include **fee predictability** because as they learned more about the annual variability of the inputs to calculating fees e.g., material commodity markets and quantities supplied by stewards, while it may have been desirable, they did not think it an achievable objective.

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<sup>1</sup> For more information about ABC studies and how they inform the allocation of costs see Appendix 4.



## Principle-Based: Three Distinct Principles Guide the Methodology

The SCC began by developing a set of principles to guide and test the viability of all the options they considered in building a new methodology. They settled on three distinct, and comprehensive principles:

1. All obligated materials should bear a fair share of the costs to manage the packaging and printed paper program, irrespective of whether a material is collected because all obligated stewards who put obligated materials into the marketplace should contribute to the recycling system.
2. The material management costs allocated to each material should reflect the material's cost to collect and manage it in the recycling system because a material's unique characteristics can drive costs in distinctive ways.
3. The commodity revenue should be attributed only to the materials that earn revenue because materials that are marketed have value and should benefit from earned revenue.

**Principle #1** is an expression of the SCC's belief that if a business supplies an obligated material to the marketplace then it needs to help pay for the recycling system – whether or not that material is currently collected. Some materials, such as some plastic and paper laminates are not currently collected in many programs because they are costly to manage in the system and there is currently no end market for this material. The SCC wanted to ensure that these materials, even though they are not collected, meet their legal obligation and financially contribute to the recycling infrastructure by supporting consumer accessibility. Their contribution also ensures that the system will be available to them when end markets are developed and they begin to be collected.

**Principle #2** reflects the SCC's recognition that it is critical that the cost impacts to the system of each material's unique characteristics must be considered when allocating costs to that material because blue box materials can impact costs in very different ways. For example, glass can be abrasive to equipment. Plastic film can be very disruptive to a system because it gets wrapped around equipment, causing costly downtime or additional maintenance. Old corrugated cardboard is very bulky. It may require additional handling, and, if not compacted, can take up a lot of room in a collection bins and truck.

**Principle #3** represents the SCC's firm belief that only materials that have earned revenue because stewards of these materials purchased them for use in the first place and should benefit from revenues earned from their eventual sale to a recycling end market. (This is not the case with the current methodology which begins its calculations only once the total *net* costs of a program, (i.e., program cost minus revenue earned), is calculated, with the effect that some revenue is allocated to materials that did not contribute to the system's commodity revenue.

As the SCC reviewed optional components of a new methodology they tested each one against these new principles to ensure they were satisfied.

## How do the new principles contrast with the old principles?

Today's principles for fee setting are as follows:

1. Encourage reduction, redesign and recyclability.
2. Reflect the costs to manage each designated material category.
3. Recognize the benefits to all stewards from the high recycling rates achieved by certain designated materials.
4. Equitably share program management costs among all stewards.

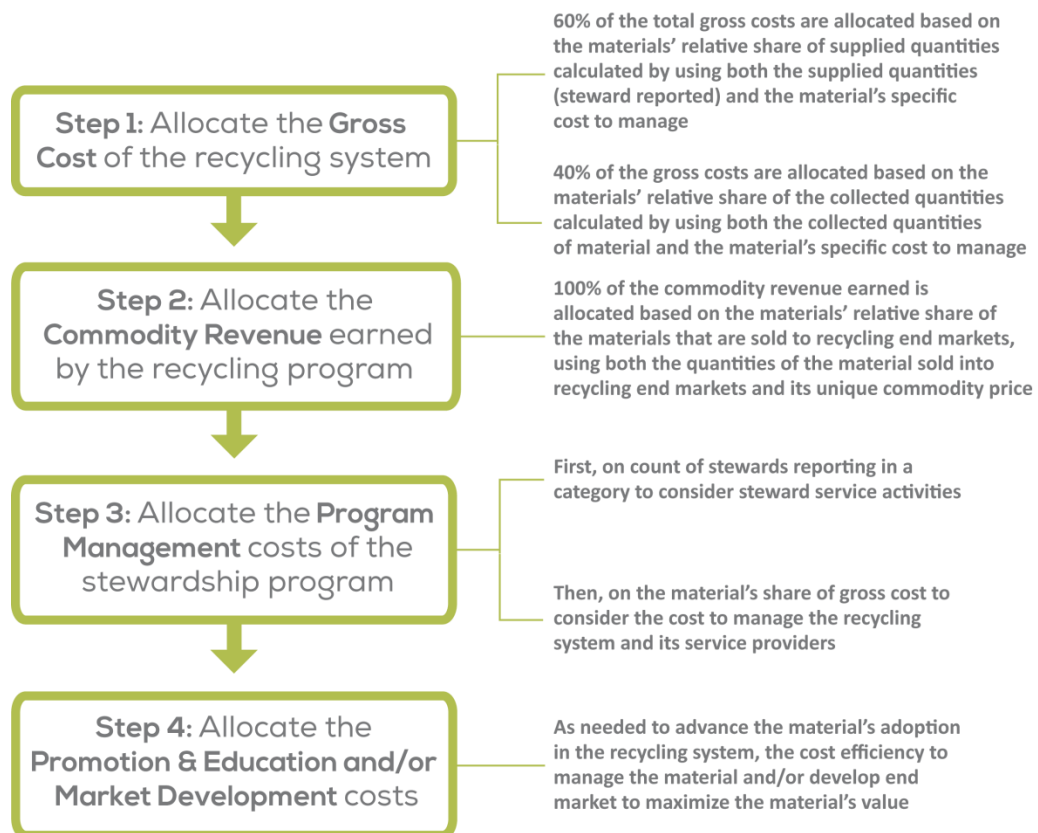
The SCC reviewed these principles and concluded that:

- Encouraging the three R's is an important responsibility of a stewardship organization but it should not be a guiding principle for the fee setting methodology itself. The methodology is only one constituent of a larger set of actions undertaken by stewardship programs to meet the obligations of its stewards to satisfy the broader objectives of legislation and regulations to reduce, redesign and recycle. The fee methodology alone is not a sufficient mechanism to achieve these other important objectives.
- The SCC retained today's second principle.
- The SCC rejected the idea that a material's recovery rate should influence how fees are calculated because stewards' influence over a material's recovery rate is limited. They cannot force the resident to put recyclables in their blue box. They cannot, in some cases, require a municipality to collect a particular material. Because stewards do not feel they have influence over the material recovery rate, the SCC focused on what the stewards *could* control - that is the amount and type of designated material they supply into the residential market.
- The SCC did not think a specific principle to share program administration costs was necessary because administrative costs represent a very small percentage of total program costs and it is a given they would be constitute part of the fee calculation, and are in fact addressed by Principles 1 and 2.

## The Proposed Methodology in Four Steps

The proposed methodology consists of four steps, each of which considers the material specific characteristics that differentiate its cost and commodity revenue value:

1. Allocate the **gross cost** (collection and processing) of the recycling system where:
  - a. 60% of the gross costs are allocated based on the materials' relative share of supplied quantities calculated by using both the supplied quantities (steward reported) and the material's specific cost to manage and
  - b. 40% of the gross costs are allocated based on the materials' relative share of the collected quantities calculated by using both the collected quantities of material and the material's specific cost to manage
2. Allocate **commodity revenue** earned based on the materials' relative share of the materials that are sold to recycling end markets, using both the quantities of the material sold into recycling end markets and its unique commodity price.
3. Allocate **program management** costs (administrative costs) of the stewardship program
  - a. First on the materials' relative share of stewards reporting into the category to reflect the costs associated with steward support services
  - b. Second on the materials' relative share of gross costs to reflect the costs of administering the recycling supply chain services.
4. Add **promotion and education** and/or **market development** costs to specific materials as needed.



## How did the SCC arrive at this methodology?

### Step 1:

Allocate the **Gross Cost** (collection and processing) of the recycling system

Principle #1 for fee setting states that all obligated materials must bear a fair share of the cost of the recycling system because all materials share in the responsibility to maintain an accessible and convenient recycling system for residents.

### *Why the 60/40 split?*

The first task was to determine how much of the gross system cost to allocate to all materials versus only to those materials that are collected/managed in the recycling system. It was determined that 60% was most appropriate given that it closely approximates the portion of gross costs associated with the collection system and therefore delivers on the commitment to maintain an accessible recycling system. The remaining 40% of the gross cost to manage the recycling system would therefore be allocated only to those materials actually collected/managed in the system.

### *Generated versus Supplied Quantities?*

The second task was to determine which source of material quantities should serve as a basis for each of the 60% and 40% portions. For the 60% portion to be allocated to all obligated materials, there were two options that could be used to satisfy Principle 1 because these are the only two sources of information where all obligated materials can be counted:

1. Generated quantities which are those quantities of obligated materials found in both the garbage and blue box disposal channels used by the resident, or
2. Supplied quantities which are those quantities reported by stewards in their annual filing.



Although generated quantities are generally used today in fee setting, the SCC did not support their continued use because they result in over counting of some materials simply because they are indistinguishable from obligated materials, which translates into cost for those obligated materials.

Examples include:

- A magazine that is shipped to a home from an out-of-province publisher. The magazine is not an obligated material because the supplier is not resident in the province, and therefore not subject to the legislation. This magazine is indistinguishable from the same magazine sold locally at a corner store once it enters the waste stream. Both would therefore be counted when using generated tonnes, which would over-allocate a share of cost to magazines.
- A pie is sold in an aluminum pie plate, the pie plate is considered packaging and is therefore obligated material; whereas new empty aluminum pie plates sold as product are not obligated. Both are indistinguishable when they enter the waste stream but both would be counted if generated tonnes were used.

- A pizza box sold by a small local pizzeria that is exempted because by a de minimis threshold is indistinguishable from a pizza box delivered from a large multi-location pizza chain, which is obligated.

For these reasons, the SCC chose to use supplied quantities as reported by stewards in their annual filings, rather than generated quantities.

***What material characteristics should be used to allocate costs?***

The SCC explored a number of approaches for ensuring that each material's impact on the costs of the system was fairly considered. Every material (whether or not they are collected) has two characteristics in common; they have a weight and they have a density that can be used to convert their weight into volume (m<sup>3</sup>). Volume refers to the amount of space the material occupy, both in collection vehicles as well as the space needed to store materials in the material recovery facilities (MRF) throughout the sorting and storage process, and is an important feature when considering what impacts the cost of the recycling system.



Allocating cost using a material's weight alone was not supported because studies indicate that it would unfairly attribute a disproportionate amount of gross cost to the heavy materials and less to the light materials. This would be unfair because it is often the lighter materials like film and polystyrene that have a more significant impact on the cost of the recycling system. Volume was given very serious consideration by the SCC because it has such a significant impact on cost. Using volume alone would greatly simplify the overall process of determining a material's relative share of the system costs and could, satisfy Principle 2 since volume is the single most impactful feature of the recycling system.

However, in addition to having characteristics common to all materials, materials can exhibit unique characteristics like abrasiveness, as exhibited by glass, where abrasiveness has a disproportionate contribution to the wear and tear on equipment; and disruptiveness as exhibited in plastic film where this material has a disproportionate impact on equipment downtime as it tends to wrap around equipment and must be removed.

Ultimately, the SCC determined that the most accurate way to allocate gross cost was to consider all the impacts a material could have, both those driven by common features like weight and volume as well as characteristics unique to some materials but not others.

### *How are material characteristics translated into costs?*

The method for determining how these characteristics impact cost is by conducting activity based costing (ABC) studies in a representative sample of collection and processing systems. These studies are used today when calculating a material's unique cost per tonne to manage the material. Continuing to rely on ABC cost data was determined to be the most effective way to satisfy Principle 2. This decision confirmed that it would become necessary to solve one of the problems that initiated the fee methodology review, namely, the difficulty some programs were having gaining access to the facilities that allowed for the execution of ABC studies. The work has begun to determine alternate approaches to conducting ABC studies.

CSSA, together with third party experts is reviewing the many inputs to the fee calculation, including bale and curb studies, Activity Based Costing (ABC) studies, and their methodologies as is standard practice. For ABC studies in particular, the review will consider options for addressing the issue of limited access to facilities.

Of note, the SCC did consider the use of units, or individual pieces of waste packaging and printed paper managed, as the method to allocate costs. Units were discussed because the SCC had learned from recycling system operators that smaller and smaller packaging formats (e.g., single-serve packaging) were increasing the time and effort to produce the same saleable tonne of material. The SCC determined that this approach was not reasonable for the stewards because it would require unit-based reporting by stewards and it was unlikely they could successfully define a 'unit' for all categories of obligated material. What, for example, would be considered a 'unit' of film; or a magazine...10 pages or 100 pages? The SCC decided that while units represent a cost to the system, it would be more appropriate to continue to address this issue when conducting ABC studies to calculate the material's impact on costs.

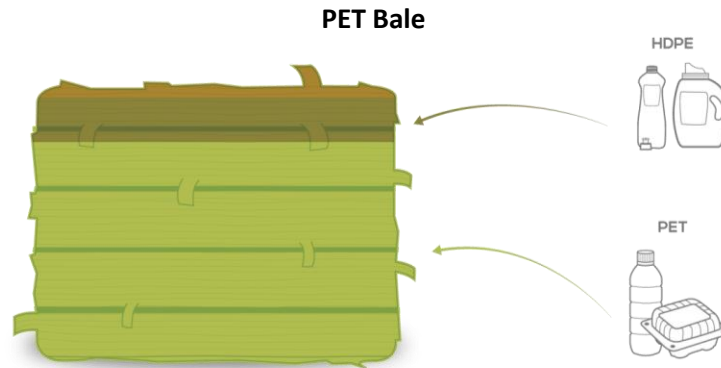
## **Step 2:**

### **Allocate the Commodity Revenue earned by the recycling program**

With the gross costs of the recycling system considered to be fairly allocated to all materials and both Principle 1 and 2 satisfied, the SCC next turned to Step 2 of the methodology -- how to allocate the commodity revenue earned when selling the outputs of the recycling system.

Principle 3 says that the materials that contribute to the system's commodity revenue should be allocated the revenue. Therefore, it was determined that the quantities of materials sold (marketed) would be used to allocate the revenue. Weight was deemed the appropriate characteristic to use in the allocation because it directly relates to how revenue is generated. Processed bales are sold to commodity markets on a weight basis. When carrying out Step 2 of the methodology, the material's specific commodity value would be referenced, using commodity price indices.

Material composition studies will also continue to be used to determine what obligated materials are contained in the bales that are sold to the commodity markets. In this way, materials that contribute to the bale will earn revenue, even those materials not considered primary 'ingredients' in the bale, as illustrated in the figure below. This approach will also ensure that emerging materials, newly acceptable to the recycling end markets, begin to earn a share of commodity revenue.



While developing Step 2 of the methodology, the SCC tested Principle #3 by taking some time to discuss an alternative approach -- i.e., whether some portion of the commodity revenue should be allocated to all obligated materials, whether they are marketed or not. The decision to allocate 100% of the commodity revenue to only those materials earning the revenue was ultimately taken primarily in recognition that the stewards who invested in the acquisition of valuable packaging and printed paper materials should be the ones to see the return on that investment and to give credit to those materials that are becoming more prevalent in the recycling system as methods to recycle them mature and end markets are developed.

### Step 3:

Allocate the **Program Management** costs of the stewardship program

Step 3 of the methodology allocates program management costs; a relatively small component of the fees. The SCC determined it was important to reflect both of the major elements of program management -- the cost to support stewards when registering and reporting to a program and the cost to manage the recycling system and its service providers. Consequently, the allocation considers both the count of stewards in a material category and the material's relative share of the gross cost.

### Step 4:

Allocate the **Promotion & Education and/or Market Development** costs

Step 4 attributes promotion and education, as well as market development cost to materials as appropriate when these materials need their adoption in the recycling system to be improved, or their

cost effectiveness within the recycling system to increase, or end markets developed to maximize the material's commodity value.

Once these four steps are completed, the result is a total cost for each material. That cost is then divided by the quantities of each material, as reported by stewards, to produce the fee rate on a cents per kilogram basis. To review a mathematical example of the fee setting methodology, please refer to Appendix 2.

## Proposed Methodology's Features and Benefits

The SCC is recommending this new methodology because it is easier to understand (and explain). It is principle-based and is seen by the SCC to be fair. It focuses solely on the fair allocation of costs and revenues to each material in a manner that directly reflects its impact on the recycling system. Appendix 4 provides stewards with a Features and Benefits "communication tool" for stewards to use when discussing the new methodology internally with their colleagues.

Key features and their associated benefits include:

- The new methodology was developed for stewards by stewards ensuring that the solution reflects stewards' perspective and interests in the fairest way possible.
- All obligated materials bear a share of the program costs even if the material is not yet collected, which means there is no free ride for materials that are not collected.
- Costs are allocated to each material based on how its unique characteristics impact costs in the recycling system. Each material is responsible for the way it can impact the costs of the system.
- Commodity revenue earned from materials that are sold as a commodity is attributed only to the materials that earned it.

## What are the major impacts of the new methodology?

The proposed methodology redistributes cost and revenue amongst the material categories. Retiring the three-factor formula and replacing it with the new proposed methodology means that costs and commodity revenue attributed to materials will change, in some cases significantly.

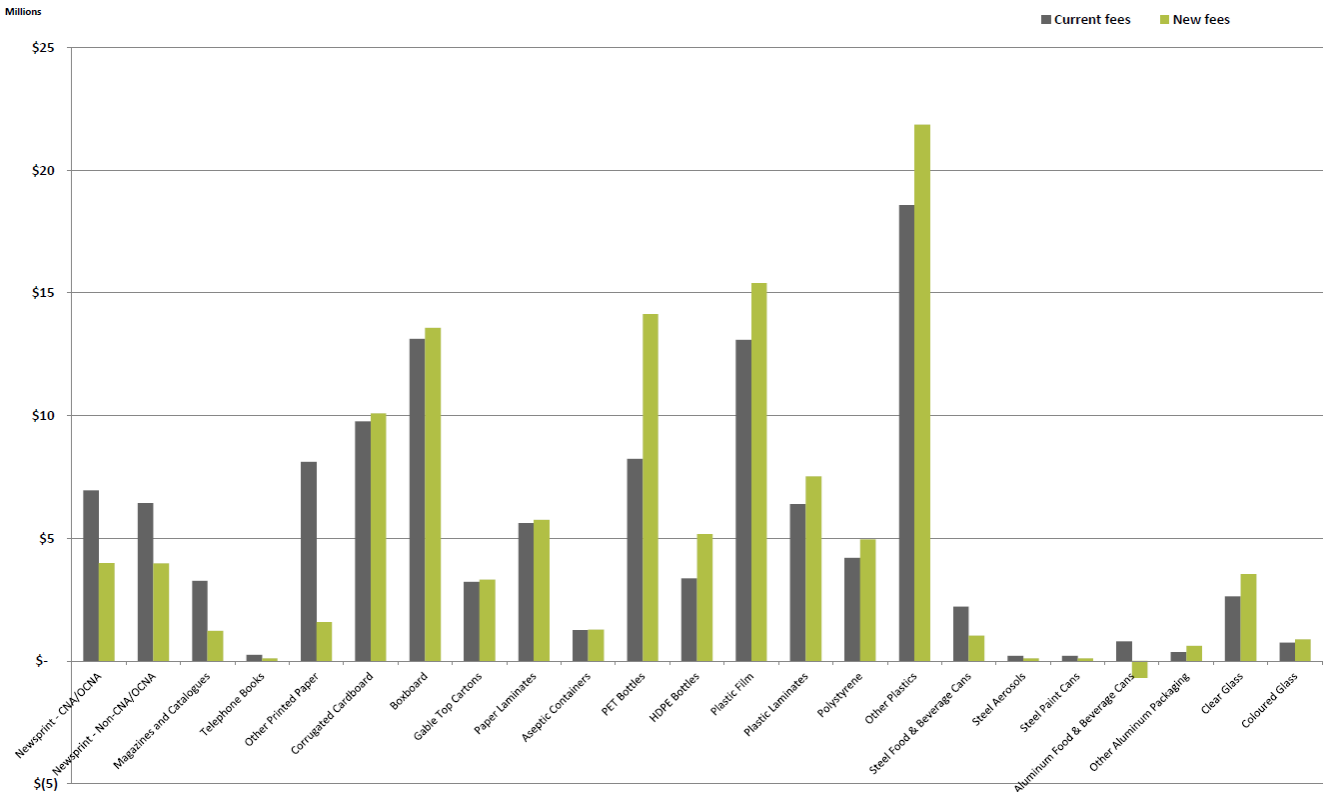
The proposed methodology results in materials assuming their unique cost impacts and commodity revenue throughout the allocation process, and therefore costs will be attributed to all materials on a relative basis irrespective of category. The main impact is that stewards with large quantities of plastic packaging will see the largest fee increases, and stewards with large quantities of printed paper will see the largest fee decreases.

The following chart uses 2015 Ontario data to provide stewards with an order of magnitude perspective on how the new methodology could redistribute the fees by material. In reviewing the chart, it is important to note that the inputs to the fee calculation change annually. Changes such as quantities supplied by stewards, quantities of materials managed in the system, the material's cost to manage and



the material's commodity value can all have an effect on a material's relative share of the system cost and its resultant fee rate.

It is important to note that the SCC was driven by the objective of developing a fair methodology that is principle-based. We ask stewards to consider these principles as well as the approach taken by the SCC when developing the proposed methodology when providing your feedback and not simply consider the direction of potential fees.



## Implementation Timeline

Boards will consider the feedback from the stewards when deciding when to implement the new fee methodology. Ontario is the only province where ministerial approval is also required before the methodology can be used to calculate steward fees. Where approvals are received, the methodology would be used when setting fees for 2017.

## Next Steps

Stakeholders are requested to submit their comments to CSSA by Friday May 20, 2016. Please send your submissions to Jennifer James at [jjames@cssalliance.ca](mailto:jjames@cssalliance.ca). The submissions will be carefully considered by the Boards of Directors of each stewardship program, and a report summarizing stakeholder feedback will be published on CSSA's website in late June.

## Appendix 1 – Priority Issues Considered Out of the Project’s Scope

**Extended Producer Responsibility (EPR) Legislation:** The goal of the fee project was to harmonize the fee methodology across programs irrespective of the nature of the legislative framework within which each of the packaging and printed paper programs operate. The SCC did not spend any time or effort considering existing EPR legislation, which are not harmonized. This means that topics such as the definition of a steward, the scope of the financial responsibility attributed to stewards under regulation and the choice of recycling system design were not debated.

**Special Treatment and Exemptions for Some Businesses:** Each PPP program is subject to regulatory provision for special treatment and/or exemptions for certain classes of businesses. For example, the manner in which newspaper publishers discharge their extended producer responsibilities in each province varies. In Ontario, newspaper publishers provide municipalities with an in-kind contribution of advertising lineage rather than cash funding for recycling their newsprint tonnage. In Saskatchewan, newspaper publishers are temporarily exempt from participating from the recycling regulation.

Similarly, each province has set “de minimis” thresholds under which classes of businesses are exempt. For example, in British Columbia businesses with less than \$1 million in gross revenue, or supply less than one tonne of obligated material, or operate as a single point of retail, are exempt from the recycling regulation. In Ontario the de minimis thresholds are \$2 million in gross revenue or where supply is less than fifteen tonnes of material. While the SCC acknowledged that many stewards are dissatisfied with what they see as special treatment, they agreed that these special regulatory provisions were beyond the scope of the project.

**Blue Box Recycling System Costs:** Validation and negotiation of recycling system costs is work accomplished by each Program’s operations teams responsible for managing the supply chain partners, whether municipal or private, for each program, which is in turn approved by each programs' Board of Directors. The SCC worked under the assumption that the starting point for allocating approved costs to material occurs once those total cost components have been determined. However, during its workshops, the SCC reinforced its expectation (and the expectation of all stewards) that cost controls are in place and that all programs actively pursue cost efficiencies in their work with recycling supply chain partners.

**STINO (Stuff That Is Not Ours)** refers to those materials collected and managed in the recycling system that were not supplied to the residential market by the stewards. STINO is an important issue to stewards because it can represent a cost to stewards even though it is not their material, and they do not want to have to pay for it. Similarly, it can also represent a benefit to stewards if the non-obligated material earns revenue as a commodity. The SCC asked for assurance that programs are aware of the importance of this issue and are working diligently to reduce the STINO related costs attributed to stewards.

## Appendix 2 - The Proposed Fee Methodology: A Step by Step Mathematical Example

To execute the four steps of the new fee setting methodology, preparation steps are completed that gather the necessary inputs to fee setting such as the gross cost and commodity revenues associated with the recycling system; the quantities reported by stewards and recycling system operators; the costs to manage each material; and the price the commodity markets attribute to the materials. Many of these preparation activities remain unchanged but they are provided as Appendix 3 for the reader's convenience. Both today's three-factor formula and the new proposed fee methodology begin once the preparation activities are complete.

The four steps of the new methodology are as follows:

1. Allocate the **gross cost** (collection and processing) of the recycling system where:
  - a. 60% of the gross costs are allocated based on the materials' relative share of supplied quantities calculated by using both the supplied quantities (steward reported) and the material's specific cost to manage and
  - b. 40% of the gross costs are allocated based on the materials' relative share of the collected quantities calculated by using both the collected quantities of material and the material's specific cost to manage
2. Allocate **commodity revenue** earned based on the materials' relative share of the materials that are sold to recycling end markets, using both the quantities of the material sold into recycling end markets and its unique commodity price.
3. Allocate **program management** costs (administrative costs) of the stewardship program
  - a. First on the materials' relative share of stewards reporting into the category to reflect the costs associated with steward support services
  - b. Second on the materials' relative share of gross costs to reflect the costs of administering the recycling supply chain services.
4. Add **promotion and education** and/or **market development** costs to specific materials as needed.

What follows is a mathematical example of the calculation steps of the new methodology. In our example, we will assume the following:

Gross cost of the recycling system to be funded by steward fees:	\$150,000,000
Commodity revenue earned by the system to offset steward fees:	\$ 50,000,000
Program Management	\$ 5,000,000

**Step 1: Allocate the Gross Costs of the recycling system**

Allocate 60% (60% x \$150,000,000 = \$90,000,000) of the gross system costs to each material based on the material's **Supply-based** relative share of cost calculated using both the supply quantities and the material specific costs to manage each material.

Material	Supply- based Relative Share (See Appendix 3 to review how the relative share is calculated.)	60% of Gross Costs (in Millions)	Total Costs (in Millions)
Printed Paper	11.4%	\$90	\$10.3
Paper Packaging	22.0%		\$19.8
Plastic Packaging	56.9%		\$51.2
Steel Packaging	2.8%		\$2.5
Aluminum Packaging	4.5%		\$4.0
Glass Packaging	2.4%		\$2.2
Total	100%		\$90.0

Allocate 40% (40% x \$150,000,000 = \$60,000,000) of the gross system costs to each material based on the material's **Collect/Managed-based** relative share of cost calculated using both collect/managed quantities and the material specific costs to manage each material.

Material	Collect-based Relative Share (See Appendix 3 to review how the relative share is calculated.)	40% of Gross Costs (in Millions)	Total Costs (in Millions)
Printed Paper	22.9%	\$60	\$13.7
Paper Packaging	33.5%		\$20.1
Plastic Packaging	32.9%		\$19.7
Steel Packaging	3.2%		\$1.9
Aluminum Packaging	3.3%		\$2.0
Glass Packaging	4.2%		\$2.6
Total	100%		\$60.0

**Sum allocations to calculate each material's relative share of the Gross Cost of the recycling system.**

Material	Supply-based Gross Cost	Collect-based Gross Cost	Total Gross Cost (in Millions)	Relative % of Gross Costs
Printed Paper	\$10.3	\$13.7	\$24.0	16.0%
Paper Packaging	\$19.8	\$20.1	\$39.9	26.6%
Plastic Packaging	\$51.2	\$19.7	\$70.9	47.3%
Steel Packaging	\$2.5	\$1.9	\$4.4	2.9%
Aluminum Packaging	\$4.0	\$2.0	\$6.0	4.0%
Glass Packaging	\$2.2	\$2.6	\$4.8	3.2%
Total	\$90.0	\$60.0	\$150.0	100%

**Step 2: Allocate the Commodity Revenue**

Allocate 100% of the total system commodity revenue to each material based on the material's **Market-based** relative share of revenue, using both the quantities of the material sold into recycling end markets and its unique commodity price.

Material	Market- based Relative Share of Revenue (See Appendix 3 to review how the relative share is calculated.)	100% of Commodity Revenue (In Millions)	Total Revenue (in Millions)
Printed Paper	30.0%	\$50	\$15.0
Paper Packaging	24.7%		\$12.4
Plastic Packaging	23.7%		\$11.9
Steel Packaging	7.4%		\$3.7
Aluminum Packaging	12.8%		\$6.4
Glass Packaging	1.4%		\$0.7
Total	100%		\$50.0

**Step 3: Allocate Program Management**

Allocate Program Management cost to material categories and materials within the category based first on the relative share of stewards in the category and then on the method used to determine the material's relative share of gross costs. \* illustration only\*

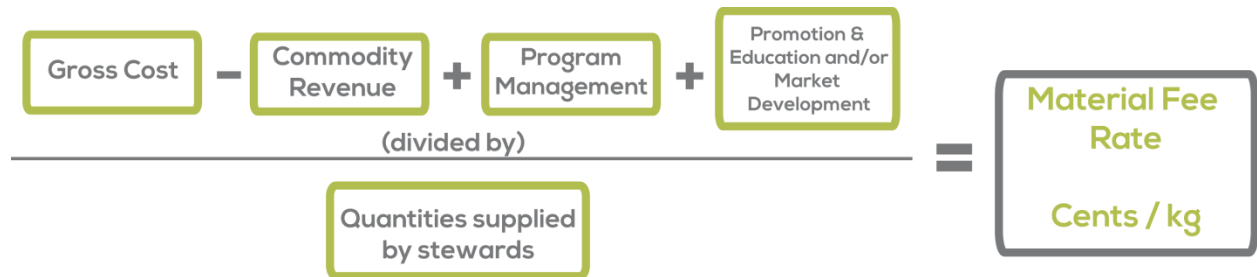
Material Category	Material	% of Stewards	Program Management (PM)	First, based on the count of Stewards	Then, based on the relative share of gross costs
			(in Millions)		
Printed paper	Material 1	20%	\$5.0	\$1.0	\$0.8
	Material 2				\$0.2
Paper packaging	Material 3	20%		\$1.0	\$0.8
	Material 4				\$0.2
Plastic Packaging	Material 5	28%		\$1.4	\$1.0
	Material 6				\$0.4
Steel Packaging	Material 7	20%		\$1.0	\$0.5
	Material 8				\$0.5
Aluminum	Material 9	6%		\$0.3	\$0.3
Glass	Material 10	6%		\$0.3	\$0.3
<b>Total</b>		<b>100%</b>		<b>\$5.00</b>	<b>\$5.00</b>

**Step 4: Allocate Promotion & Education and/or Market Development**

Step 4 attributes promotion and education, as well as market development cost to materials as appropriate when these materials need their adoption in the recycling system to be improved, or their cost effectiveness within the recycling system to increase, or end markets developed to maximize the material's commodity value.

**Conclusion: Calculate material fee rates**

With all four components of the fee calculated, these are simply added together to produce the material's share of the total program costs and then divided by supplied quantities to produce the material fee rate (¢/kg) for each material as depicted below.



## Appendix 3: Methodology Preparation Steps - Gather Data & Calculate Input Values

For stakeholders interested in learning more about the preparation activities and the calculation of the relative share of costs and revenue, these details follow.

- Gather total system costs, commodity revenues, count of stewards reporting in each material category and program management costs.
- Gather supplied, collected and marketed quantities for each material category informed by reports and studies.
- Gather material specific ABC costs per tonne to manage as determined by field and/or theoretical studies and models in representative recycling systems.
- Calculate each material's **Supply-based** relative share of the gross system costs using the material's share of quantities supplied and the material's ABC cost per tonne.

How to calculate the material's **supply-based relative share**:

- Multiply each material's total supplied quantities as reported by stewards in their annual filing by the material's ABC cost per tonne
- Sum all materials to produce the 'universe'
- Divide each material's calculated cost by the 'universe' to calculate its relative share of cost

Illustrative Example:

	Material	<b>Supplied</b> Quantities (in Tonnes)	ABC Cost per Tonne	Total	<b>Supply</b> Based Relative Share <b>C = A ÷ B</b>
<b>A.</b>	Material 1	10	\$500	\$5,000	17%
<b>A.</b>	Material 2	10	\$1,000	\$10,000	33%
<b>A.</b>	Material 3	10	\$1,500	\$15,000	50%
	<b>B. Total Universe</b>			<b>\$30,000</b>	100%

- Calculate each material's **Collect/Managed-based** relative share of the gross system costs using the material's quantities of collected/managed material and the material's ABC cost per tonne as per the following illustrative example.

	Material	<b>Collect</b> Quantities (in Tonnes)	ABC Cost per Tonne	Total	<b>Collect</b> Based Relative Share <b>C = A ÷ B</b>
<b>A.</b>	Material 1	8	\$500	\$4,000	29%
<b>A.</b>	Material 2	7	\$1,000	\$7,000	50%
<b>A.</b>	Material 3	2	\$1,500	\$3,000	21%
	<b>B. Total Universe</b>			<b>\$14,000</b>	100%

- Calculate each material's **Marketed-based** relative share of the system commodity revenue using the material's quantities of marketed (sold) material and its specific commodity price as per the illustrative example that follows.

	Material	<b>Marketed</b> Quantities (in Tonnes)	Material specific commodity price per Tonne	Total	<b>Marketed</b> Based Relative Share <b>C = A ÷ B</b>
<b>A.</b>	Material 1	8	\$100	\$800	17%
<b>A.</b>	Material 2	6	\$600	\$3,600	77%
<b>A.</b>	Material 3	1	\$300	\$300	6%
	<b>B. Total Universe</b>			<b>\$4,700</b>	100%



## Appendix 4 - Q&A

### 1. How does this methodology incent me to select 'good' materials now that the recovery rate is not used?

The new proposed methodology ensures that materials that are recycled and are saleable to end markets are the only materials that will be attributed the revenue to offset their share of the gross costs of the recycling system. In this way, those materials deemed valuable in the marketplace are rewarded for that value.

### 2. Please explain more about material characteristics and ABC.

#### a. What are the key material characteristics that impact the recycling system costs?

The most significant impact to the cost of the collection and processing activities is a material's volume, which is how much space the material occupies in the collection system and in the MRF. This is affected by the quantity and density of each material.

Volume has the largest material specific cost impacts to the collection activities and in processing although less so when compared to its impact on collection. The material's density characteristic along with the quantity allows us to calculate its volume and this characteristic is measureable for all materials.

The remaining cost impacts are those caused by some materials' unique characteristics. Glass has abrasive qualities, affecting equipment wear and tear and maintenance, OCC is bulky and can drive handling costs beyond that represented by the amount of space it occupies. Film is disruptive to processing as it gets wrapped around equipment causing downtime for maintenance. These are but a few examples of how a material's unique characteristics impact system costs beyond that which is represented by its common characteristics like weight or volume alone.

#### b. How do you calculate these cost impacts?

Conducting Activity Based Costing (ABC) studies allows for the determination of the material's impacts to the collection and processing costs giving consideration to characteristics like weight or its density factor to calculate volume, as well as any characteristics unique to a material like abrasiveness, bulkiness, disruptiveness, etc.

These ABC studies result in a calculated cost to manage each material, commonly expressed on a cost per tonne basis. For simplicity, the following chart provides an illustrative example of a cost per tonne by material category however it should be noted that cost per tonne is calculated for use in fee setting on a material specific basis.

Material Category	Gross Cost per Tonne (Collection & Processing)
Printed Paper	\$200/tonne
Paper Packaging	\$450/tonne
Plastic Packaging	\$1,400/tonne
Steel Packaging	\$350/tonne
Aluminum Packaging	\$1,100/tonne
Glass Packaging	\$150/tonne

- c. Why are the calculated ABC costs per tonne for each material so vastly different? How can one material cost \$200 per tonne to manage while another costs \$1,400 per tonne, given that they are all collected and processed as part of the same system?

It is standard practice to communicate the material's ABC cost on a per tonne basis but this gives the impression that the cost impacts amongst the various materials is significant.

If we were to communicate the outcome of the ABC studies on a volume basis (m<sup>3</sup>) basis this would put all materials on a more equal footing such that the impacts of their unique characteristics can be understood more clearly. The variances between the materials can be seen as much less than when communicated on a cost per tonne basis.



When the gross costs are expressed on a weight basis, i.e., cost per tonne, the range is \$150 - \$1,400/tonne in the representative examples provided above. When the gross costs are expressed on a Volume (m<sup>3</sup>) basis, factoring out differences in density, that range is significantly reduced at \$24 - \$47 per cubic metre when using the same representative data, as shown in the table below.

- d) Why is a material's gross cost per tonne often so different between EEQ and some of the other programs?

ABC Studies inform the gross cost per tonne for each material, and study assumptions and methodologies can give rise to differences in the findings of these studies as well as the differing nature

of the programs - i.e. the list of obligated materials . (CSSA and EEQ have formed a technical committee to understand and evaluate these differences in response to stewards' questions.)

When expressed on a volume basis differences in cost/m<sup>3</sup> only reflect the impacts of characteristics other than density. If density were the only difference between materials, the cost/m<sup>3</sup> would be essentially the same for each material. Alternatively if the density of all materials were the same, the cost/tonne would be much more similar.

Material	Material Density	Gross Cost per Tonne (Collection & Processing)	Gross Cost per m3 (Collection & Processing)
Printed Paper	155 kg/m <sup>3</sup>	\$200/tonne	\$31/m <sup>3</sup>
Paper Packaging	53 kg/m <sup>3</sup>	\$450/tonne	\$24/m <sup>3</sup>
Plastic Packaging	26 kg/m <sup>3</sup>	\$1,400/tonne	\$36/m <sup>3</sup>
Steel Packaging	83 kg/m <sup>3</sup>	\$350/tonne	\$29/m <sup>3</sup>
Aluminum Packaging	35 kg/m <sup>3</sup>	\$1,100/tonne	\$39/m <sup>3</sup>
Glass Packaging	316 kg/m <sup>3</sup>	\$150/tonne	\$47/m <sup>3</sup>

In fact, the range of difference in density across all materials is much greater than the range of difference due to other characteristics. For example, looking again at the exhibit above, Glass Packaging has the highest density, 12 times that of Plastic Packaging, which has the lowest density. However, Glass Packaging also has the highest cost/m<sup>3</sup>, but only about two times that of Paper Packaging, which has the lowest cost/m<sup>3</sup>. This shows that the differentiation in cost impacts due to density differences across all materials is significantly greater than the differentiation in cost impacts due to other material characteristics.

In summary, while the traditionally accepted approach is to express costs as a cost per tonne, it can be misleading if it is interpreted to mean that weight is the sole, or even a major, driver of cost.

**3. Will my fee rates change year over year if there are no changes to the total supplied quantities reported by all stewards in the material category and no changes to my density or other characteristics affecting my ABC calculated cost per tonne?**

Yes, it is highly likely that the fee rate for this material would change even though this material category is stable, in both its total supplied quantity and its calculated cost per tonne to manage. The reason change is expected to the fee rate is that all costs and commodity revenues are allocated on a *relative* basis. This means that all materials are affected by the changes in other categories' relative share and that relative share can be influenced by commodity markets, changes in supply or managed material quantities, changes in the material's density or ABC costs due to changes in the recycling system.

**4. Did the SCC consider other splits aside from 60%/40% when allocating gross costs to all materials based on supplied quantities and the rest to only those materials managed?**

Yes, the SCC reviewed many splits with both a view to ensuring that Principle 1 was satisfied and to ensure the rationale for the recommended split was sound. The SCC gave consideration to fully allocating 100% of the gross costs of the recycling system to all materials based on the quantities supplied by stewards as reported in the annual filing. Consideration was also given to attributing 70% of the gross costs on this basis. Ultimately, it was the 60% portion that struck the most reasonable balance and therefore attracted the SCC's support.

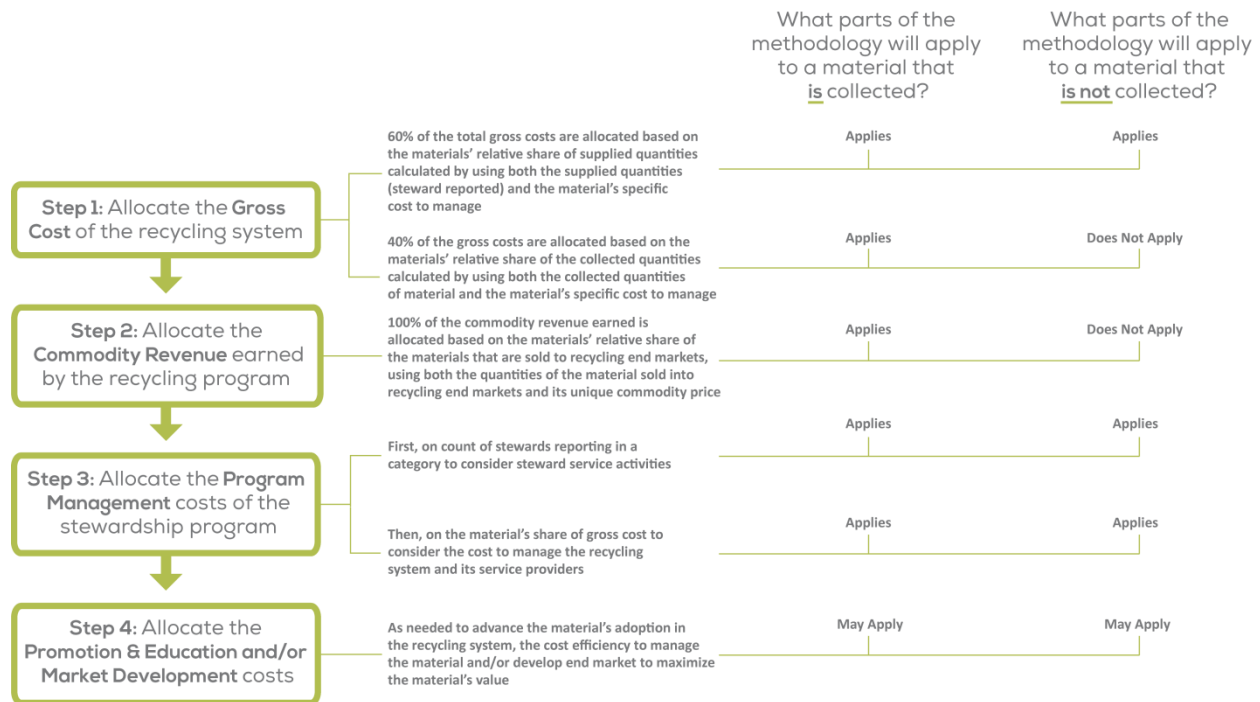
**5. Is the SCC confident that allocating 60% of gross cost based on quantities supplied does not unfairly burden those materials that are not widely collected and managed in the recycling system?**

Yes. As the SCC explored this issue in depth, they developed confidence that they were not unfairly burdening those materials that are not widely collected and managed in the recycling system. The SCC was presented with information that illustrated that only 2% of the materials supplied today are not targeted for collection, such as plastic laminates, and approximately another 8% of materials that are not widely targeted for collection such as paper laminates and polystyrene. As such, most of the materials supplied can be collected and managed. It is also important to note that the new methodology would reference a material's relative share of supply rather than its recovery rate, which would be retired as a component of the old methodology.

**6. Are you equally confident that allocating only 40% of gross cost based on quantities actually collected/managed attributes *enough* cost to those materials?**

Yes the SCC explored this issue as well as when considering the allocation. Recognizing that the majority of materials supplied are in fact collected and managed is what gives confidence that the 40% portion is not too low. When you consider that the materials managed pay both their relative portion of 60% and the 40% they are assuming an appropriate portion of the costs.

7. Can you explain which parts of the methodology apply to a material that is collected versus a material that is not collected?



8. How does the proposed methodology address the concerns expressed by the stakeholders who presented to the SCC and from those stakeholders who made submissions in previous fee consultations?

The submissions were reviewed to identify the key concerns related to the fee methodology. The following chart summarizes these concerns and identifies whether or not the SCC considers the concern addressed by the new methodology.

Stakeholder Concern	Response of the proposed methodology
All materials must pay whether or not they are collected	<b>SCC agreed.</b> The new methodology allocates 60% of cost to all materials whether or not they are collected and a further 40% to those materials collected.
Recovery rate should not be included as a factor for allocating cost	<b>SCC agreed.</b> The recovery rate metric is not a variable in the proposed fee methodology.
Where costs are allocated to collected materials, costs must reflect the cost to manage the materials	<b>SCC agreed.</b> ABC based costs are used when allocating both the 60% and the 40% portion of the gross cost allocation in Step 1 of the methodology.
Fees should not be designed to incentivize material or packaging selection and design	<b>SCC agreed.</b> The methodology does not claim to incentivize steward choices in recognition that it is not possible to do so with a fee rate.
There should be no artificial barrier between cost sharing among materials	<b>SCC agreed.</b> The methodology does not transfer costs and therefore the concept of a cost transfer

Stakeholder Concern	Response of the proposed methodology
	barrier is moot.
Balance between simplicity and precision is needed to assure fairness	<b>SCC agreed.</b> The methodology uses ABC costs for precision but does not add the complexity seen with today's three cost transfer factors.
Treat STINO as a shared cost	<b>SCC agreed.</b> Should the gross cost of the supply chain include some costs of STINO, all materials will share in the cost given the methodology is based on each material paying its <i>relative</i> share of the system costs.

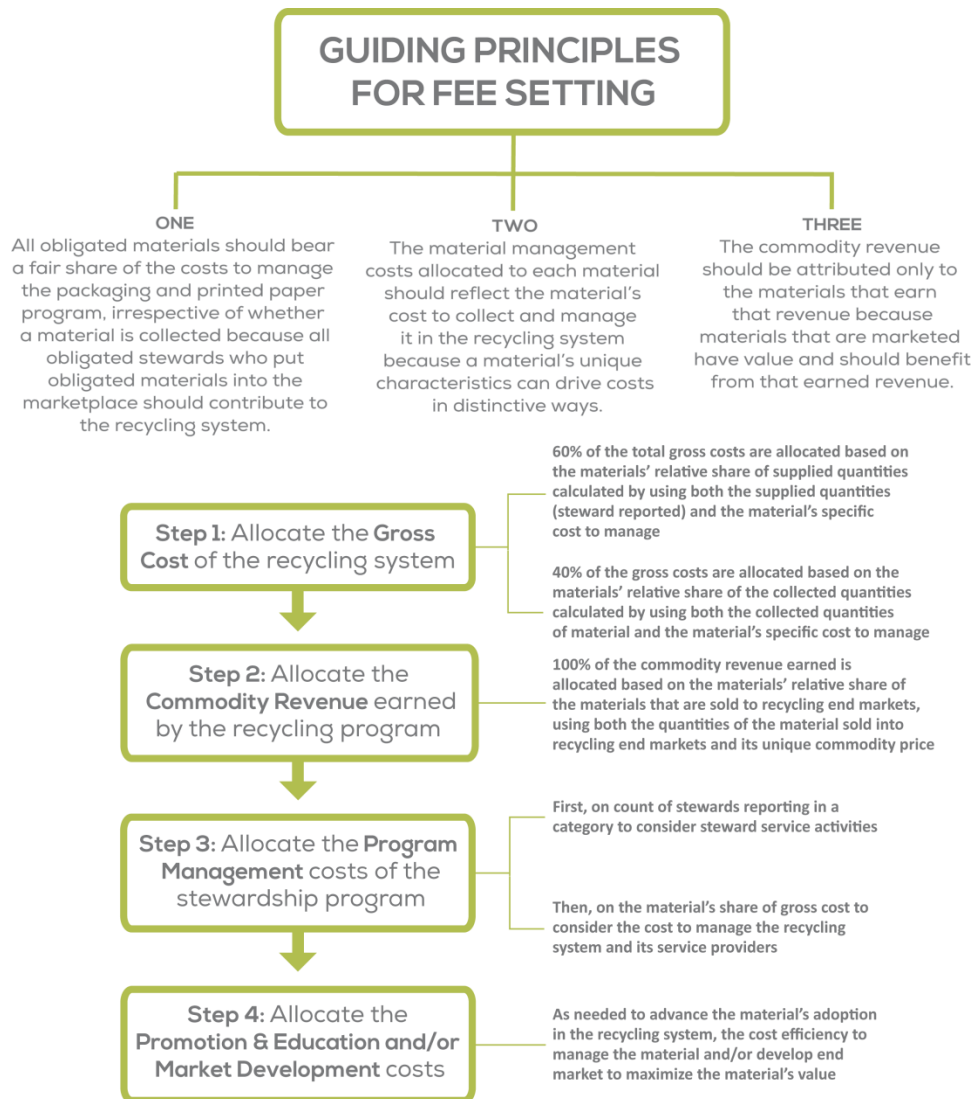
## Appendix 5 – Proposed Methodology Features and Benefits

### Introducing a Modernized Fee Methodology

The proposed methodology is easier to understand. It is fair. It is principle-based. It focuses solely on the fair allocation of costs and revenues to each material in a manner that directly reflects its impact on the recycling system.

#### Status Quo is Not an Option

The current methodology, with its reliance on the three-factor formula is not functioning as intended. As the material mix in the system has changed (aka the evolving tonne), processing technology changes, and more materials achieve the target recovery rate, the less viable the methodology has become because it shifts costs to an ever-diminishing number of low-performing materials.



## Key Features and Benefits

Together, all of the methodology's features contribute to its fairness.

Feature	Benefit
Developed for stewards by stewards	<b>Solution reflects stewards' perspective to use a business based approach to cost allocation</b>
All obligated materials bear a share of the program costs even if a material is not yet collected.	<b>No free ride for materials that are not collected.</b> All materials supplied into the marketplace contribute, not just those that are collected.
Obligated materials that are not collected meet their legal obligation by contributing to the recycling infrastructure and consumer accessibility.	<b>Compliance with recycling regulations and support of consumer accessibility.</b> Obligated materials not currently collected contribute to promote consumer accessibility.
Costs are allocated to each material based on how its unique characteristics drive costs in the recycling system.	<b>Material differentiation is respected.</b> Each material pays its relative share of costs based on how its characteristics can impact cost.
Commodity revenue earned from marketed materials are attributed to only those materials.	<b>Material differentiation is respected.</b> Only those materials that earn revenue will benefit from it.
Easy to understand because fee rates will reflect the costs to manage each material and the revenues they earn. The confusing three-factor formula will be retired.	<b>Easy to explain.</b> You'll be able to explain the fee rates to your boss (and your boss's boss) with reference to each material's behaviour in the recycling system.
Stewards that invest in materials when they choose their packaging and printed paper will see the direct return on their investment in earned revenue when the material is marketed.	<b>Return on investment.</b> Choosing materials with recycling end markets will help offset stewardship costs.
Simple to apply and therefore resilient in the face of change. Can easily accommodate changes in the recycling system.	<b>Will stand the test of time.</b> No frequent refinements or major changes are expected.
Principle based.	<b>No inequalities due to outcome based decision making.</b>
Stewards will pay their fair share largely based on what they supply rather than factors over which they have no control, such as a local service provider's decision to collect or not collect.	<b>Encourages packaging innovation.</b> Places a steward's packaging decision at heart of methodology.
Clear business rules on how the methodology will be fed with data and calculated will be published.	<b>Transparent.</b> No confusion about how the methodology is applied.
Neither increases nor decreases the expenses associated with conducting waste studies.	<b>Cost neutral.</b>