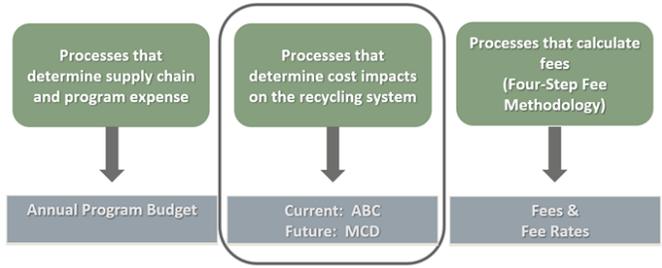


Questions as of August 18, 2020

#	Question	Answer
1.	<p>NMC: P12: Re Guiding Principles: Eight principles as outlined are acceptable, but an additional principle is needed: Principle #9: Contamination by other materials should not be a burden to one material, and contamination removal costs should be fairly allocated between the material being prepared for market and the material causing the contamination. Page 14 of the pre-read document comments that because of its flat shape, a plastic package can find its way into the fibre stream. Newsprint should not have to pay for clean-up of plastics mixed in the newsprint because CSSA have modelled a 360 litre cart based single stream system (Page 20 and elsewhere), and then mis-directed into the fibre stream because of the flat plastic package shape. The flat plastic package then needs to be separated from fibres to clean up the fibre stream to meet market specs (this example is cited Page 14,21 and an example of a lightweight PET bottle misdirected to the mixed paper stream on page 22). Most or all of the clean-up costs should be assigned to plastics in particular. Capital and operating costs of screens should at least be shared between ONP and plastic, but all be assigned to ONP.</p>	<p>Both Guiding Principles #3 and #4 were designed to address the very concern that you articulate in the proposed Principle #9. These instruct us to account for all activities necessary to ready a material to be repurposed and to account for all characteristics of a material that require those activities so that cost impacts are accurately measured and appropriately attributed.</p> <p>Principle 3: All materials characteristics count. When differentiating the cost impacts of one material as compared to another, all of a material's characteristics that can reasonably be measured, should be measured because each material's characteristics can impact costs in different ways.</p> <p>Principle 4: All activities count. All activities necessary to prepare the material to be repurposed should be considered because the intention is that all materials supplied into the market should be repurposed.</p> <p>By respecting Principles 3 and 4, Newsprint assumes only the portion of the quality control sorting costs that reflect its characteristics. Newsprint does not assume the cost impact of sorting, for example, the PET Thermoforms or PE Rigid Containers and Lids that find their way into the Mixed Paper stream.</p> <p>Fibre screens are used to separate two-dimensional materials, such as corrugated cardboard and newsprint, from other materials, primarily plastic, metal and some paper packaging. The screens exploit the two-dimensionality and size of a fibre target material such as a large corrugated cardboard or smaller corrugated cardboard, newsprint and boxboard, to separate them from the rest of the stream. The effectiveness of the screens and the relative utilization of them is determined by the area weight of each of the individual fibre materials screened off and in this case the cost impacts are entirely attributed to fibre. The Area Weight metric is explained more fully below.</p>

#	Question	Answer
		<p>Quality Control (QC) sorting of mixed paper is required because the fibre screens alone cannot separate materials sufficiently. Some plastic, paper and metal packaging tend to flow with the mixed paper over the screens because they share some combination of characteristics, either the packaging is two-dimensional like newsprint, or it becomes two-dimensional during the collection, tipping and pre-sorting process or because it is light and is entrained with the various fibre materials, like newsprint. These materials must be separated to enable the mixed paper to meet the market specifications and for the packaging to be effectively recovered.</p> <p>The QC modules (Module 10 – QC Optical Sort Mixed Paper and Module 11 – QC Manual Sort Mixed Paper) together represent a small component (only 3%) of the overall system resources and assign cost impacts to each of the 23 of the 36 MCD Material categories, not only newsprint. The impacts are determined using the appropriate module metrics (area weight for optical sorting and manual pick rate for manual sorting) and the corresponding measurements for each participating material. The measurements express how the material characteristics impact system resources. Thus, each of the materials that require the resources of the QC modules generate impacts that are directly related to their characteristics.</p> <p>Finally, a note about how the eight MCD guiding principles were developed. They were created by a Guiding Principles Working Group, composed of a “steward” delegate from each of the four Packaging and Paper Product program Boards of Directors over the course of two workshops held in early 2017. They were subsequently carefully reviewed by the Steward Consultation Committee shared with the entire steward community first in July 2017 and then again during the 2017 Annual Steward Meeting, thus providing numerous opportunities for comment. They have actively guided the work of the project team during the development of the MCD Methodology.</p>

#	Question	Answer
2.	<p>NMC: P. 12 Principle #7: System Design and Operations Count: Newsprint is easy and inexpensive to recycle when collected in a 2-stream (fibres/containers) system. The decision to only model a cart based single stream system unfairly burdens ONP with higher costs than it would incur in a 2-stream system which is being encouraged in BC because 2-stream systems produce cleaner materials which are less costly to process, and produce higher quality materials for sale at higher revenues because of better quality to end markets.</p>	<p>Principle #6 requires taking account of all designs as well as operation resources and their drivers.</p> <p>Principle 6: System design and operations count. The Material Cost Differentiation Methodology should be rooted in measurable recycling system activities, resource usage and costs drivers.</p> <p>It requires that they be rooted in the real world, i.e., that they reflect the resources required by existing or emerging commercial technologies. However, it does not suggest that the methodology attempt to pick a specific, preferred or most cost-effective design, such as the dual-stream system you suggest. In fact, the objective of the Conceptual MCD System is to eliminate the influence of different system/program designs as they exist across jurisdictions.</p> <p>As well, it was important to put all materials on a level-playing field before measuring the impacts their characteristics have on the cost of the recycling system activities – a top priority for stewards. That is not to say that specific program designs are not taken into account. They are reflected in each program’s annual budget, expressed in the supply chain costs. Recall that calculating the fees for each PPP program involves three distinct sets of activities: 1) setting the program budget; 2) determining material cost impacts on the recycling system; and 3) calculating fees and fee rates, as illustrated in Figure 1 below.</p> <p>Figure 1 – Three distinct sets of processes for fee setting</p>

#	Question	Answer
		 <p>The MCD Methodology applies to and supports the second set of activities, illustrated here, (i.e., measures material cost impacts in the recycling system), and, if approved, will replace current Activity Based Costing. In turn, the MCD Methodology’s results will provide the key input to the third process set seen here -- calculating fees and fee rates.</p> <p>The MCD methodology does not and should not suggest what design is most appropriate for a specific program as these design decisions are far more complex than the number of streams for collection and the type of box/cart itself. For example, they can extend to the level of sorting that is appropriate to do locally, based on proximity to end markets, the cost-benefit of utilizing technology locally, etc. These are all important inputs to a particular program’s operation, and are reflected in setting its annual budget as noted above.</p> <p>The choice of a conceptual system in which all materials are collected together in a cart ensures that all activities to recover and prepare all materials for repurposing are captured and that all resources are attributed in a standardized way, addressing Principle #4. No required activities are externalized, such as sorting by residents into separate streams. All sorting activities are included so that all commodities meet all market specifications for repurposing them.</p>

#	Question	Answer
		<p>As with the selection of any different conceptual system design, the selection of dual stream collection for the conceptual system would require a different MCD model, consisting of different modules and cost factors. Instead of QC sorting of mixed paper, it would rely on separation by residents and additional loading activity at the curb, likely resulting in higher collection costs. Processing costs might be lower, but there would be some additional dedicated processing infrastructure, such as tipping floor space and feed conveyors, in which newsprint would assume some cost impacts. How much higher and lower these costs would be and the impact on the MCI is unknown and would depend on specific design choices (such as whether a Mixed Paper (ISRI 54) or Sorted Residential Papers & News (SRPN) (ISRI 56).</p> <p>That said, the approach to measuring the impacts would be the same. The impacts of each individual material on the resources of all applicable activities would be measured using appropriate metrics, and standardized protocols would reflect the characteristics of the individual materials on those activities. In some cases, the measurements themselves would be the same whether the collection was single-stream or dual-stream, such as for cart (or other set out container) density and compacted density, whether the collection was single-stream or dual-stream.</p> <p>The impacts would be determined in the same way, but given different activities and corresponding cost factors, the precise effect on the MCI is unknown without full modelling of the modified MCD System. However, since the MCD conceptual system was designed specifically to meet all the guiding principles and the requirements of the Four Step Fee Methodology, this is not considered appropriate. for the additional collection costs, the dedicated infrastructure and equipment and for any externalized sorting costs.</p>
3.	NMC: P 23: The MCD Model has 10 metrics, 10 protocols and 36 material categories, along with a model with 18	Thank you. Noted.

#	Question	Answer
	<p>modules. Our interest is the newsprint category. The MCD calculation consists of 4 steps:</p> <ul style="list-style-type: none"> • Calculate the RIF (relative impact factors); • Calculate CF (cost factors) for each module; • Multiply RIF by CF for relevant modules (to create MCDI – module cost differentiation index) and • Sum MCDI to determine material position on MCI. <p>For newsprint, from Appendix E matrix the 9 relevant modules are:</p> <ul style="list-style-type: none"> • #1: Cart • #2: Collection • #5: Screens • #10: QC Optical sort mixed paper • #11: QC manual sort mixed paper • #13: Baling • #14: Storage • #15: System infrastructure • #18: Damaging residue <p>It is worth noting that the matrix in Appendix E does not number the modules, and the modules after “screens” (along the top) are in a different order to the numbering system in Appendices D and E, which was somewhat confusing.</p>	
4.	<p>NMC: P25. Section 9.2. Producing the Relative Impact Factor (RIF): The RIF uses ten metrics, some of which are straightforward, but we would like more information on how two metrics in particular are fair to newsprint:</p> <ul style="list-style-type: none"> • #4 - Area weight and • #6 – Weighted area weight. 	<p>Area weight: Fibre screens are used to separate two-dimensional materials such as corrugated cardboard and newsprint, from other materials primarily plastic, metal and some paper packaging. The screens exploit the two-dimensionality and size of a target material such as large corrugated cardboard or smaller corrugated cardboard, newsprint and boxboard, to separate them from the rest of the stream.</p>

#	Question	Answer
	<p>We have a concern that the measurements may not be accurate or fair to newsprint and would like to see the results on which the calculations are based.</p>	<p>And while screening is primarily a sizing operation, with some screens targeting large materials, e.g., large corrugated cardboard and some targeting smaller materials, e.g., small corrugated cardboard, boxboard and newsprint, size is not the characteristic that best reflects the relative impact of the screening module. Rather, the measurement that most effectively expresses the relevant characteristics and their relative impacts on screening materials is the weight per time of material that travels over a screen. More specifically, it is the weight of a single layer of material that travels over a screen (area weight) that best determines the material’s utilization of the screen. Like other mechanical sorting equipment (e.g. optical sorting of each plastic resin, electromagnetic sorting (eddy current) of aluminum), screens need to spread material out into a single screening layer to be effective.</p> <p>Weighted area weight: As noted above, several types of plastic, paper and metal packaging must be separated from the mixed paper stream in order for the mixed paper stream to meet market specifications for its repurposing and to recover the plastic and other packaging for their respective repurposing. The screens are not able to separate the mixed paper from all the plastic and other packaging to the degree required because of the mix of characteristics of both the fibre materials and the plastic, as well as other materials that flow together – characteristics such as flatness, size, lightness, etc.</p> <p>Therefore, additional mechanical (optical) and manual sorting is required to separate these materials. So, in the case of optical QC sorting, the Area Weight measurement for each material undergoing the optical QC sorting is weighted according to (i.e. multiplied by) the proportion of each material present that must be separated from the others.</p>

#	Question	Answer
		<p>To illustrate, assume that X% of the PET Thermoforms, Y% of the EPS and Z% of newsprint flows with the mixed paper. Thus, the resulting Weighted Area Weight measurement will be Area Weight of PET Thermoform x X%; Area Weight of EPS x Y%; and Area Weight of Newsprint x Z%.</p> <p>Please note that the QC modules are the only modules in which quantity is considered in determining each Module Cost Differentiation Index. Even then, it is not the mix of materials, rather only the portion of each material present, that is considered. Thus, the corresponding metrics for Optical Sorting (Area Weight) and Manual Sorting (Manual Pick Rate) for each material are “weighted” by the corresponding proportion of each present material.</p> <p>Incidentally, the proportion of each material that required QC sorting was measured using a material category test and conducted in a real facility with key attributes (materials, equipment, throughput) that resembled the MCD System, with fifty tonnes of material.</p>
5.	<p>NMC: Section 9.2.3 (P 27) Determining the Relative Impact Factors (RIF): We would like to see the inputs to developing the RIF for each module, to more fully understand how the relative contribution of newsprint is calculated for the 9 modules which are considered relevant (listed above). We are also interested in the other 9 non-newsprint modules to see how much cost they proportionally contribute to the system total cost.</p>	<p>CSSA would be pleased to prepare a targeted presentation for Newsprint stewards, both newspaper publishers and retailers, interested in understanding more about the contributors to the category’s MCI. We have been open to requests from all stakeholders throughout the consultation process and have hosted similar meetings with Restaurants Canada, Carton Council and Canadian Beverage Association. We will be in contact to arrange a meeting with Newsprint stewards now that you have indicated your interest in learning more about the MCI.</p> <p>Our presentation will focus on the metrics used in the modules that impact the newsprint position on the MCI and provide comparison to other materials using the same modules.</p>
6.	<p>. NMC: P 27 – Module Cost Factor (CF): We understand that MCF are developed or being developed for a system which processes 31.75 tonnes per hour each of the 18</p>	<p>CSSA would be pleased to prepare a targeted presentation for Newsprint stewards, as explained above.</p>

#	Question	Answer
	<p>modules. Is it possible to get the material mix on which the MCF is based – for newsprint in particular we would like to know the assumptions about the material mix which is being collected and processed. No detail was available in the report and it would be helpful to see what the relative costs of each of the 18 modules (as a % of the whole) are.</p>	
7.	<p>NMC: P 29 – Module Cost Differentiation Index Is it possible to provide us with the RIF for each material and the CF for each module in your model. We have used the information in your pre-read to try to better understand the factors that go into the MCI for newsprint. The figure below shows your 18 modules, with the 9 impacting newsprint and the remaining 9 where newsprint is not involved. Understanding the relative cost of each of the 18 modules in your model as well the relative contribution of newsprint to the overall module cost (in the 9 modules where newsprint is included) would help us to better understand the material cost differentiation details. The figure shows the modules which include newsprint in round blue shapes, and the 9 modules where newsprint is not included in rectangular orange shapes. We have constructed this figure from the information in Appendices D, E and F of the pre-read.</p>	<p>CSSA would be pleased to prepare a targeted presentation for Newsprint stewards, as explained above.</p>
8.	<p>NMC: P31 Material Cost Index (MCI): The figure on Page 31 shows the relative MCIs of all materials. Is this the actual MCI or just an illustrative example? We understand why magazines, catalogues and directories could have a lower MCI than newsprint (assuming it is because of density), but we need more detail on how specifically the calculations were carried out that resulted in newsprint</p>	<p>CSSA would be pleased to prepare a targeted presentation for Newsprint stewards, as explained above.</p>

#	Question	Answer
	<p>having a higher MCI than steel containers and glass packaging in particular. The video on the CSSA website uses glass packaging as an example of a material which is abrasive to equipment, increasing wear and tear, and therefore maintenance costs on collection vehicles and sorting equipment (also stated on Page 14 of the pre-read report). Newsprint which is easy to handle, with good markets should surely be lower than glass packaging on the MCI scale, therefore we took a more careful look at the factors that go into the MCI calculation and where we need more detail to assess whether the assumptions that went into the MCI were reasonable or not. These information requests are listed earlier.</p>	
<p>9.</p>	<p>NMC: P 17 – Sorting Protocol Criteria. Point # 2: “when not the simplest sorting process, the sorting protocol represents the predominant industry practice. Can you confirm that screens are the predominant industry practice for cleaning up fibre at this time?”</p>	<p>The use of non-wrapping screens to separate two-dimensional fibre materials from three-dimensional containers and other packaging formats has been incorporated into the MCD System design, because this is the predominant technology used in MRFs across North America today. When applying the “sorting protocol criteria”, as described on page 17 of the MCD pre-read, the two repurpose-ready commodities that emerge for fibres are OCC (ISRI 11) and Mixed Paper (ISRI 54).</p> <p>OCC (ISRI 11) While this does not represent the simplest sort of fibre materials (the simplest sort would be to sort all fibre to Mixed paper (54), it is overwhelmingly the predominant industry practice to sort large OCC from all other fibre materials. In addition, OCC (ISRI 11) is an established repurpose-ready commodity specification.</p> <p>Mixed paper (ISRI 54) Represents the simplest sort of remaining 2D fibre materials after large OCC is removed by the OCC screen. It is the emerging industry practice to produce a</p>

#	Question	Answer
		<p>Mixed Paper (54) grade at MRFs across North America, noting that newsprint is a declining material or product in residential recycling programs. While some recycling programs still undertake some sorting of newsprint, it generally does not meet the Sorted Residential Paper and News (ISRI 56) specification. Mixed Paper (54) is an established repurpose-ready commodity specification.</p>
10.	<p>NMC: P17 – point #3: The sorting protocol represents and emerging industry practice – can you confirm there are no emerging industry practices that would impact on newsprint recycling and increase the cost of recycling.</p>	<p>Please refer to the answer above.</p>
11.	<p>NMC: P 18 – Commodities produced by the MCD System – We have noted that there is no separate newsprint category assumed and that paper is marketed as either mixed paper ISRI Grade 54 or OCC – ISRI Grade 11. Can you confirm what percentage of newsprint was directed to each of these bale categories?. Also confirm if possible how much boxboard was assumed to go into each of these bales.</p>	<p>In the MCD System, large format OCC is directed to the OCC bale (ISRI grade 11) using the OCC Screen. Small format OCC flows together with other fibre materials to the Mixed Paper (ISRI Grade 54) using the second level of fibre screens. The newsprint entirely flows with the Mixed paper stream. All boxboard flows with the mixed paper stream.</p> <p>OCC bale (ISRI grade 11) and Mixed Paper (ISRI Grade 54) are the repurpose-ready commodities defined for fibre in the MCD System and for each individual material category. A Material Category test was conducted to establish how materials flowed in the preparation of each of these bales and accounted for the need for any additional sorting. The test was conducted in a real facility with applicable equipment similar to the MCD System using 50 tonnes of material.</p> <p>Regarding your question about the proportion of newsprint and boxboard that went into the bales, the composition of the commodity bales is not relevant to the MCI because it only measures the cost impacts required to get them into bales (i.e., a repurpose-ready state.)</p>

Questions as of July 24, 2020

#	Question	Answer
12.	How does the MCD account for differences in labour and capital needs based on the varying mix of materials across the four packaging EPR programs?	<p>The MCD Methodology is focused on measuring the impacts that materials have on a standardized conceptual MCD recycling system so that all material impacts are measured on a level-playing-field basis. As stated on Page 8 of the pre-read document, setting the fees for each program consists of three distinct sets of activities. The MCD methodology supports the second set of activities, which is to determine each material's impact on the cost of the recycling systems as compared to all other materials.</p> <p>It is the first set of activities, the process by which annual budgets are set, when provincial programs costs are determined, that accounts for differences in labour and capital needs for the varying programs. It is the third set of activities of calculating the fees, that accounts for the varying mix of material supplied and managed for each program given that Step 1 of the Four-Step Fee Methodology requires that each material's relative share of gross cost considers both its cost impact value (the MCI) and the quantities of materials supplied and managed.</p>
13.	Will there be a set of MCI values specific to each of the four jurisdictions (ON, BC, MB, SK), in order to reflect differences in material mix?	<p>No – expanding on the information above, the MCI represents a material's impact on recycling system resources defined for a standardized conceptual MCD system so there will be one Material Cost Index used by all four participating programs. As noted above, it is the first and third process that accounts for provincial differences.</p>
14.	Given that about 50% of the tonnes collected in Ontario are collected in a two-stream bin program and that BC also has a significant number of two-stream programs, what is the impact on the accuracy of the MCI?	<p>The MCI is not attempting to replicate the Ontario recycling system. This is a fundamental departure from the principles of the ABC methodology which attempted to replicate the cost of particular systems and then allocate the costs of participating study programs to materials or the commodities in which they are sorted. This resulted in different cost/tonne for each provincial program, reflecting the different mix of study programs. The MCD methodology is focused on the material and its characteristics rather than individual and varied system designs. The system design and other provincial system design differences are accounted for in process #1 illustrated above.</p>

#	Question	Answer
15.	<p>Could you indicate what the CPS assumes in terms of how cartons are prepared by consumers for recycling? Will the CPS be updated and if so, how and at what frequency?</p>	<p>As it does for all materials, the CPS assumes that Cartons are placed into the collection cart clean and dry, free of all residual product. They are not modified by the consumer before being placed with other materials in the cart, e.g. they are not densified, broken down into a 2-dimensional format or dismantled and they are not aggregated or nested. The CPS is silent on the handling of closures, i.e. caps may be on or off, but the expectation is that straws from drinking boxes would be removed from the package. The impact measurement protocols, e.g. various density measurements, exclude any materials that obviously did not conform to the CPS, e.g. if they contained residual product. The CPS is part of the MCD methodology context, specifically the system boundary conditions. While evolution of the system is expected to take place within a three to five-year timeframe, the system components and boundaries, including the CPS will be monitored annually. Updates would be guided by factors such as technological innovation and emerging technologies, consumption preferences, end market specifications, etc.</p>
16.	<p>Can you confirm how cartons are managed between the QC Manual Sort/Mixed Paper Module and the Optical Sorter Module? Are all cartons assumed to be recovered into a PSI-52 grade? Or is a proportion of cartons assumed to be recovered with Mixed Paper#54?</p>	<p>The MCD System and its boundary conditions are conceptual and standardized to all materials and jurisdictions. Using current or emerging technologies, all materials that can be, are sorted to a repurpose ready condition and all resources necessary to do this are accounted for.</p> <p>Cartons are assumed to be sorted optically and all recovered cartons are directed to the emerging Polycoat bale.</p> <p>The majority of the cartons are recovered by the primary optical sort module, Module #8.</p> <p>A portion of the cartons entering the system flow with the mixed paper stream because their characteristics are such that they cannot all be separated from the other fibre materials by the screens. This happens because they may be flattened during collection and behave like the fibre materials, or their light weight causes them to be entrained with the fibre. The portion of cartons that flow with the mixed fibre are therefore recovered in the QC Optical sort – Mixed Paper, Module #10.</p>

#	Question	Answer
		Therefore, Cartons have the combined mechanical sorting impacts from utilizing the resources of both these modules.
17.	What is an Emerging Grade and why has the MCD not used the ISRI Grade 52, which is a recognized grade?	<p>To be repurpose ready, a material must be “prepared to meet the specification of an entity that will repurpose it without further sorting beyond general cleanup of prohibitive and undesirable materials using commercially available equipment that is not generally employed in MRFs.” The repurpose ready commodity specified for each material was determined through a standard set of criteria applied to all materials.</p> <p>The criteria considered the standard industry practice that either meets an established repurpose ready commodity specification (e.g. ISRI grade 52) or uses an emerging industry practice that meets an emerging repurpose ready commodity specification when the predominant practice is declining. An emerging repurpose grade is one that has been successfully implemented in commercial applications.</p> <p>Recently, the predominant industry activity has been to sort cartons (ISRI grade 52 - aseptic and gable top) from other polycoat materials, but as pressure to repurpose other polycoat materials increases as well as the prevalence of optical sorting targeting all polycoated paper material, this sort is being displaced and mills are accepting the polycoat mix.</p>
18.	Can you clarify the difference between Paper laminates and Polycoated Paperboard, and clarify which is included and which is excluded using examples (i.e. frozen food trays, cold drink cups)?	<p>Polycoated Paperboard includes coated paper packaging used to package frozen foods such as ice cream and other food products and polycoated hot and cold drink cups. These are included for collection and sorting and repurposing in the MCD System.</p> <p>Paper Laminates includes packaging in which paper is the main component, and which may include metalized foil, wax or plastic coating, and other coated paper. They are typically flexible packaging and may include multi-layer bags with a poly-film, kraft or other paper layers in packaging. They are not included for collection, sorting and repurposing in the MCD System, but they still are assigned cost impacts according to their characteristics. As they are not repurposed, they would not share in the revenue in Step 2 of the Four-Step fee setting methodology.</p>

#	Question	Answer
19.	Can you provide the Relative Impact Factors (RIF) and Cost Factor (CF) values associated with all the material categories under the different modules?	We agree that understanding cartons' relative impacts in each of the relevant modules could be helpful to Carton Council and its members to understand where cartons' highest cost impacts may reside. However, providing you with RIF and CF values will not provide the kind of meaningful information you're seeking. Instead, CSSA recommends that a meeting be arranged with Carton Council and its interested members, sometime over the next couple of months, when CSSA can take you through in some depth how cartons behave in the various modules that make up the MCD conceptual system. Such a meeting is sure to foster an interesting and fulsome discussion.

Questions as of July 22, 2020

#	Question	Answer
20.	Why are aluminum cans called "used beverage container"? Could they be called "aluminum beverage container" to avoid confusion?	The MCD category 'Used Beverage Containers' is used to reflect the ISRI Scrap Circular Specification grade called "Baled Aluminum Used Beverage Can (UBC) Scrap" or Baled UBC for short. Because this grade can only be comprised of aluminum beverage cans, and not any other aluminum containers, the project team thought it was important to model the category name after the ISRI specification. However, given the potential for confusion and the fact that only one other MCD material category refers to materials in their post-consumer format, i.e. Used Beverage Containers (UBC) and Old Corrugated Cardboard (OCC), we will take into consideration your suggested name change going forward. As noted in the presentation deck, we will be initiating a full review of Material Categories in our next harmonization project and will do so at that time.
21.	In appendix E, UBCs (aluminum cans) are marked down as "manual, primary and secondary" sorting. Aren't aluminum cans sorted with an eddy current?	Yes. You will note that Appendix E identifies both Used Beverage Containers and Aluminum Foil and Other Aluminum Containers as the only two materials that utilize the 'Electromagnetic Sort' module. This is module #9 in the MCD system. You are correct that this is also referred to as sorting by 'eddy current'.

#	Question	Answer
		<p>However, while not practiced in all MRFs, the predominate practice for repurposing and gaining value from aluminum packaging from recycling systems in North America is to sort used beverage containers from other aluminum packaging. This requires a secondary manual sort. Because of the tendency of aluminum used beverage containers to flow with other materials because of their light weight and because of their tendency to change shape (flattened, and therefore may go over the fibre screen in the MCD System), additional quality control sorting activities are required not only to ensure that used aluminum beverage containers are recovered to the degree specified by the MCD System, but also to ensure other materials can meet their specifications for repurposing. This additional sorting ensures that AL UBC satisfies Guiding Principle #4 – for it and other materials to become ready to be repurposed. For additional context, the electromagnetic/eddy current sort associated with AL Used Beverage Containers represents less than 10% of its MCI value whereas the secondary sorting and QC related sorts, just over 10%.</p> <p>The major contributor to this material’s MCI value is related to the Collection module (collection truck) where approximately 50% of its MCI value is assigned. In this module, the UBC has the 3rd highest MCDI (Module Cost Differentiation Index) value because UBC has a low compacted density relative to other materials, thus it takes up relatively more space in the collection vehicle and has a higher impact on this significant module.</p>
22.	<p>Most members expected glass packaging to be higher on the material cost index due to its abrasiveness and damage to equipment. Why is it so low on the material cost index?</p>	<p>When considering each of the Cart,-Collection, Infrastructure and Storage modules, which together represent approximately 75% of the MCD system costs, Glass has the highest density. In the Cart Module its density is second only to Magazines, Catalogues and Directories. Its high density means a lower impact on the resources of these modules relative to other materials.</p> <p>In addition, the MCD system is designed to deliver on the guiding principles outlined in Section 7. To adhere to these principles, including consideration of ‘emerging trends’, the MCD system’s design includes a Glass Separation module</p>

#	Question	Answer
		<p>(Module 6) and this module’s impact is fully attributed to Glass and represents approximately 20% of its overall MCI value. Further, as you note, Glass does have abrasive and damaging characteristics (what we call ‘Impeding and Damaging Characteristics’). In Module 17, the ‘Abrasive’ module, Glass assumes almost 90% of the cost impacts of this module. Steel containers and AL UBC are attributed 8% and 4% respectively.</p> <p>The Impeding and Damaging Characteristics module for abrasiveness, Module 17, represents just less than 5% of the MCD system cost, i.e. a significant cost for primarily one material, such that its MCDI reflects just less than 50% of the value of glass within the MCI. Thus, it’s MCDI respects both the impact and the cost so that high impacts on low cost modules are not overstated. This, of course, works both ways and ensures that materials with low impacts on high cost modules such as the Cart, Collection and Infrastructure Modules are not understated.</p>
23.	<p>Some members have questioned why PET water bottles and PET beverage bottles are high on the material cost index above cartons, PP containers and PVC. Could you let me know why PET bottles rank where they do, so I can communicate that back to CBA members?</p>	<p>While PET beverage and water bottles are regarded as highly recyclable within recycling systems because they are numerous and have a relatively high value, the cost impacts of PET bottles are higher than cartons, PP containers and PVC. This is primarily because of their generally lower density (higher impact since they take up more space), in the Cart,- Collection and Infrastructure modules, which together make up over 70% of the MCD System cost. Moreover, like PP, PVC and Cartons, PET water bottles tend to be misdirected and flow with other materials such as mixed paper and therefore require additional QC sorting to ensure recovery and to ensure all materials meet repurpose specifications. The light weight of water bottles results in a higher impact in these related QC sorting activities.</p>
24.	<p>Although MCD’s purpose is not to address STINO, what is CSSA doing to address STINO and e-commerce packaging?</p>	<p>You are correct that MCD does not address STINO nor e-commerce but both issues are important and complex and are addressed through various initiatives. We’ll address each separately.</p>

#	Question	Answer
		<p>STINO (Stuff That is Not Ours): STINO is a term that we use to describe things like non-obligated materials that resemble obligated materials that find their way into the Blue Box (e.g. bound books and packaging-like product) as well as materials that are supplied by non-obligated producers (e.g. Magazines shipped direct to the resident from out-of-province and out-of-province companies selling products and their associated packaging directly to residential consumers) or materials from producers below the de minimis thresholds. In addition, we include contaminants as STINO – things such as plastic toys and other non-targeted materials.</p> <p>The approaches to managing STINO will differ for each PPP program and are influenced both by the regulatory environment as well as the level of control the stewardship program has over the recycling system itself. Where the program has control of the collection service standards and composition data such as Recycle BC, the program actively works with its collection partners to reduce contamination. You can read examples of the success of these initiatives on page 24 of the Recycle BC 2019 Annual Report.</p> <p>e-Commerce: This is a global challenge and CSSA is actively researching solutions to the e-Commerce problem (mainly associated with out of province vendors selling and shipping directly to residential consumers). We have undertaken a three-part research project on the impact of e-commerce on EPR programs and potential policy, financial, regulatory, and other approaches to address it.</p> <p>Phase One, a global literature review, has been completed and Phase Two and Three are expected to be completed later this year. Phase two calls for in-depth interviews with key Canadian stakeholders and Phase three will provide recommendations on how to minimize or solve the issue. In addition, we are currently completing a backgrounder report based on the Phase One research that provides eight potential approaches to address e-commerce in EPR</p>

#	Question	Answer
		programs that have been implemented or considered in Europe and the pros and cons of each approach. That report will help inform Phases Two and Three of our research project.

Questions as of July 21, 2020

#	Question	Answer
25.	Could you please provide some specifics on the MCD Methodology for pizza boxes?	<p>Pizza boxes may be covered by two MCD material categories: Large Format OCC and Small Format OCC - depending on the size of the pizza box. The reason there are two MCD categories for OCC is because its size impacts how it moves through the MRF and the resources utilized to move it from collection to preparing it to be repurposed. While two OCC material categories are important for assessing costs in the MCD model, both Large and Small format OCC map to one fee setting category in the PPP programs.</p> <p>Overall, when the impacts of Large and Small Format OCC are measured through the MCD system they are determined to have a lower than average measured impact compared to other materials. This is generally due to the material's higher than average median density reducing its impact particularly during compaction on the collection truck (a new metric measured under MCD but not measured as part of ABC). OCC also has a relatively low sorting impact – also a new measure under MCD.</p> <p>While the ranking in the MCI is relatively low, the relative value of OCC within the MCI is slightly higher than the relative value within the range of cost/tonne from past ABC studies. This is because of the measured impacts for other materials using the new metrics. For example, the impact of compaction on the utilization of truck space also benefits many other materials that are compressive, e.g. PE Film and Bags. Given that both the MCD methodology and</p>

#	Question	Answer
		<p>the fee methodologies are allocating impacts and budgets to all obligated materials on a 'relative share' basis, this means that a reduction in one material will necessarily create an increase in others.</p> <p>The relatively low MCI value of Large and Small Format OCC (versus other materials) on the MCI means a lower impact on the cost of the recycling system. However, please be aware that a lower MCI value does not automatically translate into lower fee rates as the MCI value is only one of many inputs into the fee setting methodology. The quantity of material supplied and managed also impact Step 1 of the Four-Step Fee Methodology. In addition, the fee rates for OCC will be different in different programs due to each program's unique features such as full producer responsibility versus shared cost programs, quantities supplied and collected and other factors.</p>

Questions as of July 13, 2020

#	Question	Answer
26.	<p>As I understand it, the MCI is a factor in fee setting. Going under the assumption that well-established materials with unvarying characteristic/composition will consistently have the same material impacts that were determined in the system, will the MCI then have a constant value? In line with this, should we only expect MCI changes for new materials or materials that require further research and development?</p>	<p>It is generally correct that well-established materials with unvarying characteristics and composition would have a more or less constant relative value within the MCI.</p> <p>However, we know that material characteristics and composition within a material category can vary from year to year. For example, as the form and density of PET thermoform packaging varies, this could impact the resulting MCI measurements for the PET Thermoform category. This variation would be captured in the measurements and resulting inputs to the MCI calculations. In addition, changes to the packaging and printed materials supplied by producers, such as light-weighting or material substitution would also be expected to result in some variation to inputs in the MCI calculations. While the changes are not</p>

#	Question	Answer
		<p>expected to be dramatic year over year, some minor variation should be expected.</p> <p>It is also important to recall that even when the material's value on the MCI is constant, that does not suggest that the fee rate will be constant year over year. The reason is that the MCI is one variable when calculating the material's relative share of the Gross Cost in Step 1 of the Four-Step Fee Methodology. The other variables include supply quantities, collected/managed quantities, and the program's budget.</p>

Questions as of June 30, 2020

#	Question	Answer
27.	With an aim of lowering their remittances and helping create a more efficient system, how should stewards use the MCI in decision making when it comes to packaging selection, or should they not?	The MCI provides information about the relative cost impacts of materials on the recycling system such as how much does Material A impact costs compared to Material B and at what point in the system does it have those impacts? While this is an important input to the Four-Step Fee Methodology, it pertains only to Step One of the Methodology, i.e., the allocation of gross cost. Therefore, we do not recommend that it be used as the only indicator when making packaging choices because it is only one input to fees. The goal is to provide stewards with information about these cost impacts so that they have confidence in the MCI and therefore confidence in the fees that result.
28.	The pre-read document made reference to design assumptions that all programs are based on cart or commingled" collection. Our municipality (like many others) utilizes a two stream (container/ fibre) system and the existing MRF infrastructure is designed for separate stream processing. Does this imply that all Ontario municipal programs will be transitioning from a blue box(es) system to a single stream cart-based system? If so	The MCD conceptual recycling system includes the complete set of activities and technologies that collectively constitute a comprehensive, fully optimized, fully maintained system, that, operating at its highest level and efficiency, produces output material that is ready to be repurposed. As such, it establishes a common "level-playing field" set of conditions that enable all materials' cost impacts to be consistently measured. Therefore, by nature and design, it does not reflect any particular municipal recycling program. While the conceptual system is rooted in real world recycling technologies and processes it is used

#	Question	Answer
	would all related costs (collection containers, vehicles, MRF infrastructure) be 100% covered by stewards under full EPR program (post 2023)? Do municipalities have any say should they wish not to see carts deployed throughout their community?	only to determine relative cost impacts and has no bearing on particular collection systems, processes or technologies used by individual municipalities. Further, no municipality is expected to adjust their recycling system based on the design of the conceptual system used to determine the MCI.
29.	Collection module assumes single stream. What if collection was fibres and containers rather than commingled?	Please see answer above.
30.	What does the category 'used beverage containers' refer to in the MCI? Does it refer to aluminum beverage containers only?	Used Beverage containers include: aluminum sealed rigid beverage containers used for alcohol and spirits, carbonated beverages, juices, sports drinks, water and energy drinks.
31.	You mentioned that currently, aggregation of fee categories happens before the 4-step methodology is applied. I was under the impression that it was the opposite and each individual material category undergoes the 4-step methodology, which produces its fee. Then certain material category fees are aggregated. Can you clarify?	MCD impact measurement studies were done on a greater number of material categories than the number of material categories on which stewards report and pay fees. This provides an additional level of granularity and detail on how a broad range of material characteristics impact the cost of the system. However, the MCD study categories are mapped to the existing fee setting categories which necessarily includes some aggregation and this is done before input to the fee setting methodology. This aggregation is completed during the calculation of the final MCI used in fee setting.
32.	How flexible is the MCD to new material streams being added as a new material stream would change the overall metrics established by the previous mix of materials	One of the four primary components of the MCD is maintenance procedures that monitor the evolving tonne and evolving recycling processes and technologies and their associated costs. This will ensure that the MCD model can respond over time and stay in step with the marketplace and the evolving tonne and the introduction of new materials and packaging formats. As new materials are introduced, they will be included in measurement studies so that we can gather the necessary metrics that will help inform their value on the Material Cost Index (MCI).
33.	Will any consideration be given adding more material categories? For example, newer plastics not in the exiting HDPE or PET categories.	Please see answer above. The evolving tonne refers to the ever-changing mix of materials in the recycling system as new materials and new formats are introduced into the marketplace. The MCD methodology has been built so that it has the flexibility and nimbleness to reflect these changing conditions.

#	Question	Answer
34.	What happens if the PROs in Ontario do not approve the Four-Step fee methodology?	Stewardship Ontario will determine if it will propose the move to the Four-Step Fee Methodology and the Material Cost Differentiation methodology for use while it remains the designated IFO until wind up is complete. Once the transition is complete and the Ontario PROs assume operational responsibility, we cannot comment on how these organizations will go about setting their prices/fees.
35.	The MCD seems to categorize the recyclability of materials by cost of handling/processing/etc. Is there a similar study or ranking/scoring system that looks at the recyclability of materials regardless of cost? For example, PVC shows a lower cost than some other plastics but many MRF's do not want PVC mixed in their plastic. How will that be addressed?	The MCD Methodology was developed specifically to assess the relative cost impact of materials on the recycling system in order to appropriately allocate gross system costs to all materials in Step One of the Four-Step Fee Methodology. The MCD Methodology was not designed to assess each material's recyclability or end market value. When it comes to materials such as PVC, the MCD methodology is based on the principle that all materials count, all characteristics count and all the activities needed to prepare them to be repurposed are considered. Therefore, since PVC is in the system it must be included in the MCD system and its cost impacts determined based only on its material characteristics not on its recyclability. The MCI is only one input into the Four-Step Fee Methodology. The system costs associated with materials that are not recyclable or might be considered a contaminant are addressed in other aspects of the fee methodology including steps two and four.
36.	What about PVC in the general trends?	If there are innovations in technology that affect the management of PVC or changes to the supply of PVC, these will be considered as they evolve and incorporated into the MCD Methodology accordingly.
37.	How did you distribute the cost of cross contamination, for instance, a can ending up in the ONP and having to be removed at the MRF?	The MCD model, which is comprised of 18 distinct modules, ensures that all cost impacts related to the collection and sorting of each material category are considered. This includes quality control activities such as the impacts of materials that tend to be misdirected at various stages of the sorting process such as lightweight PET bottles that can be misdirected to the mixed paper stream and need to be recovered.
38.	For an excluded material (not collected) does that mean that the calculation for their share of gross cost allocation	That is correct but it also means that this material will not receive any share of the commodity revenue under Step 2 of the Four-Step Fee Methodology. Further, this material may assume expense under Step 4 to fund research and

#	Question	Answer
	is based only on the 60% calculated from the contribution of materials into the market - reported by stewards.	development, end market development or other to improve its performance in the system.
39.	Using your slide 19, if material two is a material that is not collected in a municipal collection program, its relative share would still be 66.7%. Would it be the expectation of a steward that material 2 should be collected in a blue box, otherwise if collected as trash, the taxpayer is paying twice.	In line with principle that all materials count and should contribute to program costs, material two in your example, will receive a 66.7% share of 60% of the cost of the program based on the supplied quantity as reported by stewards. This feature of the Four Step Fee Methodology ensures that all materials are contributing to the system costs whether or not they are collected for recycling. The steward of a material not collected in the recycling stream may also be contributing to the costs associated with improving its recyclability and/or the development recycling end markets under Step 4. Typically, a material is not collected in the recycling system if it cannot currently be recycled or recovered, due to lack of technology and/or lack of end-markets.
40.	With little to no commodity revenue in many categories, doesn't being a material that is not collected benefit you by avoiding the costs associated with collection, thus advantaging less environmentally sound materials?	The first principle of the Four-Step Fee Methodology is that all designated materials must bear a fair share of the costs of the recycling system irrespective of whether they are collected for recycling or waste disposal. This principle ensures that non-recyclables are not inadvertently rewarded through the fee methodology. Since all materials are assuming their relative share of 60% of the gross cost of the system whether or not they are collected, reduces the share of gross costs attributed to those materials that are collected and recycled, nor do uncollected materials earn commodity revenue, which is allocated in Step 2 of the Fee Methodology. In addition, Step 4 of the methodology attributes cost only to those materials that require investment to improve their cost and performance effectiveness in the recycling system or need development of recycling end markets. In these ways the Four-Step Fee Methodology ensures that materials not yet collected for recycling do not avoid their fair share of the system costs.

Questions from Stewardship Ontario's consultation on the Blue Box Program Transition Plan

#	Question	Answer
1.	<p>What are the expected implications of this new costing model on the allocation between stewards who pay cash and those who pay in-kind?</p> <p>Is the new replacement costing methodology to the ABC methodology expected to have any implication on municipal funding?</p> <p>Are any cost implications expected for municipalities/First Nations communities funding with replacement cost model that replaces ABC model?</p>	<p>The MCD project examined how the characteristics of different materials (density, weight, size, compaction, etc.) impact the cost of managing the blue box recycling system using scientifically controlled procedures. That process revealed that some materials, particularly but not exclusively newsprint, have a larger relative impact on the cost of the blue box recycling system than was previously understood. Adoption of MCD would result in a different distribution of costs among the materials than the current ABC process. Since this redistribution would result in an increase in newsprint fees, the effect would be to increase the proportion of the Steward Obligation that municipalities receive on an "in kind" basis. It should be noted that Stewardship Ontario's ongoing research suggests that the relative contribution of newsprint and therefore the in-kind amount is likely to decrease over time. Stewardship Ontario appreciates that municipalities will have concerns about the impact MCD would have on the in-kind amount. As noted during the webinar, Stewardship Ontario intends to engage further with municipal representatives on the Transition Plan, including this issue. Additional details on the MCD project and its impacts will be provided at that time, to ensure that municipalities have the information they require to respond meaningfully to this consultation.</p>
2.	<p>Regarding the MCD Methodology, what is the difference between Area Weight vs. Weighted Area Weight? And Pick Rate vs. Weighted Pick Rate?</p>	<p>The metric Area Weight is used to measure the impact on or utilization by a material of mechanical sorting equipment. For all mechanical sorting targeting specific materials, e.g. optical sorting of each plastic resin, electromagnetic sorting (eddy current) of aluminum, or sorting out OCC with an OCC screen, Area Weight is used to differentiate the utilization by materials targeted by that equipment.</p> <p>In the special case of quality control (QC) sorting The Area Weight metric is weighted by the proportion of each material undergoing the QC sorting. For example, several types of plastic packaging must be separated from the mixed paper stream in order for the mixed paper stream to meet the market specifications for its repurposing and to recover the plastic packaging for its repurposing. The screens are not able to separate the mixed paper and all the</p>

#	Question	Answer
		<p>plastic packaging to the degree required because of the mix of characteristics of both the fibre materials and the plastic materials that flow together. Therefore, additional mechanical (optical) sorting is required to separate these materials. So in the case of this QC sorting, the Area Weight measurement for each material undergoing the optical QC sorting is weighted according to (multiplied by) the proportion of that material present and that must be separated.</p> <p>The difference between the metrics of [Manual] Pick Rate and Weighted [Manual] Pick Rate is precisely analogous. Pick Rate is used to measure the utilization of manual sorting labour and Weighted Pick Rate is used to measure the utilization of manual QC sorting labour. For example, manual QC sorting is required to separate materials that cannot be effectively separated by optical QC sorting, e.g. black plastics and fibre materials in the mixed paper stream. In this case the Pick Rate metrics of each material are weighted (multiplied) by the proportion of the material that utilizes the manual QC sort, in this case the black plastics and the fibre materials in the mixed paper stream.</p>
3.	Regarding the MCD Methodology, can you explain the Percent Contribution Metric?	<p>Some impacts on the cost of the recycling system are difficult to measure with a simple measurement apparatus. This is because of the time over which the impact occurs and because of the challenge of establishing standard conditions under which to make the measurement. The impact of abrasiveness is an example. Therefore the Delphi method was adopted, in which a series of questions framed by the same context in which all other measurements are made, i.e. the MCD System, are posed to both a panel of industry experts knowledgeable about the issue and to a broad sample of recycling system managers and operators.</p> <p>The Delphi method is generally applied as follows:</p> <ol style="list-style-type: none"> 1. Questions are first posed and discussed in person to a panel of experts. 2. The answers from the panel of experts are compiled and summarized. 3. A second set of questions based on the answers of the expert panel are posed in a broad survey of recycling system managers and operators.

#	Question	Answer
		<p>4. The results of the survey are then compiled and summarized and then presented to and discussed with the industry experts with a view to determining whether their initial answers should be changed.</p> <p>5. The final results are then used as measurements in the MCD calculations.</p> <p>The metric Percent Contribution measures the contribution of a material to the total cost impacts of particular characteristic, say abrasiveness. For example, Glass contributes to X% of the cost impacts of abrasiveness, Steel, contributes Y% and so on.</p> <p>The Delphi method is employed to determine both the total impacts of material abrasiveness on the capital (life, replacement parts) and operating (maintenance) cost of all system activities, equipment and infrastructure and the Percent Contribution to those costs of each material having the characteristic of abrasiveness. Both are then subsequently used as inputs into the MCD calculations.</p>
4.	Regarding the MCD Methodology, how are materials being treated that may be accepted in some municipal systems vs. not accepted in other systems (e.g. coffee cups)?	<p>In accordance with the MCD Guiding principles, specifically:</p> <ul style="list-style-type: none"> • <i>Guiding Principle #2:</i> All designated materials count. All designated materials of the packaging and printed paper programs should be considered when measuring cost impacts even when those materials are supplied and/or managed in small quantities because all materials are constituents of the recycling system. • <i>Guiding Principle #4:</i> All activities count. All activities necessary to prepare the material to be repurposed should be considered because the intention is that all materials supplied into the market should be repurposed. <p>The MCD Methodology will produce a value for each material on the Material Cost Index (MCI) even when the material is not targeted for collection in all</p>

#	Question	Answer
		<p>municipal systems and even when it is not collected in any municipal system. This MCI value is then used in Step 1 of the Four-Step Fee Methodology to calculate each material's relative share of the Gross Cost (Collection and Processing) of managing the overall system. The Guiding Principles of the Fee Methodology require that all material's contribute to the funding of the system based both on the quantity of material supplied and the quantity of material managed.</p> <p>The conceptual MCD System includes a broader range of materials than typically collected in Canadian municipal recycling programs to help meet Guiding Principle #2 above. The value of each material on the MCI is determined based on impact measurements (cart density, compacted density, area weight, pick rate, etc). However, measurements are typically made with materials obtained from municipal systems. But for some materials, impact measurements cannot be made because they either are not generally collected in Canadian municipal recycling programs or because they occur in quantities insufficient for precise measurement. For the purpose of fee setting, these materials are either assigned a proxy MCI value or they are assigned proxy measurement results used to determine their value within the MCI. The proxies are based on the measurements and MCI values of materials with similar characteristics.</p> <p>MCD Material categories assigned proxy MCI values include Paper Laminates, Plastic Laminates and Other Film, Natural Textile packaging and some plastic packaging which is not yet accepted in commodity specs, such as soft plastic tubes. Materials which are assigned one or more proxy measurements include PVC packaging and rigid PS containers. Coffee cups are part of the MCD material category of polycoated paper and at this time this is included as part of the Paper Laminates category for the purpose of fee setting.</p> <p>Component #4 of the MCD Methodology does include maintenance processes where both materials and recycling process/technology changes are monitored</p>

#	Question	Answer
		<p>so that as materials begin to be collected by municipal recycling programs, they would be incorporated into the MCD System and impact measurements could become feasible.</p>
5.	<p>Regarding the MCD Methodology, what are the assumptions with the MCD Method and do these assumptions have longevity?</p>	<p>The MCD Methodology is grounded in the MCD Context, in addition to identifying material characteristics and categories, the context establishes a conceptual recycling system’s entry and exit point and a corresponding conceptual recycling system design that includes all the activities necessary to move a material from the point of collection through to a state where it is ready to be repurposed without any subsequent operation.</p> <p>Key to this context are that all materials will be set out together, clean and dry in a 360 litre cart and collected as a single stream for the purpose of providing a consistent impact measurement condition only. Additionally, the MCD System includes all the necessary activities to move a material from the point of collection through to a state where it is ready to be repurposed without any subsequent operation. The methodology has defined the repurpose ready commodities based on a set of criteria rooted in the requirement to be ready to be repurposed without subsequent sorting and the predominate technologies and end market practices in the real world. Thus plastic packaging is generally sorted to its specific resin.</p> <p>The conceptual MCD System is assumed to be well maintained and achieves a 97% effectiveness, noting that only designated materials are included. The full cost of all activities and resources to achieve this have been included, rather than the varied financial and business conditions and objectives among municipal recycling programs.</p> <p>Lastly, the impact measurement studies (cart density, compacted density, area weight, manual pick rate, etc.) are conducted based on protocols that impose the same conditions on the measurements for all individual materials. This is so that only the characteristics of the individual materials are being addressed</p>

#	Question	Answer
		<p>rather than those of the varied commodities which each different service provider or program chooses to produce and the conditions under which they choose to operate, as in the allocation determined by the ABC methodology.</p> <p>The conceptual MCD System has 18 modules, each of which is fully 'costed'. The labour rates, equipment costs, maintenance and operating expenses informing this model are sourced from referenceable sources such as Industry Canada for standard labour rates, equipment manufacturers for current cost of equipment, etc.</p> <p>All of these building blocks contribute to our ability to compare the relative impacts of the materials on a level-playing field basis.</p>
6.	<p>What is the rationale on why in-kind amount for newspapers are doubled using four-step and MCI?</p>	<p>Stewardship Ontario is seeking input on making two changes:</p> <ol style="list-style-type: none"> 1) First is the replacement of the three-factor formula fee methodology with the Four-Step Fee Methodology. 2) Second is the replacement of the ABC methodology with the MCD methodology. <p>The combination of these replacements and the data and calculations that underpin them result in some materials having higher fees and some materials having lower fees. The replacements result in newsprint having higher fees.</p> <p>Both methodologies (Four-Step and MCD) are based on principles defined by stewards. There is no rationale pertaining to the outcome for any specific material, packaging or product, including that of newspaper.</p> <p>Newspapers are part of the newsprint MCD material category. Newsprint has a relatively low value and rank (sixth lowest) on the MCI. However, the relative value of all materials on the MCI is different than the relative value and ranking within the range of ABC cost/tonne and therefore the relative inputs to the Four</p>

#	Question	Answer
		<p>Step Fee Methodology are different, resulting in different fees and a different in-kind contribution.</p> <p>The MCD methodology includes new measurement metrics and protocols and additional activities and full costing to ensure that the impacts of individual material characteristics are the focus and all materials are treated consistently.</p>
7.	How is relative cost applied?	<p>As illustrated in the example provided to Q3, the 60% allocation of Gross Cost under Step 1 of the Four-Step Fee Methodology is based on quantities supplied by steward multiplied by the material's MCI value and the 40% allocation of gross cost is based on the quantities of material managed in the province.</p>