Blue Box Cost Containment Options

Report to WDO Board

Prepared by

Panel on Blue Box Cost Containment and the In-Kind Program

Final Majority Report on Cost Containment

15th September, 2015

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1 Introduction

The Blue Box is an Ontario success story. With more than 97 percent of Ontarian's participating in the program, it reached a 66 percent diversion rate in 2013 and has diverted over 11 million tonnes of blue box material from landfill since 2002.

Ontario's Blue Box Program Plan (Plan) was approved under the Waste Diversion Act in 2003. The Minister also approved a Cost Containment Plan (CCP) in Dec. 2004 (revised Aug. 2005) as part of the Plan.

Section 25(5) of the Act and Section 5.2 of the Plan provides Waste Diversion Ontario (WDO) with the lead responsibility for approval of, and reporting on, the annual Obligation or payment required by stewards to individual municipalities.

Under the Plan, WDO has made the determination of the annual Obligation based on advice from its Municipal Industry Program Committee (MIPC), comprised of representatives from the Association of Municipalities of Ontario, the City of Toronto and Stewardship Ontario.

For both years 2014 and 2015, however, MIPC was unable through both negotiation and mediation to reach a recommendation to WDO on the annual Obligation. In 2014, the parties agreed to an arbitration process and the arbitrator, Mr. Robert P. Armstrong, Q.C., came to a decision on the 2014 Obligation on November 25, 2014. Mr. Armstrong's decision on the 2014 Obligation is provided below.

> 290. *I am satisfied that the method I have adopted to arrive at the Steward Obligation for 2014 is fair and reasonable and I would recommend its use for future years subject to a thorough review and discussion in MIPC as to any adjustments that need to be made each year.*

In his decision, Mr. Armstrong also declined to apply cost containment principles to the determination of the Obligation due to an insufficiency of evidence as to how they ought to be applied, as reflected in paragraphs 225 & 226 of his decision as set out below:

> *225. I want to make it clear that by rejecting the use of a model for the determination of the 2014 Steward Obligation, I do not reject the principles of cost containment and the objective of attempting to pursue best practices as a means of containing costs. Indeed, to do so would be to throw out the baby with the bathwater.*
>
> *226. Specifically, I have only rejected the utilization of best practice cost bands, to the extent they are incorporated into the best practices cost model, which I have found wanting due to the insufficiency of the evidence supporting its use. However, it is the particular model I have rejected, not best practices cost bands. I have not rejected their application in the promotion of best practices generally.*

In his decision, Mr. Armstrong also concluded that the Blue Box In-Kind Program under the Plan is extremely unfair to municipalities and that the issue should be addressed by the relevant parties.

His full decision is available on the WDO website at:
www.wdo.ca/files/1814/1709/2400/Blue_Box_Arbitration_Award_-_25_November_2014.pdf.

On June 16, 2015, the Minister of the Environment and Climate Change wrote to the Chair of Waste Diversion Ontario (WDO) regarding the Blue Box Program. Among other things, he requested WDO to set the Obligation for 2015, and requested that the Board develop an "appropriate method of cost containment using all of the information available", and report back to him by September 30, 2015 (Appendix A).

In response to this request, WDO established the "Panel on Blue Box Cost Containment and the In-Kind

Program" (the Panel) and released the Terms of Reference for its work on June 26, 2015 (Appendix B).

The five person Panel was appointed by WDO, with one representative recommended by AMO/City of Toronto, one recommended by Stewardship Ontario, and three directly appointed by WDO.

The objectives in the Terms of Reference charged the Panel with the following responsibilities:

1. Recommending to WDO no later than September 11, 2015, an appropriate methodology to apply the cost containment principles contained in the Blue Box Plan, as amended (December 30, 2004), on the determination of the annual Obligation;

2. Submitting recommendations by September 11, 2015, or as soon as possible thereafter, regarding the Blue Box In - Kind Program, to address the concerns raised by the Arbitrator; and,

3. Consulting with stakeholders and gathering information and data, as necessary, to inform their recommendations.

Specific to objectives one and three, this report outlines the Panel's stakeholder consultation and observations from that consultation. It outlines the Panel's overall conclusions and its recommendations on a methodology/approach for how the cost containment principles in the Blue Box Program should be applied to the calculation of the annual Obligation. It also sets out a number of general recommendations regarding the Blue Box program. It is submitted to the WDO Board for their consideration in meeting the Minister's request in his June 15, 2015 letter.

A separate report regarding the In-Kind Program required in the second objective will be submitted at a later date.

2 Approach

The timeframe set out in the Panel's Terms of Reference for reporting to Waste Diversion Ontario required a focussed approach to its work. It also required the Panel to prioritize those persons identified as experts that the Panel would interview as part of its stakeholder consultation efforts.

Staff of WDO identified information /documents that would be important to the work of the Panel. This was supplied through an online central filing approach, with new material suggested by Panel members added on an ongoing basis. The members reviewed the initial background material prior to its first meeting and it was useful for reference purposes throughout the Panel's discussions.

In its initial conference call on July 24, 2015, the Panel discussed the Terms of Reference to confirm its understanding of the three specific requests from Waste Diversion Ontario as part of its work. The Panel notes, however, the June 30th letter from the Association of Municipalities and the City of Toronto outlining their position and concerns with the Terms of Reference (see Appendix B). This position was maintained by AMO/City of Toronto throughout the discussions of the Panel.

Panel members identified persons with a knowledge of the current Blue Box system and the Cost Containment Plan that could inform its work. These were prioritized and the Panel met in person or by teleconference with a number of individuals/experts (see Appendix C). These meetings were extremely important, helping to focus the Panel's discussions and shape the options and recommendations considered. Section 4 of the Report summarizes the observations heard in these meetings.

The Panel met directly on nine occasions to complete its work and used conference calls for most of its consultations with stakeholders. Most of its discussions were centred on understanding the current Blue Box system, how the annual steward Obligation has been determined in the past, the Cost Containment Plan itself and the development of options for the Panel to consider.

Overall, seven options were developed and assessed against criteria developed by the Panel (Section 7 of Report). While criteria were used to assess the options, they were not used to choose a final option. The criteria were used to guide the discussion to those options that the Panel felt should be considered for further discussion and refinement. While there was general consensus by most members on the two options identified for further consideration, the Panel notes that a full consensus was not reached on this point. All members participated in the more detailed discussion of the two options, but as it was clear that a consensus could not be reached on a preferred option the three members appointed by WDO met directly to develop its final methodology and recommendations regarding its implementation. These are set out in the report in Section 10.

As a result of the broad nature of the Panel's discussions on cost containment, a number of general conclusions and recommendations were also developed beyond the recommended methodology. These were thought to be important for Waste Diversion Ontario's consideration and are also set out in the report in Section 9.

The report also includes other information that the Panel felt was important to report on. These included what we heard from key stakeholders, an updated review of how the Cost Containment Plan has been implemented to date, (a table summary is provided in Appendix D), material on the success of the Blue Box Program and related packaging initiatives, and an overview of the changing nature of material collected in the Blue Box, referred to as the "evolving tonne".

3 What We Heard From Stakeholders

The focused timeframe of the Panel required a prioritizing of those stakeholders interviewed. If the Panel had additional time, more stakeholders would have been interviewed. The stakeholders interviewed by the Panel included:

- Private sector waste management contractors and recycling program operators;
- Current and past MIPC members, especially those engaged in developing and implementing the Cost Containment Plan and associated models;
- Municipal representatives;
- Recycling Council of Ontario (RCO);
- Two organizations which together represent most packaging stewards in Ontario (Retail Council of Canada and FCPC), and one steward company;
- SO representatives; and
- Consultants that have been involved in key aspects of the Cost Containment Plan.

The stakeholder consultation/interview process was very time-consuming and challenging to schedule given summer vacations and the short time frame for the assignment. The preference was to have all 5 Panel members attend all stakeholder interviews, ideally in-person, but if that was not possible, then by teleconference. A number of the interviews were held at the WDO offices with all Panel members in attendance. Other interviews were held by teleconference with some or all Panel members present. All stakeholders interviewed by the Panel were aware of the Panel's mandate. Generally a number of specific questions were sent to the interviewee ahead of time, but the conversations were often wide-ranging.

This section summarizes the feedback from stakeholders under a number of headings.

3.1 Stakeholder Feedback Regarding Reasons for Increased Blue Box Program Costs

Stakeholders interviewed identified a number of cost drivers which have increased Blue Box system costs over the last few years. These include:

- a change in the material mix in the Blue Box, referred to as the "evolving tonne" (discussed in Section 4), with more light-weighting and different composition, resulting in a need for higher investments in complex sorting equipment;
- the increasing costs of labour and fuel;
- increased urban traffic congestion, which increases travel time and collection costs;
- the fall in the Canadian dollar, which has increased the cost of truck purchase (one example provided by a stakeholder - a $300,000 truck now costs $400,000);
- falling commodity prices;
- the impact of China's "green fence" which has effectively eliminated the market for low grade mixed paper and mixed plastic bales;
- recent lower oil prices, which have affected the market for recycled plastics;
- increasing risk aversion which leads to letters of credit and performance bonding requirements which increase the costs of recycling contracts; and
- Increased residue rates, partially related to more single stream systems and user pay programs.

Stakeholders reported that some significant cost drivers such as the value of commodities are out of the control of both stewards and municipalities. One interviewee commented: "Costs are not out of control; costs are out of our control".

While the other cost drivers are somewhat cyclic in nature, and have been experienced in the past, stakeholders interviewed by the Panel stressed the importance of new light-weight materials and a reduction in newsprint (the evolving tonne) and the resulting significant change in the density of Blue Box materials collected as a factor in increasing Blue Box system costs. It is considered likely that the trend towards less paper and more light weight plastic and other packaging (which increase Blue Box system costs) will continue over time.

Stakeholders noted that collection costs are 2/3 of the costs of the Blue Box system, so that any factors which impact on collection increase system costs. One interviewee noted that the proportion might be more like 60/40 now because of the increased costs of processing lightweight plastic packaging, and the need for high-tech MRFs to handle the increasingly complex Blue Box material mix.

Contract renewals/re-bids are a time when cost increases which could not be captured in previous contracts are fully reflected, basically resulting in a "catch-up" to real costs which reflect changing market conditions. As an example, the recent Durham recyclables processing contract was sent out for competitive bid – six bids were submitted. The previous contract had been awarded in 2006 for $6 million/year. The new contract cost is $10 million/year, or a 66% annual increase in processing costs. Some of the increased costs were as a result of adding MRF residue sorting equipment to lower MRF residues from 7% to 3%, which reduced residue disposal costs for the Blue Box program.

Municipalities are handling 2 to 3 times the units per tonne handled 10 years ago. Any manufacturing operation dealing with this increase would expect to see increased costs.

Most of the costs are in the big programs (70% of BBP total costs are in the top 11 programs; 90% of BBP total costs are in the top 55 programs), and this is where the focus on cost containment should be placed.

The costs of managing glass is a huge problem. For example, municipalities in the GTA have to pay a company $40/tonne to take the glass, after collecting it and spending $75 to $115/tonne to process it. One stakeholder suggested that WDO needs to explore with the province options to use the recovered glass, e.g., landfill cover. LCBO glass should not be in the Blue Box system, but costs municipalities hundreds of thousands of dollars per year.

3.2 Stakeholder Feedback on Impacts of Evolving Tonne on Blue Box Program Costs

The changing mix of Blue Box materials, particularly in the last four years (discussed in Section 4 – Evolving Tonne) has had a dramatic impact on Blue Box system costs. Comments on specific cost drivers related to the evolving tonne are listed below:

- Virtually all stakeholders interviewed by the Panel noted the dramatic increase in light-weight packaging being managed by the Blue Box system.
- The amount of light-weight packaging is up substantially at the same time newsprint amounts have decreased dramatically, resulting in a much less dense Blue Box mix, which increases collection costs.
- PET bottles, as an example, are significantly lighter than in the past, with weights per unit reported at 50% to 100% less than 5 and 10 years ago respectively by two stakeholders. This means that more units (possibly up to twice as many) need to be handled to create a tonne and get the same revenue.

- Light-weight packaging compacts easily and is flattened in collection trucks. This creates processing challenges, and quality issues for other materials in the MRF. One processor reported that PET bottles are now so light, they act more like paper (a flat object rather than a round object) in the MRF and are hard to sort from paper, thereby costing more for sorting and contaminating the paper stream.
- City of London noted that tonnages have increased 20%, but volume has increased 70% from 2002 to 2012. Another MRF noted that their revenues have stayed flat, but volume of material has increased by 40%.

3.3 Stakeholder Feedback on Municipal Best Practices

The CCP contains a principle that municipalities strive to operate at best practices. Specific comments included:

- The CCP itself is out of date and does not reflect current circumstances
- Most/nearly all Ontario municipalities have implemented the KPMG (2007) report best practices (e.g. user pay, training, promotion and education, waste management planning, etc.). A number of stakeholders noted that the best practices list in KPMG report is too generic and "way out of date", and that a new Best Practices Study is needed to reflect today's conditions.
- Best practices change all the time. Five years ago, single stream was considered best practice, but not necessarily now.
- It may not be possible to be at 100% best practice. Each municipal system involves numerous decision points where the best practices change over time.
- Through the Continuous Improvement Fund (CIF), Ontario municipalities have invested approximately $100 million in implementing best practices throughout the province (see Section 5 for more details). Ontario has many best practices already in place, although there are still examples of some areas for improvement, including MRF regionalization/consolidation.

Some stakeholders commented that cost/tonne recycling costs by material are higher in Ontario than Quebec, but that reasons for the difference in costs is not known, e.g., material mix recovered, diversion rates. Therefore, a study was suggested that would compare recycling program performance in Ontario to that in BC, SK, the Maritimes and Quebec and identify reasons for differences in cost among the programs.

3.4 Stakeholder Feedback on Municipal Program Groups and Best Practice Models

Considerable time and effort was expended by the Panel to understand the different models used regarding best practice costs and the Obligation. The conversations lead to a number of recommendations on a go-forward basis. The Panel interviewed experts who have been involved in the models used to calculate the Obligation in an effort to understand the history, their intent, how they worked, how they were adjusted over time, and what has led to the general lack of confidence in the models.

While concern has been expressed that a new model will not solve the current impasse between municipalities and SO, as municipalities feel that the Obligation is the reported costs from Datacall, suggestions were nonetheless made on how to improve the model or create a new Best Practices model:

- A simple approach would be best, given the fact that new legislation is expected in 2015/2016. Regardless of the speed with which the new legislation is implemented, Ontario will still need to address the Obligation using a solid cost containment methodology which is workable for possibly the next 4 to 5 years.

- A team of recycling and financial experts should be assembled to design any new Best Practices Cost Model.

- One of the most consistently noted comments was that the municipal groups need to be re-visited. As time has passed, it has become clear to all involved that Ontario municipalities are not in all cases grouped logically in these groups. Criteria such as population, type of households, population density, stops per km., traffic congestion, location (distance to MRFs and/or end markets), and other factors should be used to construct new municipal groups. It is likely that a larger number of municipal groups (from the current 9 groups) will result from this process.

- Many stakeholders agreed that the City of Toronto is unique in the province because of its high multi-residential household concentration (over 50% MR households), as well as road congestion in older downtown streets and neighbourhoods and should be in a separate municipal group of its own.

- It is necessary for large urban municipalities to transfer recyclables rather than directly deliver loads to the MRF. Transfer costs for large municipalities should be included in the model (only small municipalities receive transfer allowance now).

3.5 Stakeholder Feedback on Ways to Contain Blue Box System Costs

Another strong message from all stakeholders interviewed was that a standard “basket of goods” – a common list of materials that are collected in all programs across Ontario - would significantly help to contain costs. It would save considerable confusion when people move from one community to another, or work in one municipality and live in another. It would lead to a common promotion and education program for the whole province, and probably lead to reduced residue and therefore cost savings over time.

One stakeholder felt that a common basket of goods could lead to a reduction in processing costs over time as MRF designs could be standardized and regionalization would be more cost effective.

Stakeholders representing stewards suggested that a harmonized “basket of goods” for programs across Canada would be very desirable from their point of view, as they represent national and international companies that operate in all provinces.

Given that much of the Blue Box service in Ontario is contracted out, stakeholders thought it was important to ensure that contracts are well constructed, and try to ensure that costly letter of credit and performance bond provisions do not add unnecessary costs to contracted services.

Operational audits were suggested by a number of stakeholders as a good way to identify best practice and cost saving opportunities municipality by municipality, or conversely, confirm if they are operating at best practice, starting with the largest Blue Box programs which represent the largest component of system costs.

Stakeholders suggested not adding any new materials to the Blue Box system until the costs are identified and an agreement is reached on cost sharing.

Other stakeholders suggested the need for a steward/SO/municipal forum where the impacts of packaging format changes on the recycling system are explored, and that new materials are not added to the Blue Box system until markets are secured.

Steward related stakeholders explained that packaging design involves many complex decisions, of which recyclability is only one within the sustainability area which also includes water, transportation, GHG impacts, etc. Food safety and food waste reduction are key factors in food packaging design. Packaging design is evolving at a rapid pace. One stakeholder commented that there are about 2,000 types of plastic packaging in the market today that had not been invented 15 years ago.

3.6 Stakeholder Feedback on MIPC and Relationship between Municipalities and SO/Stewards

The Panel probed the health of the relationship between Stewardship Ontario (SO) and municipalities, and specifically how both sides felt that MIPC was functioning, particularly in the last few years. Our interest was in exploring whether the relationship between municipalities and stewards is fatally broken as a result of the arbitration and negotiations around the Obligation, and whether it is possible to mend the relationship.

SO clarified that it is a compliance scheme, responsible for discharging steward Obligations under the WDA. While it collects funds from all obligated stewards in Ontario, it does not really represent stewards, except in WDA related issues, and has a limited ability to influence packaging choices, except through the fees charged.

Specific comments about MIPC and the relationship between SO and municipalities are listed below:

- Municipalities and SO/ stewards get along fine as long as they are not talking about money or the Obligation. Once the conversation is about money, the relationship completely breaks down. For this reason, a forum outside MIPC was suggested as a better route to resolve money related issues, and "get MIPC back to what it does best – resolve technical issues". One stakeholder suggested that "MIPC needs to go back to what MIPC was supposed to do – deliver Section 5.4 of the Blue Box Program Plan".
- Municipalities do not want to shut the door on discussions with SO to address management of problematic materials. There have been many examples of good relationships between municipalities and SO to resolve technical and market issues – particularly cooperating on developing and supporting glass and mixed plastic markets. SO and CIF provided some funding and GTA municipalities provided the tonnage needed to make the businesses work. All those involved felt this was a positive cooperative process.
- Municipalities and stewards reached perhaps 80% consensus during the KPMG study (2006/07), but this level of consensus eroded afterwards. MIPC has not been able to work together since 2011 when discussions around the Obligation became more difficult. There is a big lack of trust between parties at MIPC table. It may be possible to mend the relationship with strong leadership and re-building mutual trust.
- MIPC has been in a holding pattern for a few years expecting new legislation – this has resulted in a lack of motivation or investment needed for MIPC to have a useful role.
- Should MIPC continue, it needs a chair who is independent but understands both sides, and has a technical background.

3.7 Stakeholder Comments on Municipal Costs

Comments from municipalities on their rising costs, and how funding from SO impacts on these are listed below:

- Municipalities are only paid 3% to 5% in the current funding formula;

- Municipalities are under huge pressure regarding municipal budgets and taxes. This creates a strong incentive to hold the line on Blue Box costs (as they are paying at least 50% of the bill). Yet they cannot control the types and quantities of materials being introduced into the market.
- Blue Box funding does not cover 50% of municipal costs in most cases. One municipality reported that they get paid $20/hh through Blue Box funding, whereas actual costs are $60/hh, so steward funding pays for 33% of their Blue Box program.

The Panel also received a submission from the County of Simcoe, dated August 13, 2015, addressing their concerns related to their municipal grouping, the In-Kind issue, and provided comments on the need for a consistent basket of goods.

4 The Evolving Tonne and other Cost Drivers That Impact the Ontario Blue Box Program

Stakeholders interviewed by the Panel noted a dramatic change in the material mix in the Blue Box, referred to as the "evolving tonne", as one of the key drivers in increasing Blue Box system costs. While the other cost drivers have been experienced in the past, and are somewhat cyclic in nature, the evolving tonne is a new phenomenon, and stakeholders interviewed by the Panel stressed the importance of this issue as a key factor in increasing Blue Box system costs, and the likelihood that the trends related to the evolving tonne will continue over time.

In just the last few years, larger societal and lifestyle trends have fundamentally changed the composition and quantity of material collected in the Ontario Blue Box Program. Trends noted in Ontario are being experienced by recycling programs throughout North America, and are creating significant financial challenges where long term service contracts are in place that were established before the profound impacts of the evolving tonne were fully understood. Newer contracts bid in the last 2-3 years are significantly higher in cost as they take the impacts of the evolving tonne into account. Articles have been published on this issue in the Wall Street Journal and other financial publications, with the most recent article in Fortune Magazine 3rd September, 2015[1], which states that the increase of lightweight packaging, along with a drop in newsprint and dropping commodity prices are creating "the perfect storm" of factors affecting recycling program costs.

This section of the report addresses the evolving tonne within the broader Blue Box cost containment discussion.

4.1 Paper Quantities Down and Paper/Packaging Proportions Changing

Paper, especially newsprint, has represented a significant share of the material collected in recycling programs since the beginning of curbside recycling. One processor interviewed by the Panel noted that paper used to make up 82% (with packaging at 18%) of the mix processed at the MRF; it now represents 38% (with packaging representing 62% of the tonnage, and a much larger proportion of the volume processed). The same processor noted that newsprint used to make up 80% of the paper stream (with flyers being 20%), but now newsprint is only 40% of the (already much smaller) paper fibre stream, resulting in a need for different processing equipment.

A second processor interviewed by the Panel reported even more dramatic results. Paper made up 45% of the Blue Box material processed at the MRF in Western Ontario – in 2015 it makes up only 5%. Plastics have tripled at the same MRF since 2008. This results in a dramatic density difference (the relationship between weight and volume). A cubic metre of Blue Box material used to weigh 107kg; it now weighs 57kg, therefore twice as much volume needs to go through the MRF to get the same tonnes for sale to the market.

Increasing use of the Internet, which has changed advertising, shopping patterns, and the method by which news is communicated, has and will continue to decrease the amount of newsprint and paper available for recycling. For some communities the decrease in newsprint is related to decreases in circulation or closure of newspapers, decisions to drop the Sunday edition or move to 3 editions rather than 6 per week, or to introduce a smaller format paper with fewer pages and a shorter design. One

[1] http://fortune.com/2015/09/03/waste-management-recycling-business/

processor interviewed by the Panel noted that daily newspapers have moved from broadsheet to tabloid format, with less pages and thinner paper.

Paper directory format phone books are becoming obsolete. As an example, Yellow Pages Group's last set of phone books was delivered to Toronto homes in 2010, unless people specifically requested them, resulting in a drop of 3,500 tonnes in paper for the Toronto Blue Box program alone. Changes in user habits and the trend for people search online for phone numbers were cited as the main reasons for this decision.

OCC (cardboard) is increasing because of internet shopping, but increased amounts of cardboard (OCC) also increase the Blue Box system collection costs, as it is bulky and takes up a lot of space on collection trucks.

4.2 More Packaging, New Packaging Formats Small Portion Packages and Light-weighting

Virtually all stakeholders interviewed by the Panel noted the dramatic increase in light-weight packaging being managed by the Blue Box system, and used the coffee pod package as an example of a new, convenient, popular product which illustrates this trend.

Changes in eating habits, attitudes towards cooking, and busier lifestyles have resulted in a growing demand for convenience foods and ready-to-go meals. Recent studies project the growth rate to be between 3.4% and 5.1% from 2013-2018. This growing demand for convenience is reflected in high growth in food packaging, some of which is not recyclable. Municipal stakeholders interviewed by the Panel noted in particular the dramatic increase in clamshells in the Blue Box program in the last two years alone. Much of the new food packaging is put into Blue Boxes even though the program does not accept the material, and ends up in MRF residue. The new light weight food packaging materials are contaminants to many materials being processed in MRFs, leading to lower quality bales which can be rejected by markets or receive lower prices, again contributing to increased Blue Box system net costs.

Changing consumer demographics have also contributed to the increase in demand for packaged convenience foods. For instance, increased female participation in the workforce and longer working hours means there is less time available for preparing meals from scratch, leading to increased purchasing of convenience foods. An aging Ontario population, living in one or two person households, has driven demand for smaller packages and ease of food preparation. With the number of people aged 65 or older expected to double in the next 20 years, more of this convenience food packaging, as well as smaller size servings per package (resulting in more, smaller size packages in the recycling/waste stream) is expected to enter the marketplace.

Increasing costs of packaging materials, increasing transportation costs, focus on reducing carbon emissions, and competition for "green space" in consumer's minds have all driven both large brand owners and innovative new companies to lightweight and/or concentrate many of their packages.

PET bottles on store shelves today are as much as 50% lighter than they were just five years ago. As an example, ten years ago, a tonne of plastic contained about 35,000 plastic water bottles. Today it takes about 70,000 bottles to recover a tonne of plastic. This means that twice as many units need to be handled to get the same tonne – twice the processing effort and collection effort (and therefore costs) for the same revenue. Furthermore, MRF processors interviewed by the Panel noted that PET bottles are now so light, they act more like paper (a flat object rather than a round object) in the MRF and are hard to sort from paper, thereby increasing costs of processing paper and reducing revenue.

The consumer packaging marketplace is moving away from glass packaging (which is heavy) to plastic, or in some cases aluminum, and also away from metal (which has value) to plastic (which in some cases does not have value). While glass continues to be the preferred package for products such as pickles and sauces, many products which have traditionally been packaged in glass, such as olive oil, mayonnaise, and ketchup, are now being packaged in various plastic materials.

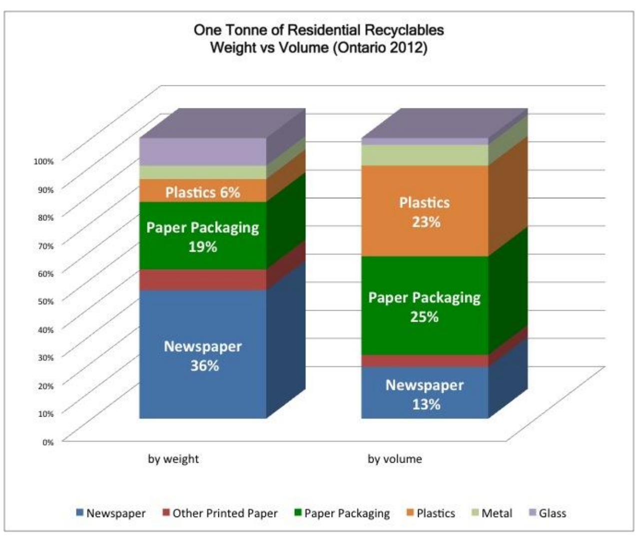
Multi-layered packaging and new types of flexible packaging (e.g. stand-up pouches for baby food, for example) are increasingly replacing glass, metal, and heavier plastics. As an example, ketchup was packaged in glass until about 20 years ago, then was packaged in polypropylene, which was no-breakable and “squeezable” – both good features for outdoor eating in summer. The trend is now to package some ketchup in a pouch, which is not easily recycled in the MRF, and has no established end market.

Stand-up pouches (SUPs) are a package which as very quickly taken over many segments of the market. A stakeholder interviewed by the Panel explained that one baby food product is moving from a glass jar to a pouch as babies can eat out of the package and young parents prefer the package as it is easier for babies to use.

4.3 Impact of Evolving Tonne on the Blue Box Program Costs

The decline in printed paper, together with the increased light-weighting and substitution of traditional packaging materials like glass and plastic, means that recycling programs will need to collect more volume in order to achieve the same tonnage. Stakeholders felt that this factor has had a significant impact on Blue Box Program costs. Figure 1 illustrates the difference between weight and volume measurements for recyclables, using 2012 Blue Box data and density values measured in field studies by Stewardship Ontario. The figure demonstrates that while plastics only account for 6% of all recyclables from the residential sector by weight, the category makes up 23% of the total volume. Newsprint on the other hand, accounted for more than one third (36%) of the total weight, but accounts for only 13% of the volume.

Figure 1: Weight vs Volume of a Tonne of Blue Box Recyclables (Ontario 2012)[2]



[2] The Evolving Tonne Explained – Clarissa Morawski, Maria Kelleher and Samantha Millette, Resource Recycling, May, 2015

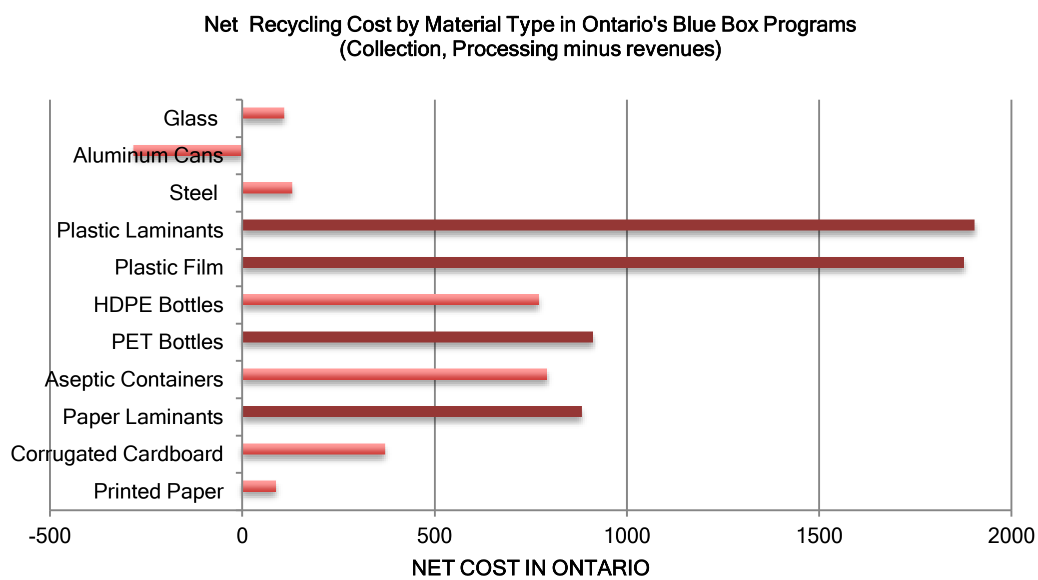
As the tonne of recyclable material evolves over time, the costs of both collecting and processing the materials increases, sometimes substantially. In addition, some of the newer packaging materials in the marketplace do not have established markets when collected and processed, thereby not adding revenues, or adding minimal revenues to recycling programs.

Volume is a key driver for costs in recycling systems, as trucks must leave the collection route and deliver their load to a MRF or transfer station when full, even if the weight is light. Because today's average load of recyclable materials is much more voluminous than it used to be – due to more plastic containers and less paper being collected – it takes more trucks, more drivers, more fuel, and more frequent trips to the MRF, to collect a tonne of recyclables today than it did in the past. Stakeholders interviewed by the Panel stressed that collection costs are 2/3 of the costs of the Blue Box system, so that any factors which impact on collection increase system costs. In Region of York for example, it now takes 140 truck-loads to deliver the same weight that 100 trucks delivered to the MRF a few years ago, effectively increasing collection costs by 40%. A number of other examples of decreasing density/increasing volume were noted in stakeholder interviews.

Stewardship Ontario data on non-Blue Box materials in the collection system suggest that 20% of what is being collected is non-obligated material. Some portion of the increase in number of trucks may be due to increased contamination that is not being managed at the curb due to the use of single stream and cart collection systems.

Figure 2 is based on costs calculated by SO from ABC (activity based costing) studies and shows that the materials which will likely increase in the Blue Box program are all the most expensive on a per tonne basis (in terms of collection and processing) – plastic laminates (like flexible pouches) and plastic film, for example, carry net costs of close to $2,000 per tonne. These new tonnes, which are effectively replacing tonnes of glass ($108/tonne) or tonnes of steel ($129/tonne) will have a minimal impact on a tonnage basis, and therefore a minimum impact on diversion levels, but will have a very significant impact on Blue Box program costs.

Figure 2: Net Recycling Cost by Material in Ontario's Blue Box Program (2013)



The trend towards light-weighting, as well as all the other evolving tonne factors has significantly impacted on the profitability of recycling companies, particularly in the US. This has been the subject of many articles and interviews in the Wall Street Journal and other publications, with recycling companies referring to the combination of the evolving tonne, with oil prices, China's "Green Fence" (which imposed stricter controls on the quality of material accepted in China), and a softening of the Chinese economy (which has reduced the demand for commodities generally) as the "perfect storm". However, while the recycling industry is used to commodity value fluctuations, no-one in the industry forecasts an improvement in the other factors affecting recycling costs and profitability in the foreseeable future.

The impacts of the evolving tonne are seen in Ontario as each new contract is put out to bid, and the new contract comes in at a dramatically higher price, as contractors "play catch-up" according to one stakeholder interviewed.

4.5 The Need for an Evolving Tonne Study

The uncertainty surrounding the future composition of the Blue Box recycling stream, how much collection will be required by municipalities (in terms of financial, human, and physical resources) and what future processing capacity and technology is required are important questions that need answers in order to properly plan for a changing environment. Stakeholders interviewed by the Panel stressed the need to quantify the impacts of the evolving tonne on the Ontario Blue Box system costs, and identify the future impacts in a systematic way. A number of stakeholders suggested the need for an Ontario based Evolving Tonne Study which looks 2 to 5 years into the future and estimates the future Blue Box composition year by year, and the impacts of the evolving tonne on future Blue Box system costs.

5 Blue Box Accomplishments by Municipalities and Stewards

Ontario's Blue Box is regarded as a success story. It is internationally recognized, including by the United Nations, and has clearly become an example of environmental stewardship by the public in Ontario. As noted in this report's introduction 97% of Ontarian's have access to the Blue Box. In 2013 it had achieved a diversion rate of 66%, and had diverted over 11 million tonnes of blue box material from landfill since 2002.

The Panel thought that it was important to reflect on the success of the Blue Box Program. In this regard it asked both the municipalities and Stewardship Ontario Panel representatives to provide information on municipal accomplishments in the Blue Box Program and other related packaging initiatives undertaken by stewards. The following section outlines those successes and initiatives.

The BBP was implemented in 2003/2004. Since initiation the BBP has changed in a number of important ways (in no particular order):

- Municipalities have collected more material, added new materials, and some are diverting greater than 60%
- Municipalities and CIF have implemented many best practices
- Single stream has been introduced for roughly 50% of material processed in the province
- Light-weighting containers (e.g., PET, aluminum, glass), which reduces weight, but not necessarily quantity of material to be processed
- Light-weighting of products (e.g., newspapers)
- New end markets have been created, e.g., mixed plastics
- End markets have matured and increased quality requirements for some materials
- MRF operations are more complex and include more automation.

5.1 Municipal Efforts to Implement Best Practices and Contain Costs

Significant effort has been made by municipalities to contain costs and implement best practices. It is estimated that $115M has been invested by municipalities alone through the Continuous Improvement Fund to implement best practices and cost containment measures.

Since its initiation in late 2007, replacing the Effectiveness and Efficiency (E&E) Fund, the CIF has received around $66.5M from municipalities (from Obligation monies), of which $47.3M has been paid out in funding to 569 projects. Including direct municipal contributions, the total value of these projects was $114.5M. Through this funding, the CIF has assisted over 160 municipalities with the improvement of their programs and knowledge building of staff.

Over the period 2008-2013, CIF-funded projects have created a projected annual savings of $11.3M, with 26 new projects in 2013 and 2014 further increasing annual savings by $2.5M. On average, projects have achieved a return on investment of 4.3 years.

Some of the key performance improvements that CIF funding has contributed to include:

- Adding over 10,000 tonnes of plastic;
- Increasing best practice compliance by over 25%;
- Improving service levels to over 1 million households;
- Installing 25 transfer and compactor systems;
- Producing 100,000 tonnes of extra processing capacity;

- Contributing to improved diversion of thermoform PET and #3-7 plastics and plastic film (representing over 12% of the Blue box waste stream);
- Reducing processing residuals and increasing the capture of 13,000 tonnes per year, thereby increasing diversion and reducing disposal costs;
- Assisting with municipal efforts to achieve optimization; and
- Expanding capacity to sufficiently process glass.

Continuing to build on this success, the CIF received overwhelming interest from municipalities in the 2015 Request for Expressions of Interest (REOI), with 74 applications representing funding of nearly $18M. While municipalities have successfully completed many projects to improve their programs, there is demand for additional funding assistance, as municipalities endeavour to improve and adapt their programs to manage Blue Box waste (see Table 1 below).

Table 1: CIF Expenditure on Best Practice Research and Innovation[3]

MIPC Strategic Area	Projects Approved	Total Funding ($millions)
Best Practices	362	$41.658
Innovation	14	$2.181
Emerging Technologies	10	$0.563
Communication & Education	88	$1.335
Project Support	37	$0.726
Centre of Excellence	69	$1.765
Total	**580**	**$48.227**

[3] http://cif.wdo.ca/projects/index.htm

5.2 Steward Initiatives to Optimize Material Use and Improve Recyclability of Packaging and Printed Paper in Ontario

The following was provided by Stewardship Ontario to the Panel.

The Cost Containment Plan, approved as an amendment to the Blue Box Program Plan by the Minister of the Environment in 2005, includes the following principles with respect to Stewards:

> **#5** - Stewards will, where possible, use materials that can be cost effectively managed in the Blue Box Program while meeting their customers' needs and will support enhanced material markets through procurement and other market development initiatives; and,
>
> **#8** - Stewards, where possible, will seek to minimize the amount of materials that result in Blue Box Waste while meeting their customers' needs.

Stewardship Ontario members have been adopting sustainability practices throughout their operations for many years because it is clearly understood that eco-efficiency is not only good for the environment but good for business as well. Canadian companies are also responding to consumers who are increasingly demanding that businesses do their part to manage the planet's finite resources in a responsible manner. Businesses consider the entire lifecycle of the products and services they provide to Ontario residents to determine where they can make the most impact in reducing their environmental footprint. Optimizing packaging and paper products and improving their recyclability is an important area of focus. Consumers want less packaging and printed paper (PPP) material to manage in their households and want this material to be accepted in their blue boxes for recycling.

This section showcases the many ways Stewardship Ontario member companies are responding to consumer demands and at the same time meeting their Obligations of Principles #5 and #8 of the CCP by reducing their volume of packaging and paper products distributed, by increasing the use of materials that can be cost effectively managed in the Blue Box system, and by supporting the enhancement of material markets. The primary areas of focus include:

- Improved recyclability of packaging
- Optimization of material use
- Reducing distribution of printed paper.

5.2.1 Improving Recyclability (CCP Principle #5)

Brand owners are working to improve the environmental profile of their packaging by improving its recyclability. Below are five examples of specific projects undertaken by Ontario stewards in the last several years, largely in conjunction with SO, that highlight the commitment of our stewards to improving the recyclability of their packaging materials:

1. Five top Canadian grocery retailers (**Loblaws, Sobeys, Metro**, **Safeway and Walmart**), in collaboration with industry working groups, made a coordinated switch from polystyrene (PS) to PET clamshells for use in the packaging of fresh and ready-to-eat products. By working together with local governments and processors they were able to expand the collection of this material in municipal recycling programs and increase its capture rate. With most retailers now using PET for their clamshell

packaging, MRF processors no longer have to distinguish between many different resins for this format of packaging thereby increasing its recycling rate and reducing costs.

2. **Tim Hortons** has invested significant resources working with Stewardship Ontario (SO) and The Carton Council of Canada (CCC) to increase the capture rate of all polycoat packaging/containers, and more specifically hot and cold cups. Trials have been undertaken in Ontario to determine the most efficient and effective way to capture polycoat containers in the MRF system. As well, a thorough mill trial was run in 2014 to determine the viability of this packaging in the grade currently marketed as aseptic and gabletop. This trial was a success and further work is being done in 2015 with Ontario MRFs to address any barriers that remain in capturing these containers as well as working to establish end markets to ensure a revenue stream for the sorted material.

3. **The Carton Council of Canada**, on behalf of the brand owners that use cartons for this product packaging, has invested significant resources toward improving the recyclability of all aseptic and gable-top packaging. For example, they have undertaken specific projects to increase awareness and capture including the milk carton return program, and have also provided funds to municipalities for awareness campaigns.

4. **Mother Parker's** in partnership with Stewardship Ontario has undertaken extensive work with municipalities in Ontario and British Columbia to determine how single serve coffee pods flow through MRFs and to find ways to increase both their sortability and recyclability in advance of municipal programs accepting these materials from residents.

5. **Stewardship Ontario** has provided over $6 million in grants and investments with companies such as EFS-plastics Inc., Entropex and GreenMantra for Ontario-based infrastructure that increases demand for emerging materials, such as mixed rigid plastics. These investments have yielded a local market for mixed rigid plastics where none existed before. For example, EFS-plastics can process in excess of 12,000 tonnes of mixed plastics and flexible film plastic every year. These companies, and others, provide Ontario municipalities with local end markets and a dependable revenue stream.

There are many other initiatives being undertaken by Stewardship Ontario members across all business sectors to improve the recyclability of their packaging. This includes removal of coatings or waxes from packaging, change in glues or adhesives, harmonization of packaging components and elimination of toxic materials such as PVC. These initiatives reduce sorting costs and increase the value of the commodities. SO is also monitoring global efforts to improve the recyclability of hard to recycle materials, such as Dow Chemical's European trials to recycle plastic laminate pouches.

5.2.2 Optimization of Material Use (CCP Principle #8)

Packaging serves many purposes. It protects products, keeping them safe from contamination and damage. It allows for the display of information about a product including how to use and properly dispose of it safely – a legal requirement for some products. Packaging also provides functionality benefits, for example making it easy to dispense a product, or to reseal it after use, to ensure that the product is protected over its entire life reducing product waste. Packaging also offers convenience and portion control to match the needs of different consumers. Because packaging plays such an important role in the distribution of products to consumers we use the term 'optimization' in reference to packaging reduction. Optimization refers to the balance between too little packaging that can result in product spoilage or damage and consequent waste, and excessive packaging that serves no functional benefit. As well, often a reduction in material use for a packaging unit provides the additional benefit of a reduced carbon footprint during manufacturing and in the fuel efficiency associated with the transportation of a lighter package. Packaging optimization can yield benefits across the supply chain. This is an area that is receiving wide attention from many Stewardship Ontario members and a significant investment in innovation.

A reduction to the number of tonnes of packaging material can mean an overall reduction to the cost of recycling. The following is a small selection of the specific ways in which brand owners are innovating and investing in order to reduce the plastic and paper packaging distributed to consumers' homes.

5.2.3 Plastic Packaging

- **Procter & Gamble** Mr. Clean Liquid Muscle is now formulated with 2.5x concentration resulting in 45% less packaging for each bottle; P&G has also reduced the gauge of its film packaging on the Pampers brand reducing packaging by 70%;
- **Nestle Waters Canada's** 'eco-shape' 500ml water bottle uses 60% less PET plastic than the original 500 ml PET bottle;
- **SC Johnson** has replaced the plastic lid and wrap on their Glade candles with a paperboard sleeve eliminating over 11,000 lbs of plastic packaging from the Ontario recycling stream for this brand; SC Johnson also light weighted the Windex bottle reducing the resin use by 30,000 lbs in Ontario;
- **PepsiCo** reduced the plastic packaging for its 591 ml PET bottles by 20% by moving to a lighter weight plastic resin;
- **Campbell Company of Canada** redesigned their PET beverage bottles to reduce resin use by one third;
- **Unilever Canada** is using bi-modal resin in its Vaseline Intensive Care and Suave bottles; this is a stronger resin and allows a 10% reduction in material use; Unilever has also redesigned the Axe HDPE body wash, shampoo and conditioner bottles to reduce material use by 15%;
- **Johnson & Johnson** reduced the bottle weight of the Aveeno Clear Complexion BB cream by 23%;
- **Loblaws** has sold over 15 million reusable grocery bags in Ontario since 2007 displacing approximately 2 million single use plastic bags; and
- **Walmart Canada** has replaced the plastic film packaging on a number of products with paperboard packaging.

5.2.4 Paper Packaging

- **Nestle Canada** has reduced its use of paperboard packaging by over 3,000 kg in Ontario across a variety of brands;
- **Kimberly Clark** has reduced the paperboard for its Kleenex facial tissues by 15%;
- **Starbucks Canada** increased the number of refillable coffee mugs used by their customers from 12 million in Ontario in 2012 to 15 million in 2013, avoiding the disposal of over 500,000 pounds of paper cups;
- **McCain Foods** reduced the thickness of its paperboard juice cans by 12%; and
- **Nestle Canada** removed the paperboard disc from their Delissio Thin Crispy Crust pizza packaging removing 55,000 kg of paperboard material from the recycling stream.

5.2.5 Reducing Distribution of Printed Paper

Many companies have traditionally relied on the distribution of printed materials to reach their consumers with information and for marketing and advertising purposes. The explosion of digital platforms has not only provided businesses with improved customization of consumer communication, it has also allowed for a reduction in the volume of printed materials distributed to customers. Many Ontario companies have embraced these new technologies and are actively encouraging their customers to shift to digital options for communication, billing and statements. The following are just a few examples of how companies have removed significant volumes of printed materials from the waste stream, reducing the overall system cost:

- **Rogers Communications** has moved almost 150,000 Ontario customers to electronic statements for billing;
- **Bell Canada** issued 39% of its bills electronically in 2013 - an increase of 32% over 2012. This reduction in paper consumption saved approximately 45,500 trees which have the potential to capture approximately 5,755 tonnes of CO_2;
- **Canadian Tire** has eliminated its catalogue removing over 700 million pages of printed material from Ontario households while improving customization through digital options;
- **Sears Canada** has reduced the volume of paper distributed to Ontario consumers by 25% through more targeted mailing and distribution lists for their catalogues and the shift by customers to their online catalogue and smart phone app. Those catalogues that are distributed are smaller and thinner due to use of lighter weight paper;
- **Yellow Pages Group** has implemented an opt-out program ensuring that only those consumers who want their directories are receiving them. For distribution in office buildings they verify the number of business that request directories and residential directories are only distributed upon request in major Canadian cities.
- **The Toronto Dominion Bank** has innovated to provide more digital options for their consumers including online, smart phone and tablet apps encouraging more on-line banking and a reduction in paper statements distributed to its customers.

Please note that the above summary has been provided using best available information to Stewardship Ontario and is not intended to represent a full and complete description of steward initiatives.

6 Cost Containment Plan

6.1 Cost Containment History

The Blue Box Program Plan (BBPP) was implemented in February 2004. It defined an obligated set of materials, and a 60% target. Considerable discussion took place between municipalities, stewards, the provincial government, and other stakeholders during the development of the BBPP as well as during and after implementation. One of the key issues was cost containment.

The Minister of the Environment directed WDO to develop a Cost Containment Plan (CCP). This plan was completed by WDO with considerable discussion among the key stakeholders, and was approved by the Minister in early 2005. In the CCP the WDO Board noted that cost containment measures were not intended to be a disincentive to increased diversion.

A key component of the CCP was the list of principles and associated policies/actions for key stakeholders. The principles include:

1. *The annual Municipal Datacall will*
    a. *Compile costs for residential Blue Box materials only;*
    b. *Compile costs for agreed cost components of municipal Blue Box programs as outlined in the Blue Box Program Plan;*
    c. *Incorporate verification to ensure accuracy, transparency and consistency of reporting; and*
    d. *Analyze year over year cost increases in relation to increase in tonnage marketed, increases in population or households, changes in the mix of Blue Box materials, increases in the cost of living for factors related to operation of Blue Box programs or cost increase supported by documentation provided during the Datacall and accepted during the verification process.*

2. *Bridging from the 2002 verified costs to the approved cost categories as defined in the BBPP will occur by 2007.*

3. *Cost bands will be:*
    a. *Defined to reflect municipal diversity and 'reasonable costs' in 2006 and best practices in 2008;*
    b. *Utilized to analyze program costs to identify those that are higher than best practice costs; and*
    c. *Utilized to determine net program costs and funding.*

4. *Municipal Blue Box recycling programs will, where possible, work to operate at best practices to minimize gross and net Blue Box program costs.*

5. *Stewards will, where possible, use materials that can be cost effectively managed in the Blue Box Program while meeting their customers' needs and will support enhanced material markets through procurement and other market development initiatives.*

6. *Autonomy of municipal government decision-making remains intact.*

7. *No cross subsidization of materials' costs.*

8. ***Stewards, where possible, will seek to minimize the amount of materials that result in Blue Box Waste while meeting their customers' needs.***

Stakeholders interviewed by the Panel have outlined the inherent conflicts and ambiguity built into the CCP, the key ones being:

- the conflict between increasing diversion and containing costs; and
- the inability of the municipalities and Stewardship Ontario to control the key drivers of increasing costs.

At the same time there is a common incentive for both parties to contain costs as they both share in the program costs on a 50/50 basis.

The history of the Cost Containment Plan's development, intent, and impacts on the Obligation were summarized in the 2014 BB arbitration documentation and decision. Key components of the history of the CCP are outlined below.

One of the initiatives under the CCP was to develop a model that would estimate the cost of a program or programs that were at full best practice across the province. From there the reported costs for the programs that were identified as being above that cost level would be reduced for the purposes of calculating the steward Obligation.

In its discussions the municipalities pointed out that the CCP contained eight principles and that the focus should not be solely on the model.

In addition to the principles, the CCP provided a list of policies/actions for each of the key stakeholder groups. Many of the policies/actions have been completed and/or are ongoing. To understand what has been done to meet the CCP's intent and objectives over the last decade, the Panel reviewed these policies/actions and asked WDO staff to provide a status update. The updated status summary is provided in Appendix D.

To summarize, three models have been constructed over the period of the CCP which have been used to calculate the Obligation. These included:

- The Reasonable Cost Model was developed in 2004 and was used to calculate the 2006 and 2007 Obligation (based on 2004 and 2005 reported costs).

- The Best Practices Model was developed by KPMG as part of the Best Practices Study in 2007. This model was used to calculate the Obligation for 2008, 2009 and 2010. KPMG had recommended that their model be updated annually through site visits to programs and additional research. Stakeholders interviewed reported that the updates recommended by KPMG were never properly completed. As a result, the model became out of date.

- The Base Cost Model was developed by a team of technical experts assembled in 2010. This model identified the cost if all programs were operating at best practices which was set as the lower bound estimate from which to negotiate the annual Obligation upwards. The various decisions that were made regarding the approach in this model are documented in MIPC meeting notes from April to October 2010, as well as in a MIPC presentation dated June 2010. The model results were used for the 2011 and 2012 steward Obligations. Stakeholders interviewed cited their lack of confidence in the model as one of the reasons the model was not updated after 2012.

The models suffered from a lack of technical and transparent annual reviews to assess their applicability to the Blue Box system or to individual programs as they evolved and changed over time.

As a result, the determination of the steward Obligation became a negotiation between municipal and Stewardship Ontario representatives at MIPC. A history of the process to reach the annual steward Obligations is included in Appendix E.

During the time of these models (2008 to 2010/11) numerous factors were changing for the BBPP making it difficult for stakeholders to develop long term workable solutions and overcome stakeholder differences. Key among these was the continuous anticipation that new legislation would be tabled to replace the current WDA (i.e., the WDA was reviewed in 2008/2009, and a new act was expected in 2010; Bill 91 was introduced in 2013 but died on the order paper when a new election was called). This anticipation prompted the parties to approach the annual Obligation as a matter requiring a short term fix for the particular year. The changing personnel in SO, AMO, City of Toronto, and WDO also contributed to a lack of continuity on MIPC.

Municipalities feel that the intent of the CCP was to reduce actual program costs and cost containment was defined as a "reduction of the actual gross and net per tonne operating cost incurred by a municipality to collect, process and market Blue Box material as a result of the implementation of cost containment policies and practices". The incentives and disincentives through cost bands were always to be done in the payout, not to limit the steward Obligation.

Since 2010/11 changes affecting the BBP have continued to accelerate. The material mix has changed dramatically, costs have increased equally dramatically, and the in-kind costs have jumped from just over $1.7M to over $6M from 2011 to 2013. Over the years leading to 2014 the gap has significantly expanded between the reported net cost and the calculation that yielded the Obligation using the Best Practice Model.

In addition the understanding of what is a best practice for types of materials and programs is continually changing.

6.2 Cost Containment Plan Context for the Panel

There are 226 Blue Box recycling programs in Ontario, representing over 400 municipalities. They all report their quantity data, costs, revenues, and best practice responses into the WDO Municipal Datacall on an annual basis.

For 2014, approximately 95% the provincial BB tonnage and 90% of the net cost is incurred by 55 programs. These programs are located predominantly in the Golden Horseshoe and in medium-sized cities across the province. These programs will be collectively referred to as the "top 55" in subsequent discussions in this document.

Across programs there are differences in the mix of materials accepted in the collection system creating confusion for residents (especially those that move, having homes in multiple areas of the province or are visiting), and challenges for minimizing residue in the Blue Box and at MRFs, and for regionalizing the processing function. Many stakeholders interviewed stressed the benefits of moving to a standard "basket of goods" or a standard set of materials collected in all Blue Box programs across the province as one way to bring about system consistency, improvement, and containing costs.

With regard to cost containment, each of the two stakeholders have key issues.

Key for the municipalities:

1. Payment containment vs cost containment
   Municipalities' position is that any reduction from the net reported costs is payment containment,

not cost containment. Cost containment consists of identifying improvement areas, supporting the implementation of improvements through mechanisms such as CIF and the municipal Blue Box Pay-Out-Model, and paying the resultant reported net costs (actual costs).

2. Key cost drivers are out of their control
   The major reasons for increasing costs are the types of materials and increasing quantities that the stewards are introducing into the system. Not only are the costs increasing for the stewards' Obligation, but the municipalities are incurring higher costs on their share of 50% - which they cannot control.

Key for the stewards:

1. Inefficiency of the municipal system
   Stewards believe that the fragmented municipal system across Ontario is not as efficient as it could be due to the many decisions that are made at the individual municipal level. An example is the continued use of small inefficient MRFs that should be converted to transfer stations with larger regional MRFs being used for processing. Although these decisions may make sense from a strictly municipal perspective e.g., in order to satisfy the municipalities' integrated waste plan or to meet other local objectives, stewards maintain that they should not pay for the inefficiencies of the Blue Box Program – which are included in the net reported cost.

2. For Stewardship Ontario the material quantities and mix are also out of their control.
   Stewardship Ontario is an Industry Funding Organization (an IFO or legislated compliance scheme with responsibilities for discharging obligations under the Waste Diversion Act and Regulations), which has no control over what the stewards are introducing and supplying to the marketplace. As a result SO cannot affect CCP principles 5 and 8.

7 Options

The Panel spent considerable time and effort scoping out different approaches to cost containment, and developing methodologies that could address the cost containment principles of the Cost Containment Plan. There are many options which if implemented could lower the costs of the Blue Box system over time and meet the objective of cost containment. It should be noted that one of the CCP objectives is that cost containment not to act as a disincentive for increased diversion. Some of the options presented in this section are in conflict with this objective, but are presented as potential cost containment options for further discussion.

7.1 Option 1: Depot Collection Only For High Cost/Low Diversion Materials

Interviews with stakeholders indicated that the increase in lightweight plastic and multi-layer packaging has had a significant impact on Blue Box system costs, particularly as it is happening at the same time as heavy materials like glass and newsprint (which would compact the lightweight materials on collection routes), are decreasing. This trend, which is discussed elsewhere (See Section 4 regarding the evolving tonne) has a significant impact on curbside program collection costs – trucks fill up more quickly with lightweight materials and must leave collection routes to empty their contents at MRFs or transfer stations.

Option 1 attempts to address the increases in the curbside collection costs caused by the evolving tonne in the last 5 years by moving some lightweight packaging from curbside to depot collection only. A new Best Practices Study (2015/2016) was suggested by stakeholders interviewed by the Panel, and would confirm that this is the case.

Whereas depot collection is less costly than curbside collection, it usually results in significantly lower participation and diversion of the material collected. However, it would lead to a significant containment of costs, which is one of the objectives of the Panel.

Option 1 would require 5 materials which have proven to be high cost to manage curbside into depot collection across the Province:

- Polystyrene (PS);
- Plastic laminates;
- Plastic film;
- Other plastics; and
- Paper laminates.

Not all curbside programs in the province collect the list of 5 materials, therefore this option only impacts those programs which already collect these materials curbside.

On a go-forward basis, no new materials would be added to curbside collection programs until a full cost assessment had been carried out and an agreement reached between municipalities, stewards, and WDO on how the incremental costs of adding the material to programs would be shared.

For those programs that currently collect these materials curbside, collection would be moved to drop-off depot collection service over time. Consumers would still have the option to recycle these materials, but the recovery and diversion rate would be lower through depot collection. The materials collected by depot would still be processed and marketed, therefore some system costs would remain, but the curbside collection costs would be eliminated over time.

This option could be considered a best practice, and cost bands can still be used, therefore it meets most of the criteria/principles set out in the Cost Containment Plan, except for municipal autonomy. It might lead to a reduction in the diversion rate, but at considerable cost savings. Diversion could be increased through other less costly means like increasing the capture rate for paper.

A summary description as well as advantages and disadvantages of Option 1 are presented in Table 2.

Table 2: Advantages and Disadvantages of Option 1: Depot Collection Only For High Cost/Low Diversion Materials

<table>
<tr><td colspan="2">Option 1 - Depot Collection Only For High Cost/Low Diversion Materials

Description

Five materials which have a high curbside collection cost in the Blue Box system (polystyrene (PS) ; plastic laminates; plastic film other plastics and paper laminates) move from curbside to depot collection. Diversion of these materials would decline but costs would be contained.

No addition of any materials to Blue Box programs on a go-forward basis until a cost assessment is completed and both stewards and municipalities agree on how incremental costs will be shared. In this way, costs are contained to existing levels with no increases related to addition of high cost materials to the Ontario Blue Box Program.</td></tr>
<tr><td colspan="2"></td></tr>
<tr><th>Advantages of Option 1-
Depot Collection Only For High Cost/Low Diversion Materials</th><th>Disadvantages of Option 1 -
Depot Collection Only For High Cost/Low Diversion Materials</th></tr>
<tr><td>• Lower costs for municipalities
• Containment of costs for the stewards
• Could be considered best practice to collect lightweight materials in depot only to contain collection costs
• Potential significant $20 million/year (2013 base) reduction in Blue Box system cost over time (value to be confirmed through more detailed analysis if this option goes forward).
• Still provides recycling options for 5 materials affected
• Residue rates would decrease if province wide promotion and education program is launched
• Diversion could be increased more cost effectively by increasing the capture rate for paper through a Province-wide promotion and education program</td><td>• Slight reduction in diversion rate for Blue Box program
• Diversion rates for targeted materials would likely be reduced.
• Unpopular with householders and local politicians
• Lack of popularity can be mitigated to some extent through good communication program explaining the reasons (to lower costs, 50% of which come from property taxes).
• May not be acceptable to stewards of the materials removed.
• Does not meet CCP objective of lowering costs without sacrificing diversion.</td></tr>
</table>

Implementation considerations for Option 1, including actions and timing are summarized in Table 3.

Table 3: Option 1: Depot Collection Only For High Cost/Low Diversion Materials- Actions and Timing

Actions	• Confirm that depot collection only for lightweight packaging is a best practice through a new Ontario Best Practices Study (2015/16) • Feasibility and cost savings related to this option needs to be assessed program by program, and will depend on existing contracts • Identify all Blue Box programs which collect the list of 5 materials curbside. Develop an implementation plan to move these materials from curbside to depot collection. • Identify impact of material removal from curbside collection (to depot) in terms of cost/penalties to existing collection contracts. • Depot materials will still require processing – assess any impacts on processing contracts. • Removal of materials from curbside collection may not have been contemplated in many contracts, therefore savings may not kick in until next contract round • Identify depot collection options available by community, and assess the extent to which depot collection can be offered, as well as the costs and diversion/processing implications.
Timing	• Four months for feasibility assessment • Four to six months for Best Practices Study • Cost differential between curbside and depot collection can be calculated within 1 year • Municipalities determine schedule on which materials will be shifted from curbside to depot

Implications of Option 1 for stewards, municipalities and also the potential risks involved in the option are presented in Table 4.

Table 4: Option 1: Depot Collection Only For High Cost/Low Diversion Materials - Implications for Stewards, Municipalities and Potential Risks

Implications for Stewards	• Blue Box system costs will be lowered/contained. • Recycling options for all materials are maintained, but depot programs will get lower diversion rates and recovery. • It will be more difficult for higher cost materials to be added to Blue Box programs.
Implications for Municipalities	• Removal of 5 materials from curbside collection will be confusing for residents, and may be unpopular and difficult to sell • Municipalities will need confirmation that this is best practice to explain to senior and political staff • Changes to contracts when materials are removed from curbside to depot – there may be little or no cost savings short term
Potential Risks	• Cost savings may not kick in for a few years • Not all locations are well served by depots , so removing 5 materials from curbside may mean limited recycling opportunities • Lowers costs but also lowers diversion – does not meet CCP principle

7.2 Option 2: 60% Diversion System Cost Is Shared

The original Blue Box Plan had a 60% diversion target. This target has been exceeded, with the 2013 diversion rate at 66%. One key element of cost containment could be to dial back the Blue Box program to just achieve its official target of 60%. This would be achieved by maximizing recovery of low cost materials, and removing high cost materials from the system. As an example, the 60% diversion system could be achieved by increasing the recovery of paper packaging, which is currently only at 56% recovery. In theory, a 75% recovery rate for paper based packaging (cardboard and boxboard) should be possible.

This option would involve no longer collecting high cost light weight (and low density) plastics and multi-layer packaging curbside, but providing depot service only. As with Option 1, it is clear that some low density and multi-layer packages add considerably to the Blue Box system costs but do not add very much diversion as currently measured (by tonnage).

This option would involve municipalities and stewards agreeing on what the lowest cost 60% diversion system is, and how much it would cost province wide. The cost of the 60% diversion system would then be shared 50:50 between stewards and municipalities.

Municipal autonomy would be maintained, as municipalities could choose the Blue Box system they wanted to implement, but they would only be paid based on the 60% system cost. While this option contains costs, it reduces diversion, and may not be considered a best practice, therefore it does not meet some of the requirements of the Cost Containment Plan.

Advantages and disadvantages of Option 2 are presented in Table 5.

Table 5: Advantages and Disadvantages of Option 2: 60% Diversion System Cost Is Shared

<table>
<tr><th colspan="2">Option 2 - 60% Diversion System Cost Is Shared

Description

This approach requires the costs of an efficient 60% diversion system to be identified. Stewards and municipalities would share the cost of the 60% Blue Box system 50:50.

Municipalities would have autonomy to decide which materials they collect but are only paid 50% of the “60% system” costs

Other costs above the 60% would need to be agreed upon by SO and the municipalities on a case by case basis. For example, if stewards (through Stewardship Ontario) want a specific material collected more, or a new material added to the program, the stewards and municipalities would need to agree on the incremental costs incurred and how these would be shared.</th></tr>
<tr><th>Advantages of Option 2 –
Share Cost of 60% Diversion System</th><th>Disadvantages of Option 2 –
Share Cost of 60% Diversion System</th></tr>
<tr><td>• A significant containment of costs
• Clarity on what is paid
• Certainty for steward fees
• Certainty for municipal budgets
• No program by program evaluations – simply one Provincial number with no prescription or evaluation of municipal programs</td><td>• Less $ for municipalities, as 60% system costs less than current practice
• It would require significant effort and cost to determine what the appropriate cost is for the 60% diversion system.
• This approach does not necessarily employ best practices (to be confirmed through the 2015/16 Ontario Best Practices Study)
• No incentives to increase diversion as the payment is the same regardless of diversion by municipality
• No incentives to add materials
• Agreement on what a 60% diversion system looks like and would cost very difficult to achieve</td></tr>
</table>

Implementation considerations for Option 2, including actions and timing are summarized in Table 6.

Table 6: Option 2: 60% Diversion System Cost - Actions and Timing

Actions	• Develop the method to determine the reasonable costs for a 60% diversion system for Ontario - elimination of specific materials from the program, or reduction in quantity of materials collected, increased recovery for some low cost materials. • The 60% Diversion System Cost Study needs to be commissioned and managed by WDO • This would require an independent team of subject matter experts to work up the 60% system costs • SO and municipal representatives need to be involved in the 60% cost determination - possibly on a steering committee • Agree on which materials and which % recovery rates will be used for the 60% cost determination
Timing	• At least 6 months plus consultation to work up the 60% system cost • 1-4 years to implement province wide, if municipalities decide to implement the 60% system - contract timing needs to be factored in

Implications of Option 2 for stewards, municipalities and also the potential risks involved in the option are presented in Table 7.

Table 7: Option 2: Pay For 60% Diversion System - Implications for Stewards, Municipalities and Potential Risks

Implications for Stewards	• Costs are contained as much as possible • Difficulty for stewards of materials that are not included in the "60% diversion system" - these materials are included in depot only collection, but recovery rates will be low
Implications for Municipalities	• Costs paid will probably be less than 50% of costs incurred • Negotiations each year limited to Obligation - pay-out to be determined among municipalities themselves • With less funding, unlikely that materials would be added to Blue Box programs • Risks that materials would be removed from curbside collection over time
Potential Risks	• The expert team which develops the cost of the "60% system" needs to be highly credible; • Does not meet CCP requirement to not allow cost containment to reduce diversion • The constantly evolving material mix would require an annual update of the "60% system" costs - more materials would need to be added to achieve the 60% target with evolving tonne

7.3 Option #3 - Operational Audits (To Identify Best Practice Cost Savings)

Stakeholders told the Panel that the key problem with any model approach (using analogs or simple elimination of numerous programs) was that it did not account for the uniqueness of the individual municipal programs. This option's approach uses best practice guidelines developed for identified municipalities to audit operations and costs on a program by program basis for the largest 55 programs. There would be a separate approach for the 171 remaining programs that would be less time consuming and costly for stakeholders. This way larger programs and Key Cost Drivers (KCD) would be prioritized to focus on areas that could provide the best opportunities for cost containment.

The 2015/16 Ontario Best Practices Study will inform this Option.

Option 3 starts with the reported net cost from the Datacall. This incorporates the cost impacts of new materials introduced by stewards, best practices adopted by municipalities, and cost factors that are outside the control of either party, e.g., commodity pricing. From this starting point, it then discounts from the reported net costs the cost impacts of municipal/program decisions that are defined as not best practice. These decisions may be made due to other municipal objectives, e.g., optimizing their integrated waste operations, but have more costly impacts on the Blue Box program. The net reported costs minus any adjustment is used for calculating the stewards' Obligation.

This option would require development of an audit guideline consisting of a standard set of services (including best practices) for Blue Box programs. The standard set of services (including material to be collected) and best practices would be defined for each of the identified municipal groupings. These groupings would reflect Key Cost Drivers (KCD) such as population, household (HH) type, HH density, distance to market, congestion, material mix, and possibly other municipal program characteristics.

This Option would also require an audit plan outlining how the audits would address the top 55 on a 100% basis over 2 years. This would account for 95% of tonnage and 90% of costs of the Blue Box system within two years of initiating this approach. The audit plan also needs to cover the other 171 programs on a sampling basis.

A key component of this option is the development of municipal groupings. Best practices would be developed for each of these groupings. Each of the top 55 programs would require an operational audit and would be assessed against the best practices for their grouping. Any cost reductions would be based on not meeting a best practice(s) as defined for that grouping. There would be a multi-party, expert team led by WDO to develop this approach. There would be municipal consultation on the groupings before they are finalized.

Once the audit guidelines and audit plan are finalized, one or more audit teams would be established. This team or teams would visit each of the 55 programs, and start with the municipal program's operations and reported net cost. Then using the audit guideline, they would identify potential, realistic cost containment actions and associated cost impacts, based on the best practices identified. The team would speak with municipal program managers to identify and assess key cost drivers, actions taken or not, the ability and actions to contain costs (in and out of their control), and resultant cost implications, e.g., material mix, current contract terms. The results of the audit would be summarized in a report that is available to the municipality, Stewardship Ontario, AMO, WDO, and publicly available on the WDO website.

The municipality has the autonomy to implement the cost containment actions. If the municipal program does not implement the actions within a determined timeframe, the identified cost containment figure would be deducted from its reported net costs. There should be a mechanism for appeal to the WDO.

The remaining 171 programs (accounting for 5% of tonnage and 10% of costs) would be audited on a targeted sampling basis, e.g., targeting programs that have been identified (by WDO, CIF, SO, or other) as providing the best potential cost savings.

The municipal groupings, audit guidelines (best practices), and audit plans are reviewed annually by WDO, SO, and municipal representatives.

The process for Option 3, audit guidelines, audit plans, program groupings, etc. needs to be well communicated to municipalities, SO, stewards, AMO, and other stakeholders.

Advantages and disadvantages of Option 3 are presented in Table 8.

Table 8: Description, Advantages and Disadvantages of Cost Containment Option #3: Operational Audits

Option 3 – Operational Audits	
Description This approach requires audit guidelines consisting of a standard set of services and best practices (based on a 2015/16 Best Practices Study) be developed for municipal groupings. An audit team would then audit all of the largest 55 municipal programs against those best practices. If the municipalities do not implement the changes in a 'to be determined' timeframe, then the costs identified by the audit team would be deducted from the municipal reported net costs. Municipalities would have autonomy to decide which materials they collect and what services they provide, but if they are above the standard set of services or are not using identified best practices then the costs would not be included in the calculation of the steward Obligation. A less costly, sampling based approach would be developed for the 171 smaller municipal programs. SO, municipalities, CIF, WDO, and other key resources would be involved in a review process of the municipal groupings, best practices, and audit findings.	
Advantages of Cost Containment Option 3 – Operational Audits	**Disadvantages of Cost Containment Option 3 – Operational Audits**
• No theoretical or modelled numbers extrapolated across programs. All cost containment actions and associated costs are program specific and transparent. • Incents municipal programs to contain costs • Approach incorporates and acknowledges evolving tonne impacts • Works towards a standard set of BB materials • Uses on the ground accurate costs • Uses a standard procedural, repeatable approach • Reflects timing ability to make changes.	• Potential disagreements on municipal groupings, audit guidelines (best practices), cost implications, and report findings (for individual programs). • There may be a challenge of getting access to detailed operational data. • Cost of developing and doing the operational audits, although this could be reduced after the second year. \$1.1M estimate for performing audits on 55 programs or \$550,000 per year. Estimate \$5,000 - \$10,000 per program for smaller programs, which might be an estimated \$200,000 per year.

Implementation considerations for Option 3, including actions and timing are summarized in Table 9.

Table 9: Cost Containment Option 3: Operational Audits – Actions and Timing

Actions	• Develop a 2015/2016 Best Practices Study • Develop municipal groupings • Develop an audit guideline – containing the set of standard services (including a target standard basket of goods), best practices, and audit process • Develop the audit plan • Obtain approval • Schedule and perform visits and reporting • Include findings in the calculation of the steward Obligation.
Timing	• An initial four months to develop the groupings, audit guidelines, and audit plan • An audit cycle requires approximately six months • There is an initial grace period (e.g., two years) for municipalities to implement.

Implications of Option 3 for stewards, municipalities and also the potential risks involved in the option are presented in Table 10.

Table 10: Option 3: Operational Audits – Implications for Stewards and Municipalities and Potential Risks

Implications for Stewards	• Stewards will pay Obligation based on reported net cost until after the first round of audits. It is possible that some best practices identified by the audits will result in immediate Obligation reductions • Programs with higher costing materials (existing and new) will be paid for the diversion of these materials • May find it more difficult to add materials, going forward • Time and cost required to implement.
Implications for Municipalities	• Will be fairly compensated for 50% of agreed costs when operating a standard service at best practice • Audits may identify 'premium' services that should be discounted. Although the municipalities may choose to continue the services • They are subject to third party operational audit of their programs • Time required to participate in the operational audits.
Potential Risks	• Disagreements on the audit development and findings. This will need to be mitigated by ensuring objectivity and experience on the development and audit team(s), and an appeal mechanism • Potential challenge of getting data for the assessment.

7.4 Option #4 - Base Cost with Adjustments

This approach starts with defining a base program and estimating an associated cost. The base program provides for a set of standard services for programs within a municipal grouping. It then develops and applies cost adjustments based on the services, materials diverted, use of best practices, and performance. The adjustments are then added to the base cost to calculate the program's component of the steward Obligation calculation.

This program requires development of municipal groupings. This will require more groupings than has been historically used (i.e., 9). For example, it has been suggested from some stakeholders, and by a multi-party Best Practice working group of MIPC, that the City of Toronto should be defined as its own group. A base cost would be developed for each of the groups, using the current reported costs in the group, best practices, recovery rates, Key Cost Drivers (KCD), and discussions with key stakeholders (i.e., the specific municipalities, SO, CIF, WDO).

This option would require development of guidelines for KCD performance/cost adjustments and how to apply to municipal programs.

Each program has a base rate plus or minus a performance cost adjustment that reflects their program with respect to the Key Cost Drivers. This figure is used to calculate the Obligation. The base costs, performance/cost adjustments, and calculations for each program are transparent. WDO has the final approval for base costs and performance/cost adjustments, after review and input from municipalities, Stewardship Ontario, and other resources as required.

The base costs, performance adjustments, and cost impacts are reviewed and updated annually by WDO, MIPC, and/or other key resources as required.

This would require minor changes to the WDO Municipal Datacall to identify relevant changes in the programs, e.g., program changes that affect the key cost drivers or performance adjustments.

Advantages and disadvantages of Option 4 are presented in Table 11.

Table 11: Advantages and Disadvantages of Cost Containment Option #4: Base Cost With Adjustments

Option 4 – Base Cost with Adjustments	
Description This approach requires the development of a base set of standard services (including material mix), and best practices, for each of the municipal groupings developed under this option. A cost adjustment (plus or minus) would then be developed for services outside the base program/cost and best practices. The cost adjustments would also include cost allowances for increasing diversion and the evolving tonne. These base cost and adjustments would be used to reflect the program's net cost to be included in the calculation of the steward Obligation. SO, municipalities and WDO would be involved in a review process of the municipal groupings, base costs, best practices, and associated adjustments.	
Advantages of Cost Containment Option 4 – Base Cost with Adjustments	**Disadvantages of Cost Containment Option 4 – Base Cost with Adjustments**
• Incorporates best practices and municipal groupings as incentive to contain costs, i.e., the base cost assumes best practices are used • Includes performance adjustments for diversion and new materials depending on the base program • Reflects reality of individual programs, for Key Cost Drivers, including the evolving tonne • Improves validity of municipal groupings through increased number of groupings to reduce variability.	• Significant effort required to develop the Base Costs and Performance/Cost Adjustment factors, although the use of information available from WDO, CIF, SO, municipalities, and consultant reports will likely be sufficient • Requires annual review and updating of the Base Costs and Adjustment factors • Application of the methodology will be costly the first year. It will be significantly less costly the following years as it will be more of an updating approach for each program • Base costs and performance/cost adjustments will likely be challenged

Implementation considerations for Option 4, including actions and timing are summarized in Table 12.

Table 12: Actions and Timing Required for Cost Containment Option 4: Base Cost With Adjustments

Actions	• Develop a core base program/cost team • Develop the municipal groupings, best practices, base cost, and performance adjustments • WDO approval of the base costs and adjustments • The base cost team applies the base cost and adjustments to each of the programs in the groupings • WDO calculates the total costs that contribute to the calculation of the steward Obligation.
Timing	• Estimated four months to develop the initial base cost and adjusting factors. • Estimated six months to apply this to the largest roughly 55 programs, and the remaining program bands with smaller programs.

Implications of Option 4 for stewards, municipalities and also the potential risks involved in the option are presented in Table 13.

Table 13: Option 4: Base Cost With Adjustments – Implications for Stewards and Municipalities and Potential Risks

Implications for Stewards	• Time required to participate in its development • Will take nearly a year before results are implemented and impacts on the steward Obligation are known.
Implications for Municipalities	• Will be compensated 50% of costs for a “base cost plus adjustment” that reflects best practices, standard service, and agreed adjustment factor within smaller (more representative) groupings • The base set of services may not include ‘premium’ services that are provided in some municipalities. These would not be included in the Obligation • Time required by municipalities to participate in the development of the system and ongoing maintenance.
Potential Risks	• Significant effort in getting the data and developing the initial base cost and adjustments • Disagreements on municipal groupings, base costs, performance/cost adjustments and individual program assessments.

7.5 Option 5: New Best Practices Cost Methodology Model

This Option would see the development of a brand new model to determine the annual steward Obligation. This model would be based on updated best practices and revised municipal groupings. Stakeholders interviewed by the Panel stressed that a simple approach would be best, given the fact that new legislation is expected in the near future. Stakeholders also stated that regardless of the speed with which the new legislation is implemented, Ontario will still need to address calculation of the Obligation to account for best practices using a solid methodology for the next 4-5 years.

A team of experts would be assembled and led by WDO to design the new methodology/model. One of the criticisms heard from stakeholders was that previous models were not transparent and those involved in the results from the models did not have access to the models and did not understand the methodologies used, or agree with the assumptions used, and in many cases did not understand how particular methodologies were agreed to. It is essential therefore that the new model be completely transparent, that the assumptions and methodology are clearly documented, so that everyone involved can see clearly how the calculations are carried out.

Results of the 2015/16 Best Practices Study, the Evolving Tonne Cost Study, and operational audits would be used to update the model on an on-going basis.

Based on interviews the Panel conducted with various experts, a number of suggestions were made on changes that should be applied in the new methodology:

- City of Toronto should be in its own municipal group because of its uniqueness (and size) in the provincial Blue Box system;
- All municipal groupings should be revisited and re-crafted taking factors such as population, population density, location, households, % of multi-residential households, traffic congestion, region and other local factors into account. This re-grouping will lead to a larger number of municipal groups – possibly 10 (from the current 5) for large and urban communities and possibly 10 (from the current 4) for the 171 small and rural programs;
- Urban transfer would be added (only rural programs currently get a transfer allowance);

- Should MRF cost curves continue to be used (the new methodology may adopt a different approach), current cost curves would be developed to reflect the significant changes in MRF technology and costs in recent years.

Advantages and disadvantages of Option 5 are presented in Table 14.

Table 14: Description Advantages and Disadvantages of Option 5: New Best Practices Cost Methodology Model

Option 5 - New Best Practices Cost Methodology Model Description A new Best Practices Cost Methodology Model is constructed which is transparent and well-documented. The methodology model is created by an expert team assembled and managed by WDO. The method by which key stakeholders (AMO, City of Toronto, SO, WDO) provide input to the model is decided by WDO, who makes the final decision on model assumptions, and on how the calculations are carried out. Sufficient resources are dedicated to ensure that the methodology model is constantly updated to take new information on best practices into account.	
Advantages of Option 5 - New Best Practices Cost Methodology Model	**Disadvantages of Option 5 -** New Best Practices Cost Methodology Model
• Principles of CCP can be retained in the new methodology. • Municipal groups can be re-designed to be more equitable • Toronto can be addressed in a separate municipal group, so current inequities related to Toronto being in Program Group #1 are reduced • Can be implemented quickly • Can be constantly updated with new best practice information	• Still based on approximate costs rather than actual costs on a program by program basis • Distrust of models from previous experience will linger • Difficulty in getting agreement on assumptions and approach used

Implementation considerations for Option 5, including actions and timing are summarized in Table 15.

Table 15: Cost Containment Option 5: New Best Practices Cost Methodology Model - Actions and Timing

Actions	• WDO assembles an expert team to design the new BP cost model and assumptions • Facilitated meetings with AMO, City of Toronto, SO and WDO on assumptions used in the new model • Results of Best Practices Study are used to constantly update the model
Timing	• Four to six months for model construction and creation of beta test version. • Identifying expert team/panel - 1-2 months • Design of assumptions - 2 months • Consultation and final decision on assumptions - 2 months • Construct a new model using readily available data (no primary research) - 1-2 months • Documentation of methodology - 1 month • Some actions can occur concurrently.

Implications of Option 5 for stewards, municipalities and also the potential risks involved in the option are presented in Table 16.

Table 16: Option 5: New Best Practice Cost Methodology Model - Implications for Stewards, Municipalities and Potential Risks

Implications for Stewards	• Principles that stewards believe are important can be included in the new methodology model
Implications for Municipalities	• Calculation of Best Practice system cost is clearer than the current model • Actual best practice costs will be incorporated into the model when available • Still does not achieve certainty in funding for budget projections.
Potential Risks	• Municipalities will see this option as a continuation of payment containment • Implications of new methodology model design on value of Obligation are not known until methodology is complete • Potential difficulty of getting agreement on assumptions.

7.6 Option 6: Best Practice Cost/Household in a Best Practice Methodology Model

Stakeholders interviewed by the Panel stressed that regardless of the speed with which the new legislation is implemented, whatever approach is suggested by the Panel needs to be sufficiently robust to be applied for 4-5 years, but also needs to be simple, to avoid the friction of the past.

The Best Practices models of the past have used a number of metrics, including $/tonne, kg/hh to compare municipalities performance within municipal groups – these metrics along with best practices scores were used as a surrogate for best practices. Stakeholders commented that $/tonne was a good metric when the Blue Box program was started, but that $/hh is a better comparator in 2015.

This Option would use a simple metric – cost per household per year, applied to a series of municipal groupings, to multiply the metric by household numbers and estimate the Obligation. The cost/hh metric is already identified by the Municipal Datacall. This value would be adjusted for best practices. Separate cost/hh values would be identified for SF and MF households within each municipal grouping.

While the approach sounds simple, implementation will be challenged primarily on identifying an acceptable approach to identify the best practice cost/household value for each municipal grouping. Agreement by the four parties involved (WDO, SO, AMO and City of Toronto) on the cost/household values to be used will be a challenge.

A team of experts should be assembled by WDO to identify an approach which will be used to modify the values from the Datacall to account for best practices, as well as to develop a set of decision rules to govern re-grouping municipalities into better groupings than the current 9 municipal groupings – a similar approach to Option 5 above.

As with Option 5, Toronto would be in its own grouping. All municipal groupings would be revisited and re-crafted taking factors such as population, population density, location, households, % of multi-residential households, region and other local factors into account. This would result in a larger number of municipal groupings – possibly 10 (from the current 5) for large and urban communities, and up to 10 (from the current 4) for the 171 small and rural programs.

The larger number of municipal groupings would provide more granularity by pairing like with like and reflecting local community characteristics more accurately than in the current nine municipal groupings which many stakeholders stated were not granular enough.

Advantages and disadvantages of Option 6 are presented in Table 17.

Table 17: Advantages and Disadvantages of Option 6: Best Practice Cost/Household Cost Bands to Identify Best Practice Costs

Option 6 - Best Practice Cost/Household Method Description Ontario municipalities would be combined into approximately 20 municipal groupings (rather than the current 9). For each municipal grouping, a best practice cost/household is identified, based on Municipal Datacall reported values adjusted for best practice considerations. While the methodology appears to be a simple and straightforward approach, with no complexity, the challenge will be to agree on the appropriate cost/household value for each municipal grouping. The cost/household value will need to be re-calculated each year based on the Municipal Datacall results and new best practice considerations, such as the 2015/16 Best Practices Study results.	
Advantages of Option 6 - Best Practice Cost/household Cost Bands	**Disadvantages Option 6 - Best Practice Cost/HH Cost Bands**
• Retains municipal groupings • Retains Best Practice principles • More municipal groupings than current system will allow a better grouping of "like with like" • Separate municipal grouping for City of Toronto • Can be updated with new best practice cost data • Simple metric - easier to communicate.	• Difficulty on getting agreement on assumptions used to adjust cost/hh values reported in Datacall for best practice.

Implementation considerations for Option 6, including actions and timing are summarized in Table 18.

Table 18: Option 6: Best Practice Cost/Household Cost Bands - Actions and Timing

Actions	• Develop an expert team that is objective • Develop a multi-stakeholder advisory group to provide input • Develop updated criteria for program groups/cost bands • Develop the best practice cost per single-family household and multi-family household • WDO approval of the approach
Timing	• 2 months to identify expert team • 4 months for team to identify best practice cost per single-family household and multi-family household • 2 months for review of best practice cost per single-family household and multi-family household with advisory group

Implications of Option 6 for stewards, municipalities and also the potential risks involved in the option are presented in Table 19.

Table 19: Option 6: Best Practice Cost/hh Cost Bands- Implications for Stewards, Municipalities and Potential Risks

Implications for Stewards	• Time required to participate in the development and review • Completion of Best Practice Study plus 6 months before Option can be utilized to calculate steward Obligation
Implications for Municipalities	• Approach is clearer

Potential Risks	• The expert team needs to be highly credible • Implications of option on Obligation are not known until tasks are complete • Potential difficulty getting agreement on best practice cost per household.

7.7 Option #7 - Reported Net Cost

Option 7 is based on the decision by the arbitrator. This option uses the verified net cost as reported by Ontario municipalities through the WDO Datacall as the basis for the stewards' Obligation. The Datacall process for this option is the same as currently used. The costs to be included in the Datacall each year are reviewed and approved by MIPC. The costs are recorded in each municipality's accounting system and submitted by staff through the online Datacall system. All reported costs are verified by WDO staff. Twenty (20) municipalities are selected for audit each year to confirm the accuracy of the reported costs. WDO staff make adjustments to the reported costs (from the verification and audit processes) after discussions with the particular municipalities.

The Obligation for the next year is calculated from the previous year's total provincial gross cost, minus the 3 year rolling average for revenue, plus or minus any prior year adjustments, multiplied by 50%, minus the CNA/OCNA in-kind, and minus the CIF contribution. The municipalities receive the Obligation payments two years after they are incurred, e.g., 2013 costs are used to calculate the 2015 steward Obligation.

The reported net cost incorporates the best practices that have been implemented by municipalities. As municipalities implement best practices and apply continuous improvement programs in their recycling programs, the cost containment is reflected in the future reported net cost. It also incorporates the increasing cost impacts of the evolving tonne and costlier materials introduced by stewards.

A summary description, advantages and disadvantages of Option 7 are presented in Table 20.

Table 20: Advantages and Disadvantages of Option 7: Reported net Costs

Description	
Reported net cost as submitted through the Datacall and verified by WDO is used as the basis for calculating the steward Obligation. The steward Obligation is calculated by taking the reported gross cost for the programs that submit their annual reports, minus the three year rolling average of revenue, plus or minus prior year adjustments (e.g., from WDO municipal audits).	
Advantages of Option 7	**Disadvantages of Option 7**
• Reported net costs are actual costs as opposed to modelling or estimating • As best practices are implemented the resulting cost impacts are accurately reflected in the Datacall's reported net cost • Incorporates the increasing costs as a result of stewards' changing packaging and products in the BBP • Eliminates the need for negotiations each year • Incorporates the municipalities' incentive to contain costs, as they pay for 50% of the BBP • Is consistent with the 2014 BB Steward Obligation arbitrator's decision • Still requires the parties to agree on changes to types of costs in the Datacall.	• The reported net cost includes costs greater than what would be considered best practices.

Implementation considerations for Option 7, including actions and timing are summarized in Table 21.

Table 21: Option 7: Reported Net Cost - Actions and Timing

Actions	This option would not require any additional action beyond the current process. The high level actions include: • MIPC reviews the types of costs to be included in the Datacall. The parties must agree to any changes before making recommendation to the WDO Board • WDO updates the Datacall and informs municipalities • Municipalities submit their annual reports • WDO verifies the reported data, and calculates the net reported costs, prior year adjustments and steward Obligation • SO calculates the CNA/OCNA in-kind and resultant net cash Obligation • WDO contracts municipal Datacall audits and determines adjustments for next year.
Timing	• This option can be implemented immediately

Implications of Option 7 for stewards, municipalities and also the potential risks for the option are presented in Table 22.

Table 22: Option 7 - Reported Net Cost - Implications and Potential Risks

Implications for Stewards	• The municipalities' reported net costs are greater than what stewards think they should be paying • There is not as much of an incentive to contain costs as provided by other methods that the stewards' would prefer • Stewards would fundamentally disagree with this approach.
Implications for Municipalities	• This option, for the most part, provides the municipalities with their reported net costs, although not all in cash (i.e., In-kind) • This does not resolve the cost issues around in-kind, administration costs, or three year rolling average.
Potential Risks	• May not be consistent with the CCP.

7.8 Evaluation of Options and Rationale

7.8.1 Evaluation

The evaluation process used to determine the Panel's recommended cost containment methodology involved all members of the Panel, although ultimately, there was not unanimous agreement on all recommendations.

Overall, seven options were developed and assessed against a set of criteria developed by the Panel (Section 7 of Report). It consisted of:

a) Is it simple / explainable/ transparent?
b) Does it address Principle 3 (cost bands)?
c) Does it address Principle 4 (municipal operations)?
d) Does it address Principle 5 (stewards' material use & market development)?
e) Does it address Principle 6 (municipal autonomy)?
f) Does it address Principle 7 (no cross subsidization of costs)?
g) Does it address Principle 8 (stewards reduce BB material waste)?
h) Does it not dis-incent diversion (CCP)?

i) Is it fair for municipalities?
j) Is it fair for stewards?
k) Does it meet intent of CCP (cost containment)?
l) Is it timely (implement the methodology)?
m) Is it timely (implement changes to the program)?
n) Is it accurate (in reflecting costs and BP costs)?
o) Cost of Operating the Methodology.

While the criteria were used to assess the options, they were not used to choose a final option. The criteria were used to guide the discussion to those options that the Panel felt should be considered for further discussion and refinement. While there was general consensus by most members on the two options identified for further consideration, the Panel notes that a full consensus was not reached on this point. All members participated in the more detailed discussion of the two options, but as it was clear that a consensus could not be reached on a preferred option the three members appointed by WDO met directly to develop its final methodology and recommendations regarding its implementation. These are set out in the report in Section 10.

The general recommendations set out below in Section 9, were developed by the Panel over numerous meetings and interviews.

7.8.2 Rationale

While determining its recommendations, especially those specific to the annual steward Obligation methodology recommended below, the Panel's three independent members took a number of factors into consideration.

The Blue Box Program Plan (Plan) was approved by the Minister of the Environment under the Waste Diversion Act in 2003. The Cost Containment Plan (CCP) was requested by the Minister to specifically address cost containment under the Plan. It received significant input from both Stewardship Ontario and municipalities and was approved by the Minister in December 2004 and revised in January, 2005.

While the Cost Containment Plan is dated, and the Panel notes that its principles need to be reviewed and reported on an annual basis, it nonetheless is the approved framework under the Plan for cost containment. With the exception of 2014 and 2015, both municipalities and Stewardship Ontario have worked cooperatively together in the past under this framework to reach the annual Obligation.

The Panel's Terms of Reference would appear to reflect the above view, in that it charged the Panel to recommend an appropriate methodology to apply the cost containment principles contained in the Cost Containment Plan on the determination of the annual Obligation.

The third principle under the CCP specifically sets out the use of cost bands with best practices in the determination of the Obligation and these have been used in each of the models used to date to determine the specific Obligation. The Panel’s focus on Options 3 and 5 above would continue this approach under the revised municipal groupings discussed in those Options.

In concluding on its specific recommendations, the Panel assessed each of the seven options against the above set of criteria. While the criteria were only used as a guide to focus the discussion of the Panel, the majority of the Panel members chose Options 3 and 5 as a result of the assessment of all options using this criteria, for further specific discussion and focus. While not unanimous, it did inform the independent Panel members in their final recommendations.

While recommending the continued use of a Model to determine the annual Obligation on an interim basis, the independent Panel members felt it was important that many of the issues associated with the use of Models used in the past be addressed. It's specific recommendations concerning municipal groupings (including Toronto as a separate grouping), a Best Practise Study, urban transfer costs, consistent updating, etc., reflect many of the comments heard by the Panel in its deliberations and attempts to address many of the issues expressed by municipal representatives regarding the use of past Models.

The independent members also felt strongly that moving to an approach that reflected real costs based on actual operational audits was the most appropriate approach to recommend over a longer term. This view is reflected in the recommendations that follow.

The Panel received considerable input from its stakeholder consultations and a number of suggestions were considered and included, especially those contained in its general recommendations that follow. The Panel appreciated the time and effort taken by those who were interviewed and these discussions clearly informed the development of the options considered and were instrumental in the direction taken by its independent members.

Finally, the Panel spent considerable time trying to understand the breakdown in relationship at the MIPC table that has led to the impasse in reaching the annual steward Obligation over the past two years. Its recommendations reflect the need for WDO to take a continuing leadership role in the implementation of the recommended methodology and the need for a different approach and structure to do this. While the Panel recognizes that the ongoing use of any model is not supported by the municipalities, it is hoped that the new recommended methodology can continue to see the parties work together in technical areas, and provide a path forward for further discussion and resolution for determining the BB steward annual Obligation.

Overall, the Panel tried to strike a balance on the need to work in the approved framework set out in the CCP, while addressing the concerns of both municipal and steward stakeholders, in implementing a fair approach to cost containment.

The Panels conclusions, general recommendations and specific methodology recommendations follow.

8 Conclusions

After reviewing considerable background material, interviews with various expert stakeholders, and discussions among the Panel members, the Panel developed a number of conclusions and recommendations. Some of these have more impact on cost containment than others, but we feel are important to move the BBP program and cost containment forward.

The following conclusions were drawn from the Panel research and stakeholder interviews:

a) As a Minister-approved document, the Cost Containment Plan should continue to provide the framework for work on continuous improvement/cost containment. Performance to the CCP should be reviewed and reported on annually.

b) Recent changes in packaging, referred to as the "evolving tonne", has had a significant impact on municipal costs rising in the Blue Box program and needs to be better understood from an Ontario perspective.

c) There is a clear lack of understanding of, and confidence in, the application of the current Blue Box methodology/model in determining the annual Obligation under the Blue Box Program. It needs to be reworked with a different approach or replaced.

d) The best practices questions currently used need to be informed by an up to date best practices study.

e) The nine municipal groupings under the current methodology/model used for determining the annual steward Obligation do not reasonably reflect comparative municipalities. These need to be reviewed and updated using the most current available data.

f) The City of Toronto is unique as a municipality under the Blue Box Program and should be in its own separate municipal grouping to reflect aspects such as the high percentage of multi-residential households, traffic congestion, etc.

g) Waste Diversion Ontario should take a continuing leadership role, including necessary resources and strengthened oversight authority, and put in place a new process to develop and implement a new methodology to determine the annual Obligation.

h) A mechanism should be created to facilitate greater discussion between stewards and municipalities on advances/changes in packaging that affect the Blue Box system in order to identify and facilitate solutions to recycling system challenges where possible and to allow municipalities some lead time to prepare for packaging changes.

i) Greater emphasis should be placed on reporting the success of the Blue Box Program and the work of municipalities and stewards on continuous improvement/packaging advances.

j) The WDO Municipal Datacall system used to determine municipal costs of Blue Box programs is a world class approach. It needs a simple/short reporting format for small municipal programs.

k) The lack of a standardized province-wide list of materials to be collected in the Blue Box program creates confusion to the public, and results in increased costs to the system.

l) A new process for determining the costs associated with introducing a new packaging material into the Blue Box program needs to be developed.

m) The Continuous Improvement Fund has been an effective tool for driving continuous improvement and recognition needs to be given for the work of municipalities in this regard.

n) Volume is an increasingly important metric for measuring performance of the Blue Box program. A methodology is needed to report on volume, as well as weight.

9 General Recommendations

The research and interviews carried out by the Panel have led to the following general recommendations:

1. Complete an Ontario “Implications of the Evolving Tonne on the Ontario Blue Box Program” study, to identify the cost implications of the changing Blue Box material mix over time. There should be a mechanism that monitors and predicts changes in the material mix and its impacts on system gross and net costs on an ongoing basis.

2. WDO carry out a new Ontario Blue Box 2015/16 Best Practices Study (building on the work of CIF) to identify and assess best practices, with cost implications, on a program grouping basis, and standardized service levels (curbside vs depot collection; collection frequency, etc.). “On the ground” up to date Ontario municipal program information should inform the best practices study,

3. Consideration should be given to the development of a standardized “basket of goods” – a standard set of materials that are collected in Blue Box programs throughout the province.

4. Create a significantly simpler, shorter Datacall survey for the 171 small municipal programs (current groups 6 – 9).

5. WDO create an annual public report starting with 2015 that outlines the achievements of the Blue Box Program, and the activities addressing the Cost Containment Plan. This report would be submitted to the Minister and will include:
   - Information on the performance of the BBP, including diversion, trends, and key challenges;
   - The calculation and verification of BBP costs;
   - Actions being taken to contain costs by the WDO;
   - Actions being taken to contain costs by Stewardship Ontario and stewards. This section of the report is to be prepared by Stewardship Ontario;
   - Actions being taken to contain costs by municipalities. This section of the report is to be prepared by AMO and/or City of Toronto; and
   - Actions being taken by stewards, SO and/or municipalities to create and/or improve end markets and increase revenues from recovered material sales.

6. WDO redefine the MIPC mandate to focus on technical issues/cooperation only.

7. Develop a process (including both municipalities and Stewardship Ontario) to assess costs and other implications of adding new materials into municipal programs.

8. Prepare a standard best practice business case template for municipal use when considering the addition of new materials to their programs.

9. Implement a 50:50 cost sharing of CIF between stewards and municipalities; the total amount to be determined by the two parties, for recommendation to WDO.

10. WDO should develop a forum for producers, municipalities, and other key stakeholders to share information on packaging trends, their potential impacts on the municipal Blue Box system, current operational issues, and identify possible solutions.

11. Undertake a comprehensive study to compare costs (by material and overall program costs) and performance of Blue Box programs across Canada.

10 Recommended Methodology to Determine Steward Obligation

The WDO Board requested the Panel recommend an appropriate methodology to apply the cost containment principles contained in the Blue Box Plan on the determination of the annual Obligation. Based on the Panel's assessment of options and stakeholder feedback the following is recommended:

1. That Option 5 - New Best Practices Cost Methodology Model (Model) be implemented as soon as possible, moving to the full Option 3 by the end of a three year implementation period.

2. With regards to Option 5, the Panel has the following specific recommendations:
    a. A 2015/16 Best Practices Study be carried out in parallel with development of the Model. The results of the Best Practices Study should provide input to the Datacall (best practice questions) and the Model. The Study should be updated on a regular basis, but no longer than two years.
    b. City of Toronto should be in a separate municipal group because of its uniqueness (and size) in the provincial Blue Box system. An operational audit would be performed of the City of Toronto's Blue Box Program in the first year (using the Operational Audit Guideline that is informed by the Best Practices Study) to identify cost containment measures that should be put in place, and any steward Obligation deductions which would result from the audit.
    c. All other municipal groups should be re-organized taking factors such as population, population density, location, households, % of multi-residential households, region and other local factors into account. This re-grouping should lead to a larger number of municipal groups, which should be reviewed on a regular basis.
    d. The costs of urban transfer of recyclables should be included in the new Model.
    e. Should MRF cost curves continue to be used (the Model may adopt a different approach), then current cost curves need to be developed to reflect the significant changes in MRF technology and costs in recent years.
    f. The Model should be developed by an expert team, some of whose members would likely be involved with the Best Practices Study and the revision of municipal groups. It should
    g. The supporting studies and development of the model should be carried out in parallel, in order to be as timely as possible. It is expected that this could be achieved in six months.
    h. WDO should set up a new separate process (involving SO and municipalities) and provide the oversight and appropriate resources to develop and implement the Model. It should be reviewed and updated on an annual basis to determine the annual steward Obligation.

3. With regards to implementation of Option 3, Operational Audits, the Panel recommends the following:
    a. Implementation of Option 3 should start with the operational audit of City of Toronto in year one, per recommendation 2b.
    b. Develop Operational Audit Guidelines, based on the Best Practices Study, for each revised municipal grouping for the top 55 programs consistent with recommendation 2c.
    c. Starting in 2016, operational audits would be carried out for the "top 55" municipal programs, specific to their identified municipal grouping, over a two year period.
    d. A transition from the Model (Option 5) to the Operational Audits (Option 3) approach should be developed by Year 3 for those municipalities audited in the first of the two year audit process, and Year 4 for those municipalities audited in the second of the two-year audit process. Operational audits would then be carried out every two years thereafter (e.g., those municipal programs audited in the first year of the audit process would be re-audited in the third year).
    e. A mechanism should be developed for municipalities to appeal the outcomes of the operational audit.

f. The smaller approximately 170 municipalities (currently in municipal groups 6-9) would continue to be addressed by the Model. Sample operational audits would continue to inform best practices for these municipalities.

Recommendations 2f, 2g and 2h for option 5 would also apply to implementation of Option 3.

Implementation of all of the above initiatives will require WDO to develop a budget and work plan.

The following table provides a high level timeframe for the implementation of the recommended methodology.

Table 23. High Level Timeline for Recommended Option

High Level Timeline for BB Cost Containment Plan Recommended Option							
	Action	Timeline					
		Fall 2015	Early 2016	2016	2017	2018	2019
1	Undertake studies						
2	Develop guidelines and model (Option 5)						
3	Use Option 5 model for obligation						
4	Undertake ~28 operational audits						
5	Use Option 5 model for obligation						
6	Undertake remaining ~27 operational audits						
7	Use the 28 program audits, and the model for the remaining programs						
8	Use the 55 program audits to replace the model						
9	Sample operational audits on smaller programs						
Note:							
a	The set of 28 and 27 operational audits splits the operational audits for the "Top 55" municipal programs.						

Finally the Panel notes the following in the Terms of Reference.

> "Following delivery of the Panel's recommendations and the adoption by WDO of a methodology to apply cost containment principles to the determination of the annual Blue Box steward Obligation, the remaining instalments of the 2015 Steward Obligation will be adjusted as necessary to reflect any adjustment to the amount of the 2015 Steward Obligation."

The Panel recognizes the need for time for both WDO and the Minister to review and conclude on a direction regarding its recommendations. The Panel also acknowledges that any adoption of its recommendations regarding its methodology will require additional time for implementation.

In this regard, based on its overall recommendations, the Panel would recommend a review of the 2015 Obligations against the new Model if it is in place in a timely manner, i.e., by the beginning of March 2016. Recognizing that any implementation of the Panel's recommendations may not meet this timeframe, the Panel recommends, that the WDO Board enter into an expedited discussion with the parties exploring a number of scenarios to determine the 2015 Obligation and for other studies. As an example scenario, that could be initiated immediately, consideration could be given to using the current Base Model, updated and with the City of Toronto moved to its own grouping, as a starting point. This could be combined with the Panel's recommendation of the 50/50 cost sharing of the CIF.

Appendix A. The June 16th letter from the Minister of the Environment and Climate Change to WDO

Ministry of the Environment and Climate Change

Office of the Minister

77 Wellesley Street West
11th Floor, Ferguson Block
Toronto ON M7A 2T5
Tel.: 416-314-6790
Fax: 416-314-6748

Ministère de l'Environnement et de l'Action en matière de changement climatique

Bureau du ministre

77, rue Wellesley Ouest
11e étage, édifice Ferguson
Toronto ON M7A 2T5
Tél. : 416-314-6790
Téléc. : 416-314-6748

Ontario

ENV1283MC-2015-1553

June 16, 2015

Dr. Robert Gordon
Chair, Waste Diversion Ontario
4711 Yonge Street, Suite 1102
Toronto ON M2N 6K8

Dear Dr. Gordon:

I am writing in respect to the annual payments due to individual municipalities in accordance with the Blue Box Program under the *Waste Diversion Act, 2002* (WDA).

One of Waste Diversion Ontario's (WDO) key responsibilities is to develop, implement and operate waste diversion programs for designated wastes in accordance with this Act and monitor the effectiveness and efficiency of those programs.

Subsection 25(5) of the WDA, together with Section 5.2 of the Blue Box program plan gives WDO lead responsibility for approval of and reporting on payments to individual municipalities. Therefore, WDO has the authority to make the decision on payments to individual municipalities, and it is my expectation that WDO fulfill this responsibility without delay.

Normally, WDO makes this determination upon advice from the Municipal Industry Program Committee (MIPC), comprising representatives from Stewardship Ontario, the Association of Municipalities of Ontario and the City of Toronto. I understand that the members of MIPC have been unable to reach a consensus for 2015, and mediation efforts among its members have not been successful.

Consistent with WDO's responsibilities and authority under the WDA and Blue Box Program Plan, WDO should take the steps necessary to determine payments for 2015 and in subsequent years where MIPC is unable to achieve consensus on payments. I also expect Stewardship Ontario will make such payments, as required by the Blue Box Program Plan by which it is governed.

Pending the determination of final payments for 2015, I understand that WDO has asked Stewardship Ontario to make quarterly interim payments to individual municipalities for 2015 beginning on June 30, 2015. I expect Stewardship Ontario will make the interim payments.

…2

Dr. Robert Gordon
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Furthermore, the sector awaits your direction on cost containment. I expect that WDO shall determine an appropriate methodology of cost containment using all information available to you.

In accordance with clause 5(i) of the WDA, I am requesting a report back on your determination in this regard by September 30, 2015.

Thank you for your continued commitment and efforts to improve the Blue Box system in Ontario.

Yours sincerely,

Glen Murray
Minister

C: Paul Evans, Deputy Minister, Ministry of the Environment and Climate Change
Michael Scott, CEO, Waste Diversion Ontario
Gary McNamara, President, Association of Municipalities Ontario
E. Goodger, General Manager - Solid Waste Management Services, City of Toronto
Debbie Baxter, Chair, Stewardship Ontario

Appendix B. The Blue Box Cost Containment Panel Terms of Reference

WDO Waste Diversion Ontario

Panel on Blue Box Cost Containment and the In-Kind Program

Terms of Reference

June 26 2015

4711 Yonge Street, Suite 1102, Toronto ON M2N 6K8, t: 416.226.5113, f: 416.226.1368, www.wdo.ca, @WDOntario

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Background

Determination of the Annual Steward Obligation

The Waste Diversion Act s. 25(5) and Section 5.2 of the Blue Box Program Plan provides Waste Diversion Ontario (WDO) with the lead responsibility for approval of and reporting on Blue Box Stewards' annual payments ("the obligation") to individual municipalities. Normally, WDO makes this determination on advice from the Municipal Industry Program Committee ("MIPC"), which is comprised of representatives from Stewardship Ontario, the Association of Municipalities of Ontario (AMO) and the City of Toronto.

2014 Arbitration Decision

MIPC was unable to reach a recommendation to WDO on the 2014 obligation through negotiation or mediation. As a result, the parties agreed to an arbitration process. Mr. Robert P. Armstrong, Q.C. was selected as the arbitrator and came to a decision on the 2014 obligation on November 25, 2014.

In his decision, Mr. Armstrong declined to apply cost containment principles to the determination of the obligation due to an insufficiency of evidence as to how they ought to be applied, as reflected in paragraphs 225 & 226 of his decision as set out below:

> *225. I want to make it clear that by rejecting the use of a model for the determination of the 2014 Steward Obligation, I do not reject the principles of cost containment and the objective of attempting to pursue best practices as a means of containing costs. Indeed, to do so would be "to throw out the baby with the bathwater."*
>
> *226. Specifically, I have only rejected the utilization of best practice cost bands, to the extent they are incorporated into the best practices cost model, which I have found wanting due to the insufficiency of the evidence supporting its use. However, it is the particular model I have rejected, not best practices cost bands. I have not rejected their application in the promotion of best practices generally;*

Mr. Armstrong also concluded the Blue Box In-Kind Program is unfair to municipalities and recommended that the program be reviewed, as reflected in paragraph 283 of his decision as set out below:

> *283. However, I am prepared to say that the system of in-kind payments by the newspapers is extremely unfair to the Municipalities. On the evidence before me, they clearly do not get what they are paying for. There appears to be no reason why the rates are set at the highest rates that newspapers charge for advertising when the Municipalities on their own are likely to be able to negotiate much lower rates. Also, the process used to determine the total inkind contribution is still relatively opaque. In my view this issue should be addressed by the relevant parties, including the Minister and representatives of WDO. It would be my strong recommendation that the provision for inkind payments by the CNA and OCNA to satisfy their portion of the Steward Obligation be removed or certainly limited to a level that is reasonable both as to the total amount and to the rates charged;*

2015 Steward Obligation

In 2015, MIPC was again unable to come to a recommendation on the annual steward obligation either through negotiation or mediation.

In his letter dated June 16, 2015 to the WDO Chair, the Minister of the Environment and Climate Change ("the Minister") stated that WDO has the authority to determine the obligation. He also stated his expectation that WDO fulfill this responsibility without delay and that Stewardship Ontario will make these payments, as required by the Blue Box Program Plan.

In addition, the Minister directed WDO to develop and report back to him by September 30, 2015 on an "appropriate method of cost containment using all of the information available", which could be applied to the calculation of the annual steward obligation.

At its June 17th meeting, the WDO Board determined the 2015 Steward Obligation using the methodology set out in Mr. Armstrong's 2014 arbitration decision.

WDO's determination results in a total 2015 Steward Obligation of $114,600,548 to be paid by Stewardship Ontario through quarterly instalments commencing on June 30, 2015. Of this:

- $2,000,000 is to be directed to the CIF;
- $6,945,011 is the in-kind contribution; and
- $105,655,537 is to be paid out in cash to Ontario municipalities.

The Panel

WDO is establishing a Panel to submit recommendations to WDO on a methodology to apply cost containment principles to the determination of the annual Blue Box steward obligation, and also to submit recommendations regarding the In-Kind Program, to address the concerns raised by the arbitrator.

The Panel will be appointed by WDO and will consist of five members: AMO/City of Toronto may recommend one panel member and Stewardship Ontario may recommend one panel member for WDO's consideration. WDO is asking that AMO/City of Toronto and Stewardship Ontario submit their panel member recommendation no later than July 3, 2015.

The Panel will consult with stakeholders and submit to WDO no later than September 11, 2015 recommendations on a methodology for applying cost containment principles to the determination of the obligation. By September 11, 2015, or as soon as possible thereafter, the Panel will also submit recommendations to WDO on the In-Kind program.

WDO will appoint the Chair of the Panel. The Panel is responsible for developing its work plan and schedule, and identifying needed activities and information.

Following delivery of the Panel's recommendations and the adoption by WDO of a methodology to apply cost containment principles to the determination of the annual Blue Box steward obligation, the remaining instalments of the 2015 Steward Obligation will be adjusted as necessary to reflect any adjustment to the amount of the 2015 Steward Obligation.

Governance and Decision-Making

The Panel will work collaboratively to achieve its recommendations. However, should the Panel not be able to come to a consensus on any of its recommendations, the majority view will prevail. The Panel may, if it chooses to do so, provide a minority report to summarize any dissenting views.

Administrative Support

WDO will provide secretariat functions and meeting accommodation for the Panel.

Objectives

The Panel is charged with the following responsibilities:

1. Recommending to WDO no later than September 11, 2015, an appropriate methodology to apply the cost containment principles contained in the Blue Box Plan, ("the BBP") as amended (December 30, 2004), on the determination of the annual obligation;
2. Submitting recommendations by September 11, 2015, or as soon as possible thereafter, regarding the Blue Box In-Kind Program, to address the concerns raised by the arbitrator; and
3. Consulting with stakeholders and gathering information and data, as necessary, to inform their recommendations.

Deliverables

1. A report outlining the Panel's stakeholder consultation process and results, and the Panel's rationale and recommendation for how the cost containment principles in the BBP should be applied to the calculation of the annual obligation.
2. A report detailing recommendations on the Blue Box In-Kind Program.

Work plan, including activity schedule

To be developed by the Panel. Final deliverables are due to WDO no later than September 11, 2015.

Non-Disclosure Agreement

Panel members may be required to sign a non-disclosure agreement should the Panel determine that it requires access to any confidential data and/or information pertaining to the Panel's objectives as outlined in this Terms of Reference document.

Budget

The budget will be determined by WDO in consultation with the Panel. Expenses incurred as a result of the Panel's work will be shared equally by the MIPC parties.

Communications

WDO will be wholly responsible for all external communications.

Panelists

Ideally, members of the Panel will have the necessary knowledge of and familiarity with the Blue Box Program and will be able to devote the necessary time to complete this work.

Panelists other than full time employees of a municipality, AMO, any other municipal, professional or industry association and Stewardship Ontario must disclose to WDO any concurrent work involving the Blue Box Program, as well as any real or perceived conflicts of interest related to the work of the Panel.

Appendix C. List of Stakeholder Interviews

Panel members identified persons with a knowledge of the current Blue Box system and the Cost Containment Plan that could inform its work. These were prioritized and the Panel met in person or by teleconference with a number of individuals/experts.

The following list presents the individuals that were interviewed by Panel members:

#	Name	Affiliation	Date	In-person or Teleconference
1	Mike Birett	CIF	August 12	In-person
2	Mustan Lalani	Tetra Pak	August 18	Teleconference
3	Al Metauro	Green by Nature	August 19	Teleconference
4	Francis Veilleux	Bluewater Recycling Association	August 20	Teleconference
5	Geoff Rathbone	Formerly City of Toronto, (currently WDO)	August 20	In-person
6	Andy Pollock	Region of Niagara	August 21	Teleconference
7	Glenda Gies	Glenda Gies & Associates	August 24	In-person
8	Guy Perry	Guy Perry & Associates	August 25	In-person
9	Melanie Agopian & Alain Brandon	Loblaws	August 25	In-person (MA) & Teleconference (AB)
10	Jay Stanford	City of London	August 28	Teleconference
11	Rob Cook & Peter Hargreave	OWMA	August 28	Teleconference
12	Beth Goodger	City of Toronto	September 2	Teleconference
13	David Pearce	Stewardship Ontario	September 4	Teleconference
14	Craig Bartlett	County of Durham	September 4	Teleconference
15	Diane Brisebois & Gary Rygus	Retail Council of Canada	September 9	Teleconference
16	Rachel Kagan	Food & Consumer Products of Canada	September 9	Teleconference

Appendix D. Status Summary of CCP Action Items

1	**Stewardship Ontario and the Association of Municipalities of Ontario, working co-operatively through Waste Diversion Ontario support municipalities' efforts to operate municipal Blue Box recycling programs at best practices to minimize gross and net BB program costs through analysis of 2002 and 2003 and future Datacall data by various measures including but not limited to:**		
	Cost Containment Plan Action Item	**Status of Action Item-2009**	**Update - 2015**
A	Identifying collection and processing contract arrangements that reduce costs (e.g. preliminary analysis of 2002 data suggests that specific types of revenue sharing arrangements can lead to higher or lower revenue)	Referred to Best Practice Study	Contracts available on CIF website.
B	Identifying program characteristics, such as frequency of service (weekly or bi-weekly), type of collection (depot or curbside), range of materials collected and service sharing arrangements (co-operation among neighbouring municipalities to better utilize collection or processing capacity) that result in reduced costs while maintaining or increasing material recovery	Referred to Best Practice Study	Complete.
C	Sharing identified best practices with municipalities through correspondence to councils, training workshops and site visits from a WDO Blue Box Assistance Team	Integrated municipal staff in KPMG project team as training opportunity; information on BP presented at series of ORW; MIPC employed an Assistance Team	CIF completes workshops.
D	Modifying 2004 Datacall to ensure that the data necessary for best practice analysis are being requested	Completed	
E	Modifying the Municipal Funding Allocation Model to reward municipalities that have implemented the identified best practices and to provide incentives for municipalities to adopt the identified best practices	Not implemented; MFAM abandoned	Current MFAM bases 15% of funding on Best Practice Score.
2	**Stewardship Ontario and the Association of Municipalities of Ontario, working co-operatively through Waste Diversion Ontario verify Municipal Datacall data to ensure accuracy, transparency and consistency of reporting by various measures including but not limited to:**		
	Cost Containment Plan Action Item	**Status of Action Item-2009**	**Update- 2015**

A	Providing expanded descriptions in the 2003 Datacall for eligible capital cost items, acceptable cost allocation methodologies, reporting of stockpiled materials and revenue sharing	Completed	
B	Requesting budgeted and planned capital expenditures for next two years	Completed	Removed in 2013 Datacall redesign.
C	Providing submission support visits to largest programs in 2004 and expanding this program in 2005	Implemented and ongoing	WDO staff presents Datacall reporting guidance at annual AMO/CIF BB workshops. Travel across the province getting exposure to numerous programs.
D	Utilizing submission support visits to compile additional information on direct and indirect administration costs	Utilizing annual Datacall financial audits to compile audited direct and indirect administration costs	Removed in 2013 Datacall redesign project.
E	Utilizing year over year cost data to identify anomalies	Implemented and ongoing	Implemented and ongoing
F	Calculating projected annual cost increase by municipality for use as reference during verification of Datacall	Implemented and ongoing	Implemented and ongoing
G	Implementing the various audit procedures outlined in the approved BBPP including financial audits and program reviews	Implemented and ongoing	WDO undertakes audits of 20 programs per agreement of MIPC.
3	**Stewardship Ontario and the Association of Municipalities of Ontario, working co-operatively through Waste Diversion Ontario prepare for bridging from the 2002 verified costs to the approved costs as defined in the BBPP by 2007 by various measures including but not limited to:**		
	Cost Containment Plan Action Item	**Status of Action Item-2009**	**Update- 2015**
A	Determining an appropriate rate of interest on debt for municipal capital investment by 2005 for 2006	Completed	
B	Developing a detailed definition of best practice administration costs by 2006 for application in 2007	MIPC approved 3% and 5% administration factors for contracted and municipal costs respectively	3% and 5% rates still applied in the Datacall for administration costs.

4	**Stewardship Ontario and the Association of Municipalities of Ontario, working co-operatively through Waste Diversion Ontario support the use of cost bands by various measures including but not limited to:**		
	Cost Containment Plan Action Item	**Status of Action Item-2009**	**Update- 2015**
A	Identifying 'reasonable costs' and the range of the cost bands for defined municipal groups to reduce the 2004 net system cost for the purpose of setting 2006 fees	Completed	Complete
B	Developing standards for 'reasonable costs' and procedures for appeals of decisions regarding reasonable costs by 2005 for application in 2006	Completed	Complete
C	Determining best practice costs to be used for the purpose of setting 2008 fees	Applied best practice model to calculate range of best practice costs	MIPC is not in agreement on a cost bands methodology for the determination of best practice costs
5	**Stewardship Ontario support enhanced material markets through procurement and other market development initiatives by various measures including but not limited to:**		
	Cost Containment Plan Action Item	**Status of Action Item-2009**	**Update- 2015**
A	Establishing green procurement protocols through consultation with stewards and interested stakeholders	Future procurement initiatives linked to market development activities so that integrated with necessary collection, sorting and reprocessing infrastructure.	SO provided over $6 million in grants and investments with companies, e.g., EFS-plastics Inc., Entropex and GreenMantra for infrastructure that increases demand for emerging materials, e.g., mixed rigid plastics. For example, EFS-plastics can process 12,000 te of mixed plastics every year. These companies and others provide Ontario municipalities with local end markets and a dependable revenue stream.
B	Developing higher value glass markets by issuing a Request for Expressions of Interest for glass market development followed by a Request for Proposals for glass processing capacity and by supporting feasibility	Completed – New mixed glass processing facility funded with SO market development	Investment into Unical glass processing facility. There are ongoing discussions with CIF and

	studies and small projects	funds now operational; other existing and new facilities also supported.	end markets to facilitate the recycling of glass.
C	Assessing market development levies for other materials (than glass) to support material-specific targets	Levies applied to plastics stewards in 2005 and 2008 to support plastics market development initiatives – currently underway	SO uses plastics and fibres market development money to increase the capture and recycling of these materials.
6	**Stewardship Ontario support municipalities' efforts to operate Blue Box recycling programs at best practices to minimize net Blue Box program costs by various measures including but not limited to the following:**		
	Cost Containment Plan Action Item	**Status of Action Item-2009**	**Update- 2015**
A	Administering Efficiency and Effectiveness (E&E) Fund	Completed – 75 projects either completed or underway; E&E Fund replaced by Continuous Improvement Fund	CIF has funded over 500 projects.
B	Designing a voluntary co-operative marketing service, entering into agreements with markets for minimum pricing and soliciting participation from municipalities marketing materials below these prices	Project undertaken to determine feasibility. Project concluded little interest in establishing co-op at this time. Instead developed Model Contract and Tender Tool accessible through the Knowledge Network, and promoted marketing advisory services through recycling program adviser hired by MIPC.	SO has given the management of the Price Sheet to CIF. The Price Sheet is a tool to help municipalities receive appropriate revenue.
C	Assessing MRF residue composition to identify opportunities for increased capture at minimal cost	Developed MRF residue sampling protocol and sampling undertaken in Hamilton.	SO does not get sufficient access to MRFs to conduct these studies on a regular basis.
D	Implement audits of aluminum used beverage can (UBC) recovery rates to identify opportunity for increased capture at minimal cost	Extensive waste audit program implemented through 2005-2007. Study undertaken to	Recent audits completed. Very little aluminum left in the garbage at curbside

		identify opportunities to increase capture of UBC and other materials – resulted in demonstration Recycling Works campaign.	dwellings. There is some evidence that considerably more aluminum is entering the waste stream from multi-family dwellings.
7	**Stewards of Blue Box Waste where possible, promote actions to minimize the amount of materials that result in Blue Box Waste while meeting their customers' needs, select materials that can be managed at the lowest cost and support enhanced material markets through procurement and other market development initiatives by various measures including but not limited to the following:**		
	Cost Containment Plan Action Item	**Status of Action Item- 2009**	**Update- 2015**
A	Minimizing the use of materials that will result in Blue Box Wastes	Stewards incentivized through BB fee setting methodology. Decisions rest with individual stewards based on specific circumstances. Report prepared by Stewardship Ontario in 2006: Assessment of Stewards Actions in Response to Stewardship Ontario Fees	Stewards incentivized to use as little material as possible through the Blue Box fee setting methodology. Decisions rest with individual stewards based on specific circumstances and numerous factors. These design decisions resulting in extensive light-weighting in newer package redesigns.
B	Use, where possible, materials that can be cost effectively managed in the Blue Box program	Stewards incentivized through BB fee setting methodology. Decisions rest with individual stewards based on specific circumstances. Report prepared by Stewardship Ontario in 2006: Assessment of Stewards Actions in Response to Stewardship Ontario Fees.	Many leading stewards and associations actively review their packaging choices to determine recyclability.

8	**Stewards of Blue Box Waste support municipalities' efforts to operate Blue Box recycling programs at best practices to minimize net Blue Box program costs by various measures including but not limited to the following:**		
A	Supporting enhanced material markets through procurement and other market development initiatives to maximize revenues	Decisions rest with individual stewards based on specific circumstances. Stewardship Ontario can support potential efforts in this regard tied to market development activities that integrate with necessary collection, sorting and processing.	Stewardship Ontario has provided over $6 million in grants and investments with companies to increase demand for emerging materials. See 5 A above.
B	Promoting householder participation in municipal recycling programs through marketing campaigns	Actions undertaken by individual stewards based on specific circumstances have not been tracked by SO. Stewardship Ontario conducted Recycling Works campaign (TV & radio) and All Bottles Campaign tested.	The primary responsibility for P&E rests with municipalities. SO has played a supporting role by running integrated campaigns to increase the capture of plastics and fibres and has tracked consumer awareness and attitudes toward recycling through periodic consumer surveys and focus group research.
9	**Ontario municipalities work, where possible, to operate municipal Blue Box recycling programs at best practices to minimize gross and net Blue Box program costs by various measures including but not limited to:**		
	Cost Containment Plan Action Item	**Status of Action Item-2009**	**Update- 2015**
A	Adopting user pay waste management charges and limiting the quantities of wastes that will be collected and/or making participation in Blue Box recycling programs mandatory		User pay systems recorded in the Datacall. More than 100 programs have user pay.
B	Co-operating with other municipalities and private sector operators to integrate recycling program services		Best Practice questions address optimization and working with

	to improve economies of scale and cost effectiveness		neighbouring municipalities.
C	Providing economic incentives in support of increased recycling including green procurement policies and through economic development programs		
D	Adopting best practices identified by WDO through analysis of Municipal Datacall data and other research		See WDO chart for Best Practice distribution.

Appendix E. History of Steward Obligation Negotiation Outcomes

Obligation Year	Document	Excerpt	Implication
2007	Notes from MIPC Retreat June 20-21, 2006	*1. **Deduct $14 million cost band** from 2005 3 year rolling average net cost* *2. Calculate 50% steward share of 2005 net system cost*	Reduced reported cost by $14 million to calculate the steward Obligation.
2008	MIPC Memorandum of Agreement	***Using 2006 gross Blue Box costs as reported** by Ontario municipalities in the Municipal Datacall, on the basis that a comparison of reported costs to the Best Practice Cost Model [BPCM] indicate that reported costs are lower than the Best Practice Cost Model.*	Reported costs approximate Best Practice costs; reported costs are used for 2008 fees.
2009	July 4 MIPC Minutes	*It is agreed that the **best practice cost** for setting 2009 stewards fees will be **based on the reported cost for 2007.*** *It is agreed that: A process will be implemented to more accurately determine best practice costs for the setting of stewards fees for 2010, based on the following principles:*	Reported costs approximate Best Practice costs; reported costs are used to set 2009 steward fees.
2010	July 14 MIPC Minutes	*(MIPC is)…willing to accept a **mid-point between [BPCM] output and reported** system cost for 2010*	MIPC agreed to using a mid-point between reported and BPCM costs.
2011	July 28 WDO Board Meeting Minutes	*That the 2009 net Blue Box best practice system cost is to be determined **using the [BPCM]** as modified by MIPC and the variance policy proposed by MIPC.*	The BPCM was used to set 2011 fees by splitting the difference between the BPCM output and a threshold value.
2012	MIPC Negotiation Agreement	*The Base Steward Obligation for 2010 is fixed at $93,449,345.The total net payout for distribution to municipalities is fixed at $85,427,117.* *This is **equivalent to changing the Threshold Factor** in the Variance Policy to approximately 93.5% (100% - 6.5%).*	The BPCM was not used to set 2012 fees.

2013	**MIPC Negotiation Agreement**	*The cost of living, fuel and electricity pricing increases were **added to the prior year negotiated gross cost per tonne** and this total was then multiplied by the 2011 marketed tonnes.*	BPCM was not used to set 2013 fees. Negotiated gross cost/tonne from previous year was adjusted.
2014	**Arbitration Decision**	*…the Obligation that Stewardship Ontario pay 50 per cent of the total net costs incurred by the municipalities as a result of the program is limited by the requirement that such costs be reasonable.*	The arbitrator calculated the 2014 steward Obligation using reported costs.