



Reference: 314231

August 14, 2018

Michael Ross
Director of Standards
Outdoor Power Equipment Institute of Canada (OPEIC)
130 Adelaide Street West, Suite 701
Toronto ON M5H 2K4

Dear Mr. Ross:

British Columbia Stewardship Plan for Electric Outdoor Power Equipment (EOPE)

Thank you for submitting proposed amendments to the British Columbia Stewardship Plan for EOPE (the “amendments”) on April 19, 2017, in fulfillment of the requirements of section 6 of the [Recycling Regulation](#) (the “regulation”) made under the *Environmental Management Act*.

Under the regulation, the director has the ability both to amend an approved extended producer responsibility plan (the “plan”) on his own initiative, and to approve amendments to an approved plan that have been proposed by a producer. I have completed my review of the amendments proposed by Outdoor Power Equipment Institute of Canada (OPEIC) and must reject those amendments. Although I could impose additional amendments to the approved plan, I have, instead, noted the deficiencies and suggested some guidance below. I believe this will allow you to tailor solutions in a manner that meets the interests of obligated producers as well as the regulatory goals. Once you have made changes based on my comments and suggestions I encourage you to submit a revised plan.

While you have made some changes to the program in order to address stakeholder and ministry concerns, the proposed amendments are insufficient to satisfy certain sections of the regulation.

.../2

Amendments are required to establish performance measures that will demonstrate the effectiveness of the plan respecting the matters referred to in Section 5(1) of the regulation. Specifically, pursuant to section 5(1) of the regulation, I must be satisfied of the following:

1. *The plan adequately provides for the producer paying the costs of collecting and managing products within the product category covered by the plan, whether the products are currently or previously used in a commercial enterprise, sold, offered for sale or distributed in British Columbia, pursuant to section 5(1)(c)(i).*

While the proposed amendments discuss global metal markets and the collection contracts in place that rely on a market-driven system and the premise that EOPE products retain sufficient intrinsic value at the end of their useful life to cover management costs, the amendments provide insufficient supporting data or cost methodology in support of this position.

I acknowledge that the product range covered by the plan is a very narrow component of the Electronic and Electrical Product Category and an even narrower segment of the scrap metal recycling stream, and that it will take additional resources to track and manage this very limited product range. However, I cannot accept the inference that because OPEIC producer members have chosen to manage this narrow product range independently of the other extended producer responsibility programs which fund the management of other products in this category, EOPE products are somehow too insignificant to obligate their producers to fully address applicable regulatory requirements. With insufficient evidence to the contrary, endorsing this approach would effectively allow OPEIC producers to continue to ‘freeride’ on the collection network funded by others (e.g. compliant producers, taxpayers, other scrap metal generators, and/or collectors that allow such practices due to the limited scope of products involved).

It also appears that the OPEIC did not undertake satisfactory consultation with stakeholders on the cost methodology to demonstrate how the requirement set out in section 5(1)(c)(i) is being met on the ground. For the plan to meet the requirements of the regulation, it must show that sufficient consultation has been carried out. To assist with meeting these requirements, the ministry issued a new guidance document entitled [“Producers Paying the Cost of Managing Obligated Materials and Dispute Resolution”](#), approved on April 24, 2018. All future consultations must address this guidance.

2. *The plan adequately provides for the performance of the producer's extended producer responsibility program, the management of costs incurred by the program and the management of environmental impacts of the program, pursuant to section 5(1)(c)(v).*

The proposed amendments do not demonstrate with reliable data how much of the obligated products are returned to contracted collection facilities prior to them entering the mixed-stream of recycled metal products or are being disposed of at the end of life. We understand that OPEIC conducts presence/absence sampling studies at select metal scrap collection facilities to gauge if EOPE is being managed through the scrap metal system. However, due to the limitations of this sampling methodology, as well as that of waste composition studies used by the OPEIC, and as acknowledged in the plan itself, this data is not a statistically significant estimate and is inadequate to meet the reporting requirement set out in section 8(2)(e).

3. *The plan adequately provides for making consumers aware of (A) the producer's extended producer responsibility program, (B) the location of collection facilities or the availability of collection services, and (C) how to manage products in a safe manner, pursuant to section 5(1)(c)(iv).*

In the absence of a proposed capture/recovery rate or other performance measure pursuant to section 5(1)(c)(v), consumer awareness is a key driver to support collection. The proposed commitment to increase consumer awareness to 40-50 percent by 2022 is insufficient, especially when compared to the consumer awareness performance requirements of other programs within the same product category. For example, the Canadian Electrical Stewardship Association (CESA) program aims to maintain a 79 percent consumer awareness level.

4. *The plan adequately provides for reasonable and free consumer access to collection facilities or collection services, pursuant to section 5(1)(c)(iii).*

Again, in the absence of a capture/recovery rate or other performance measure pursuant to section 5(1)(c)(v), convenience and consumer accessibility to collection facilities or collection services are key drivers/performance measures to support collection. As the current and proposed accessibility rates are considered a low threshold, and given that collection may be impacted by external factors such as consumer behaviour in a volatile commodity market, OPEIC needs a higher than proposed accessibility rate to ensure reasonable and free consumer access to collection facilities, and to mitigate the effects due to the lack of collection targets.

In making this decision, I have reviewed and considered all relevant information available to me, whether or not it is specifically referred to in this letter, and attached briefing information as Appendix A.

In order to comply with the regulation, I request the following:

- a) That, pursuant to section 2(5)(a) of the regulation, OPEIC forward this letter to its board of directors, as well as its membership, since each producer is responsible for ensuring its agent fulfills the plan, and compliance proceedings may be taken against a producer if the agent fails to implement the plan; and
- b) That OPEIC submit, no later than January 1, 2019 and after further stakeholder consultation, an amended extended producer responsibility plan that appropriately addresses the deficiencies outlined above.

Should OPEIC fail to comply with all these requests, I reserve the right to do any or all of the following:

- a) Meet OPEIC's Board of Directors to further discuss these matters;
- b) Rescind approval of the (existing) approved plan, thereby making member producers non-compliant;
- c) Reject any proposed amendments to the plan if they are found to be inadequate; and
- d) Make amendments to the proposed plan on my own initiative.

Future plans and amendments

The ministry expects continuous improvement across all future plans and amendments addressing the different schedules in the regulation, including the following areas of concern:

1. Plan commitments – for example, use specific and measurable language;
2. Consumer access – for example, develop comprehensive province-wide accessibility – particularly in rural areas, and/or improve upon the current Stewardship Agencies of BC accessibility standard;
3. Consumer awareness - for example, include performance requirements tailored for different consumer groups and all product types managed by the program;
4. Financial transparency – for example, provide greater levels of disclosure in financial statements to better serve interests of producers, the ministry, and other stakeholders; and
5. Pollution prevention hierarchy – for example, highlight program areas of influence.

I acknowledge that some plans better address various concerns than others, and that collaboration between some producers/appointed agencies and the ministry is underway. As well, the ministry intends to develop further guidance on select areas of concern.

Right to appeal

If you disagree with this decision, Division 2 of Part 8 of the *Environmental Management Act* provides for appeal of my decision to the Environmental Appeal Board (EAB). In accordance with the *Act* and with the Environmental Appeal Board Procedures Regulation, the EAB must receive notice of the appeal no later than 30 days after the date you receive this decision.

I would welcome the opportunity to discuss my decision with you at your convenience. Please contact me by telephone at: 778-698-4860, or by email at:

ExtendedProducerResponsibility@gov.bc.ca

I also encourage you to work with your ministry file lead on specific means to appropriately address the deficiencies outlined above.

Sincerely,

A handwritten signature in black ink, appearing to read 'Bob McDonald', with a stylized, cursive script.

Bob McDonald
Director, Extended Producer Responsibility Section
Environmental Standards Branch

Enclosure (1)

cc: Kris Ord, Executive Director, Environmental Standards Branch
Valentina Yetskalo, Ministry file lead, Extended Producer Responsibility Section

Appendix A – Information considered by the director



OUTDOOR POWER EQUIPMENT
INSTITUTE OF CANADA

British Columbia Stewardship Plan for Electric Outdoor Power Equipment

February 2018

For more information:

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EXECUTIVE SUMMARY

The BC Recycling Regulation¹ ("Regulation") requires that producers of electric outdoor power equipment ("EOPE") have an approved stewardship plan "in order to sell, offer for sale, distribute, or use in a commercial enterprise the product in British Columbia." The Outdoor Power Equipment Institute of Canada ("OPEIC"), in collaboration with the Outdoor Power Equipment Institute Canadian Task Force ("OPEI-CTF"), developed, implemented and currently operates the approved stewardship program for EOPE in BC ("Program"). This amended stewardship plan ("Stewardship Plan") replaces the original stewardship plan approved on April 20, 2012.

EOPE products are captured under Schedule 3, section 2(1)(d) ("Electronic and Electrical Product Category") of the Regulation. EOPE is a broad category of products classified into four categories: hand-held EOPE, walk-behind EOPE, free-standing EOPE and lawn tractors. Electric lawn mowers, electric snow blowers and electric-powered gardening equipment are examples of the EOPE of interest.

The Program takes a market-driven approach based on the premise that EOPE products still have intrinsic value at the end of their useful life. The Program contracts with the existing scrap metal recycling industry to create a network that provides year-round recycling options for consumers wishing to return their broken or unwanted EOPE, at no charge. Specifically, the Program partners with the Canadian Association of Recycling Industries ("CARI"), the national association for metal recyclers, and contracts directly with its members, who comprise the majority of existing metal collection facilities in the Province.

The Stewardship Plan addresses all aspects of the Regulation, setting out commitments and targets, where applicable regarding Program performance; and explaining the processes to achieve them.

- Section 1 - Introduces the British Columbia Stewardship Plan for Electric Outdoor Power Equipment.
- Section 2 - Defines "Producer" and their associated obligations under the Regulation.
- Section 3 - Explains the Program's governance, the role of OPEIC as agent, the role of OPEIC-CTF, and the Program's membership composition.
- Section 4 - Details the products that are covered by the Program.
- Section 5 - Explains the Program consultation with affected stakeholders on the Stewardship Plan.
 - ✓ Engaging with the British Columbia Product Stewardship Council ("BCPSC") for regional government feedback.
- Section 6 - Explains the nature of the EOPE market, describes each stakeholder group in the recycling value stream and details the Program's contracted collection network and its commitments:
 - ✓ Maintaining a minimum accessibility level of 95%
 - ✓ Reporting out on sampling studies
 - ✓ Participating in municipal waste composition studies that evidence that EOPE is being managed properly and not deposited in landfills

¹ British Columbia Ministry of Environment, *BC Recycling Regulation*, BC Reg. 449/2004, as amended B.C. Reg. 88/2014, May 23, 2014. Accessed at http://www.bclaws.ca/civix/document/id/complete/statreg/449_2004.



- ✓ Reporting EOPE units sold annually, by product category
- Section 7 - Details consumer awareness, communication and education efforts.
 - ✓ Commitment to achieving in the range of 40% - 50% consumer awareness levels by 2022 and to conducting consumer awareness surveys on an annual basis
- Section 8 - Explains Program funding, detailing the reserve fund and rationale for using an existing market-based recycling system to manage/recycle EOPE.
- Section 9 - Explores the Program integration of the Ministry's pollution prevention hierarchy.
- Section 10 - Details the Program's dispute resolution process.
- Section 11 - Summarizes the Program commitments and targets.

1 INTRODUCTION

The British Columbia Stewardship Plan for Electric Outdoor Power Equipment (“Stewardship Plan”) is submitted by the Outdoor Power Equipment Institute of Canada (“OPEIC”) on behalf of the major brand owners of electric outdoor power equipment (“EOPE”) products sold in British Columbia, to the British Columbia Ministry of Environment pursuant to the BC Recycling Regulation (“Regulation”)². The Regulation requires that producers of electric outdoor power equipment (“EOPE”) have an approved stewardship plan “in order to sell, offer for sale, distribute, or use in a commercial enterprise the product in British Columbia”.

OPEIC worked collaboratively with members of the Outdoor Power Equipment Institute Canadian Task Force (“OPEI-CTF”) to develop this Stewardship Plan. The original stewardship plan was approved by the BC Ministry of Environment on April 20, 2012 and the Outdoor Power Equipment Stewardship Program (“Program”) commenced operation on July 1, 2012. This Stewardship Plan replaces the original 2012 stewardship plan.

The Program takes a market-driven approach based on the premise that EOPE products still have intrinsic value at the end of their useful life. The Program contracts with the well-established scrap metal recycling industry to create a network of contracted facilities that provide year-round recycling options for consumers wishing to return their broken or unwanted EOPE, at no charge. Specifically, the Program partners with the Canadian Association of Recycling Industries (“CARI”), the national association for metal recyclers, who comprise the majority of existing metal collection facilities in the Province.

Following the Program’s successful efforts to date in diverting EOPE from BC landfills, this Stewardship Plan builds on the experience of the first five years of the Program’s operations, and responds to input received from stakeholders; by introducing a number of improvements:

- Commits to participate in regular meetings convened by the BC Product Stewardship Council (BCPSC), providing local governments with an avenue to offer input to the Program, as well as have an OPEIC representative available to attend when the Stewardship Agencies of BC meets with the BCPSC at the request of SABC or BCPSC (see section 5 of the Stewardship Plan on “Stakeholder Consultation”).
- Expands the scope of reporting of units sold from total units in the 2012 Stewardship Plan to units sold in each of the four major EOPE categories (see section 6.1 of the Stewardship Program on “Product Sales”).
- Increases its commitment to accessibility levels of 95% from 90% in the 2012 stewardship plan, with particular focus on gap areas to support collection site recruitment efforts (see section 6.3 of the Stewardship Plan on “Collection Network and Accessibility”).
- Establishes commitments with regard to the frequency and scope of sampling studies and reporting out on units found through sampling studies and waste composition studies. This

² British Columbia Ministry of Environment, *BC Recycling Regulation*, BC Reg. 449/2004, as amended B.C. Reg. 88/2014, May 23, 2014. Accessed at http://www.bclaws.ca/civix/document/id/complete/statreg/449_2004.

information is critical in demonstrating that the Program is meeting its objective of recycling EOPE and diverting it from BC landfills (see section 6.4 in Stewardship Plan on “Collections”).

- Commits to increasing consumer awareness by 2022 to between 40% - 50%. Increasing the frequency of consumer awareness surveys to annually and taking a more refined approach to assessing consumer awareness of EOPE (see section 7 of the Stewardship Plan on “Consumer Awareness”).

2 DUTY OF PRODUCER

The Regulation sets out the requirements for extended producer responsibility, including the requirement for product stewardship plans, in British Columbia. Section 2.1 of the Regulation requires every “Producer” of a designated product to operate or be a member of an approved stewardship program in British Columbia:

Except as otherwise specifically provided in this regulation, a producer must

(a) have an approved plan under Part 2 [Product Stewardship Plans] and comply with the approved plan, or

(b) comply with Part 3 [Product Stewardship Program Requirements If No Product Stewardship Plan]

with respect to a product in order to sell, offer for sale, distribute or use in a commercial enterprise the product in British Columbia.

The Regulation further defines “Producer” as:

(b) in respect of the producer of a product within a product category other than the beverage container product category or the tire product category,

(i) a person who manufactures the product and sells, offers for sale, distributes or uses in a commercial enterprise the product in British Columbia under the manufacturer's own brand,

(ii) if subparagraph (i) does not apply, a person who is not the manufacturer of the product but is the owner or licensee of a trademark under which a product is sold, distributed or used in a commercial enterprise in British Columbia, whether or not the trademark is registered, or

(iii) if subparagraphs (i) and (ii) do not apply, a person who imports the product into British Columbia for sale, distribution or use in a commercial enterprise;

The Recycling Regulation Guide notes that the Producer is typically the product manufacturer, distributor or brand-owner, but can also be an importer, broker, or retailer who sells the product directly to a



consumer or imports and uses the product in a commercial enterprise in the province, including catalogue or internet transactions.³

3 APPOINTMENT OF STEWARDSHIP AGENCY

The Program was developed, managed and is operated by OPEIC, a federally incorporated, not-for-profit industry association established with the purpose to govern the Program. OPEIC was established as the stewardship agency to allow its members (i.e., Producers of EOPE) to meet their obligations under the requirements of applicable extended producer responsibility legislation. OPEIC is incorporated under the Canada Not-for-Profit Corporations Act⁴ and is governed by the Outdoor Power Equipment Institute (OPEI), the industry association for the outdoor power equipment industry in North America. A current list of OPEI's Board of Directors is available on OPEI's website.⁵ OPEIC's bylaws and financial statements (contained in the Program's annual report) are available on the [OPEIC website](http://www.opec.ca) (www.opec.ca).

OPEIC works and consults with the Outdoor Power Equipment Institute – Canadian Task Force ("OPEI-CTF"), comprised of representatives from the industry sector. Product Care Association ("PCA") continues to be engaged as Program Manager by OPEIC.

As per section 5(c)(i) of the Regulation, all Producers of EOPE are obligated to provide for the collection and management of EOPE sold, offered for sale or distributed in BC. To meet this obligation, each Producer may appoint OPEIC as its agent to carry out the duties imposed by the Regulation. Participation in the Program is open to all Producers of EOPE, subject to the terms of the Program's Participant Agreement. As of March 1, 2017, 48 participants had appointed OPEIC as their agent, including manufacturers, distributors and dealers. A list of Program participants can be found on the OPEIC website, (www.opec.ca).

4 PRODUCTS COVERED UNDER THE STEWARDSHIP PLAN

Section 4 of the Regulation provides:

A producer must submit a product stewardship plan, at the time specified in the applicable Schedule, if any, and in a manner and format satisfactory to a director, for the products within the product category of the product the producer sells, offers for sale, distributes or uses in a commercial enterprise in British Columbia.

EOPE products are captured under Schedule 3, section 2(1)(d) ("Electronic and Electrical Product Category") of the Regulation:

(d) electronic or electrical tools, other than large-scale stationary industrial tools, including, without limitation,

³ British Columbia Ministry of Environment, *BC Recycling Regulation Guide*, April 2012.

⁴ A copy of the legislation is available at <http://laws.justice.gc.ca/eng/acts/c-7.75/>.

⁵ See <http://opei.org/aboutopei>.

...

(v) snow blowers and mowers and other gardening tools,

The Regulation and this Stewardship Plan address electric outdoor power equipment (EOPE). EOPE is a broad category of products classified into four categories: hand-held EOPE, walk-behind EOPE, free-standing EOPE and electric lawn tractors. These categories include battery powered (primarily lithium ion and perhaps some lead-acid) and electric powered (primarily 110V plugged into a regular electrical socket) products as summarized in Table 1. Examples include electric lawn mowers, electric snow blowers and electric-powered gardening equipment. OPEIC reserves the right to amend this list of products in the future, as appropriate.

Table 1: Categories of EOPE

Hand-Held EOPE	Walk-Behind EOPE	Free-Standing EOPE	Electric Lawn Tractor
Brush cutter/lopper	Lawn mower	Mulcher	Lawn tractor
Chain saw	Snow thrower/snow blower	Pressure washer	
Garden shear	Tiller/cultivator	Wood chipper/shredder	
Gardensprayer/insect fogger/weed steamer	Dethatcher	Wood splitter	
Ice drill	Walk-behind sprayer		
Lawn blower/vacuum	Edger/trimmer		
Lawn scarifier/dethatcher	Lawn aerator		
Pole saw/pole pruning saw	Walk-behind blower/vacuum		
Post hole digger			
Stick edger			
Tiller			
Trimmers (grass, hedge, split-boom, etc.)			

5 STAKEHOLDER CONSULTATION

5 (1) On receipt of a product stewardship plan submitted under section 4 [submission of product stewardship plan], the director may approve the plan if the director is satisfied that:...

(b) the producer has undertaken satisfactory consultation with stakeholders prior to submitting the plan for approval and will provide opportunity for stakeholder input in the implementation and operation of the product stewardship program,...

In preparation of this Stewardship Plan, OPEIC endeavoured to undertake satisfactory consultation with affected stakeholders in accordance with section 5(1)(b) of the Regulation. The information and details related to the consultation, as well as a draft of the Stewardship Plan, were posted at the OPEIC website (www.opec.ca).



OPEIC conducted three consultations during the consultation period:

- An in-person consultation at the Coast Waste Management Association Conference in Victoria, BC on October 19th 2016 open to all interested stakeholders. Notice was sent via email on October 3, 2016 to all stakeholders (i.e. Program participants, collection sites, members of the OPEIC-CTF, industry associations, and local governments) and also posted on OPEIC's website. A reminder notice was sent on October 18, 2016. Notice was also communicated through key listserves, including the Recycling Council of BC and Coast Waste Management Association.
- A webinar conference call on November 15th, 2016 open to all interested stakeholders. Notice was sent via email to all affected stakeholders on November 4, 2015, followed by a reminder notice on November 14th. Notice was also communicated through key listserves, including the Recycling Council of BC and Coast Waste Management Association.
- A webinar consultation with members of the British Columbia Product Stewardship Council (BCPSC) on November 30th, 2016. An invitation was sent via email to BCPSC members on November 18th.

Comments from stakeholders were requested by December 2nd, 2016, and comments from BCPSC members were requested by December 15th, 2016. Comments received were reviewed extensively and modifications to the Stewardship Plan were made to reflect stakeholders' comments, where appropriate. A summary of the stakeholder comments and OPEIC's responses are summarized in Appendix 2.

Stakeholder Consultation Commitment

To provide ongoing opportunity for engagement and education, the Program commits to participate in regular scheduled meetings convened by BC Product Stewardship Council (BCPSC) to provide local governments with an avenue to provide feedback to the Program, as well as have an OPEIC representative available to attend where the Stewardship Agencies of BC (SABC) meets with the BCPSC at the request of SABC or BCPSC. OPEIC also commits to presenting the Program Plan to BCPSC following Ministry approval.

6 COLLECTION SYSTEM AND CONSUMER ACCESSIBILITY

Section 5(1) of the Regulation provides:

- (a) the plan will achieve, or is capable of achieving within a reasonable time,
 - (i) a 75% recovery rate or another recovery rate established by the director,*
 - ...*
 - (B) for each product category covered by the plan, other than the beverage container product category, if required by the director.*
 - (ii) any performance requirements or targets established by the director.*
 - (iii) any performance requirements or targets in the plan.**
- (c) the plan adequately provides for:
 - (i) the producer collecting and paying the costs of collecting and managing products within the product category covered by the plan, whether the products are currently or previously sold, offered for sale or distributed in British Columbia.*
 -*
 - (iii) reasonable and free consumer access to collection facilities.*
 - (v) assessing the performance of the producer's product stewardship program.**

6.1 PRODUCT SALES

EOPE is sold across Canada, with British Columbia representing approximately 13 per cent of national sales, which is consistent since the start of the Program. EOPE is typically sold by dealers, hardware stores, department stores and other retailers, many of which are national in scope.

EOPE includes seasonal products, with the majority of sales occurring in the spring and fall. The winter months (December through February) have the lowest sales presumably because this is a period of low utilization of EOPE by consumers. Year-to-year variations can also occur as a consequence of variances in weather conditions. However, historic annual sales have remained relatively stable overall since the start of the Program.

The majority of EOPE is purchased in urban areas. A sampling of sales data from select retailers in BC between 2015-2017 indicates that nominal amounts of EOPE are sold in rural areas of the province. Members of the OPEIC-CTF confirm that rural consumers do not use plug-in or battery operated OPE because the larger average size of rural properties makes it impractical to do so. This has important implications when considering the management of EOPE at end-of-life (EoL) in rural areas, as well as the need to address consumer awareness in rural areas (see section 7 below).

OPEIC will report annually the total amount of EOPE sold in BC by product category provided that unit sales reported cannot be attributed to specific program participants.

6.2 THE RECYCLING VALUE STREAM

6.2.1 Overview

The system for the collection and processing of EoL EOPE is premised on the inherent value of EOPE products and the well-established and long-standing global scrap metal recycling industry. According to CARI, Canadian recyclers process between 16 and 18 million tonnes of scrap metal each year.⁶ Natural Resources Canada (NRCAN) reports that the Canadian scrap metal recycling sector has annual revenues of \$3 billion.⁷ It is predicted that the global metal recycling market will grow at a compound annual growth rate of 7.95 per cent between 2015 and 2020.⁸ This projected growth rate suggests a sustainable future for the market-driven approach to stewarding EOPE.

The existing system recognizes the inherent monetary value of EOPE products at EoL and has proven to be an effective approach for stewarding EOPE and meeting the spirit and intention of the Regulation, regardless of fluctuations in commodity markets. Alternatively, establishing a traditional product stewardship program for EOPE would not be cost effective, considering the low volumes of product sales. It would unnecessarily disrupt the existing scrap metal recycling industry and have a net negative financial and environmental impact by necessitating the establishment of a separate collection network, requiring dedicated transportation and logistics for managing EoL EOPE and increasing associated greenhouse gas emissions.

As a market-driven system, the Program relies upon the metal recycling industry (CARI) for the proper management of EoL EOPE. Given the valued material composition of EOPE and the negligible findings from sampling studies and waste composition audits (see section 6.4 below), there is a high degree of confidence that EOPE are being managed responsibly, and that the Program is meeting the requirements of the Regulation. See section 9 (Management of Environmental Impacts) below for details on EoL management of commodities derived from the recycling of EOPE.

6.2.2 Stakeholders

A variety of economic players include EOPE in their business of collection, brokering and recycling of products with a significant metal content due to the positive monetary value of EOPE (see Figure 1). The result is a diverse, highly adaptable and profitable metal recycling system across North America comprised of major and minor stakeholders. Through fundamental supply/demand economics, this reverse logistics system achieves economic efficacy without additional requirements, resulting in an effective diversion of EOPE from waste streams. The value stream for EOPE is comprised of five main groups of stakeholders, based on their function within the handling chain:

⁶ See CARI's website: <https://cari-acir.org/education/>. Sourced March 6, 2017.

⁷ NRCAN, *Sustainable Development Strategy, 1997-2001: Safeguarding our Assets, Securing our Future* (2013). Available at <http://www.nrcan.gc.ca/plans-performance-reports/sustainable-development/consultation-documents/637>.

⁸ "Metal recycling report estimates market growth" (*Recycling Today*, July 6, 2016). Sourced March 6, 2017 at <http://www.recyclingtoday.com/article/metal-recycling-report-estimates-market-growth/>.

- Collectors – the entry point for EoL EOPE into the recycling value stream. This group includes a variety of entities that interface with consumers in the collection of all types of recyclable materials, including EOPE.
- Consolidators/Pre-Processors – entities that consolidate materials to create sufficient volumes to economically ship to mid/large processors.
- Processors – Entities that segregate metal types for final processing.
- Smelting and Refining – Entities that refine and purify the extracted metals into ingots for sale to end markets
- End-Markets - Manufacturers that purchase the commodities for the development of new products.

Figure 1 illustrates the hierarchical or pyramidal flow of EOPE from collector to end market.

Figure 1: Recycling Value Stream



Depending on the source of the products at EoL, EOPE moves through one or more sets of hands in the recycling value stream before reaching end markets. In some cases, a stakeholder may fill more than one role; processing materials to different degrees depending on the stakeholder’s available infrastructure, equipment and resources. For example, some collection sites may have the ability to compress and bale metals, while others will ship whole products that are processed further downstream.

While many stakeholders in the system consider themselves to be “recyclers”, most are actually “collectors” or “brokers/consolidators”, including municipalities, contracted agents, large and small retailers, refurbishers/re-sellers, peddlers, scavengers and scrap metal dealers. It is really only the processors, smelters and refiners that are actual material recyclers, as that term would traditionally be

defined. Regardless, each stakeholder is involved in the recycling value stream, and is compensated for their effort through the realization of the monetary value of the materials collected, including EOPE. The following section provides details about each class of stakeholders in the management of EoL EOPE.

6.2.2.1 Collectors

Collectors within the private scrap metal recycling system include the following entities:

- Municipalities and contracted agents;
- Small private scrap metal collection companies;
- Peddlers;
- Refurbishers;
- Scavengers.

Through this collection network, consumers have access to various points of entry into the recycling value stream for their EoL EOPE.

Municipalities/Contracted Agents

Municipalities may choose to participate in various strategies for the collection of EOPE, such as:

- Drop-off facilities only;
- Collection events; or
- No municipal services.

The choice of the specific means of collection offered depends on a number of factors, including population size and municipal waste management resources available.

Services may be delivered by the municipality itself, a contracted private contractor, or a combination of both. Contracted agents are defined as third party waste management companies that perform a variety of services for municipalities, including collections, staffing transfer stations and managing other aspects of the EoL pre-processing chain on behalf of their client as per the client's needs.

Scavengers

Scavengers are individuals who acquire EoL EOPE opportunistically by intercepting them from some other regular collection mechanism. Most scavengers do not have registered businesses or keep records of their collection activities. Consequently, it is difficult to determine their precise impact on the overall diversion of EoL EOPE. That said, it is understood that the monetary value of materials contained in the products motivates scavengers to engage in EoL EOPE collection. As metal prices rise, the incentive for scavengers to engage in the recycling value stream increases. Since the material value of scavenged units cannot be realized without injecting them into the recycling value stream, it is presumed that all scavenged units are diverted from landfill through other stakeholders in the system.

Refurbishers

Refurbishers are defined as businesses that acquire used EOPE for the purpose of reconditioning or repairing them for subsequent re-sale, thereby serving to extend the life of EOPE. Consistent with the overlapping nature of many stakeholder roles in the recycling value stream, there is some overlap between pure refurbishers (i.e., those that only sell used units) and many small retailers who often sell a mixture of new and used EOPE.

Pure refurbishing operations are typically proprietorships, partnerships, or small limited companies. Many operate as family businesses, while others have a small number of employees, typically fewer than ten. Refurbishers may recondition and resell used EOPE, or they may combine this activity with other related pursuits such as repairs, new/used part sales or sales of imperfect units acquired from manufacturers.

Peddlers

Peddlers are defined as third party contractors hired to remove and transport materials from a residential or multi-family location on a one-time basis (e.g. 1-800-Got-Junk and similar businesses). The material they collect is only in their possession transiently and is generally sent to either private or municipal transfer stations/landfills. Peddlers earn revenue from a fee charged for removal and transportation services. If a collected load contains scrap metal, peddlers will attempt to generate additional revenue by selling it into the recycling value stream, rather than using private or municipal transfer stations. As such, peddlers fill a niche within the recycling value stream and provide residents with a readily available recycling option for their EoL EOPE units.

6.2.2.2 Brokers/Consolidators

Scrap metal brokers/consolidators acquire EoL EOPE and other metals by various means, but have no processing facilities or capabilities (processing practices are defined in greater detail in section 6.2.2.3Processors). Scrap metal brokers/consolidators provide a consolidation point for many small-volume sources, allowing material to be channeled into processors. Scrap metal brokers/consolidators typically acquire most of their EoL EOPE units from collectors who generate small volumes, such as refurbishers, small retailers, peddlers, and scavengers. The goal of these businesses is to acquire and accumulate large quantities of scrap metal, including EoL EOPE, in order to resell in volume to processors with a particular focus on those items carrying the highest concentration of metals, both ferrous and non-ferrous. In this sense, these companies serve as a crucial integration point within the overall EoL EOPE handling chain.

The type of material handled by these companies varies significantly, however, the bulk of material is typically derived from other sources. EoL EOPE usually makes up a very small percentage of their total throughput. All items received are combined as general scrap before being shipped to a processor.

6.2.2.3 Processors

Processors can be roughly categorized by size. Large processors operate shredding or shredding and baling operations and may be vertically integrated with smelting facilities. Mid-sized processors generally only bale and do not have shredding or smelting capability. Small processors are essentially consolidators who have the infrastructure to compact their collected material for facilitated transportation.

Processing of EOPE begins with either baling or shredding the comingled material depending on the nature of the processor and the facility. Baled units are then transported for direct smelting. For those units that are shredded, both the ferrous and non-ferrous metal “shred” are also sent to steel mills for smelting.

Metallic materials contained within bales are desired ingredients for the production of quality steel alloys. Non-metallic materials contained within shredded units are generally outputted as “shredder fluff” and either used as primary day-cover for landfill sites or landfilled directly (see discussion under section 9 below).

Processors of all sizes provide a crucial function within the recycling value stream in that they convert recovered EoL EOPE units into a commodity desirable by end-markets. They also provide additional system access locations for the public as they diversify their material sourcing streams. The diversity of scrap streams that come into processors ensures stability near the top of the value chain for the relatively small volumes of EoL EOPE that “piggy back” on larger-volume scrap streams (primarily industrial scrap). According to the CARI representative for BC, in British Columbia they ultimately direct the material to two central processors, where base metal commodities are extracted, consolidated and sold for further processing and refinement.

6.2.2.4 Refining/Smelting

Smelters and refiners represent the final stage in the value chain. These entities take the shredded metal and melt it down, removing any contaminants, to render pure metals as ingots that are resold to end markets.

6.3 COLLECTION NETWORK AND ACCESSIBILITY

The OPEIC collection network is comprised of existing collection sites and scrap metal collection facilities. Each collection site contracts with OPEIC that they will collect EOPE in accordance with the Regulation and other Program requirements, including providing year-round recycling options for consumers wishing to discard their broken or unwanted EOPE, at no charge.

OPEIC has capitalized on a market-driven approach by collaborating with the Canadian Association of Recycling Industries (“CARI”), the national association for metal recyclers. OPEIC contracts directly with CARI’s members who comprise the majority of existing metal collection facilities in the Province. CARI members are ideal return collection sites for EOPE because they have an established system in BC, have long collected and processed these materials and apply environmentally-appropriate processes for managing these materials. In addition, OPEIC contracts with other collection sites, including other metal recycling facilities, local government facilities, recycling depots and return-to-retail locations. OPEIC continuously works on the recruitment of new collection sites and consult with members of the BCPSC on



a regular basis to identify gap areas in communities that meet the SABC Accessibility Standard. In addition, OPEIC will continue to contact contracted collection sites annually to ensure that they are fulfilling their contractual obligations. Part of this contact is both educational and informative. OPEIC will provide educational information to contracted collection sites about the Program and their contracted responsibilities, as well as confirmation of their continued participation.

In addition, the Program augments the existing collection network with one day collection events in gap areas according to the SABC Accessibility Standard and feedback from communications with BCPSC. OPEIC consults with regional districts and other stewardship programs each year to identify where collection events are scheduled. The Program participates in collection events at the invitation of host communities where there is no permanent scrap metal collection facility and where it is economically and logistically feasible to do so. Collection events can only be held in communities that are willing and able to host such events. In those instances, the Program takes responsibility for the transportation and recycling of the collected EOPE. Accordingly, the number of events held each year varies making it difficult to set associated program targets.

Individuals and commercial entities typically deliver EOPE to a contracted collection site either loose or comingled with other recyclable materials in bins. The collected EOPE is combined with other metal accumulated on-site, which is then sold to larger metal recyclers, usually CARI members, who process the majority of metal-bearing products collected in BC for recycling.

According to the Regulation, stewardship programs must provide consumers with “reasonable and free access to collection facilities”. “Reasonable access” is determined in accordance with the Stewardship Agencies of BC (SABC) Accessibility Standard. The Standard establishes a minimum threshold to ensure reasonable access to collection facilities for a high percentage of the province’s population, including consideration of both rural and urban communities. The Standard defines reasonable access as a 30 minute drive to a collection site in urban areas of population greater than 4,000, and a 45 minute drive to a collection site in rural areas with a population greater than 4,000. Rural communities are defined as cities, towns, resort municipalities and district municipalities with a population of between 4,000 and 29,999 outside the Greater Vancouver and Capital Regional Districts. Urban communities are defined as cities, district municipalities and towns within the Greater Vancouver and Capital Regional Districts with a population of 4,000 or more and cities and district municipalities with a population of 30,000 or more in the remainder of the province.

To measure accessibility levels, OPEIC retains the services of an independent third party consultant. The network is analysed by collection site type, applying widely accepted geographic information system (GIS) practices. As of January 1, 2018, the Program had 120 contracted collection sites located throughout the Province, the largest concentration being in urban areas consistent with where most EOPE is purchased and used (see discussion of EOPE sales in section 6.1 above). All contracted collection sites are mapped out in the depot locator on the OPEIC website (www.opec.ca).

The OPEIC contracted collection network has remained stable over the past five years despite marked fluctuations in metal prices. In terms of accessibility, a study conducted by OPEIC in December 2017 found



that 97.49% of the population had access to an OPEIC contracted facility as per the SABC Accessibility Standard. OPEIC continues to seek opportunities for expanding the network as needed.

Wherever possible, OPEIC seeks opportunities to partner with other stewardship organizations to improve program efficiency and consistency. For example, OPEIC currently partners with other stewardship programs on conducting sampling studies of scrap metal collection facilities and supporting initiatives to liaise with First Nations in promoting and supporting collection in those communities.

6.4 COLLECTIONS

EOPE collected is further managed through the Canadian Association of Recycling Industries ("CARI") network of private metal recycling facilities. These facilities process various types of scrap metal obtained from a range of sources. Given the relatively small size and volume of EOPE products, the manner in which metals are received at collection facilities, and the space and resources required to separate EOPE on site, it is not practical or profitable for collection sites to segregate EOPE from the mixed-stream of recycled metal products and provide discrete collection volumes, and therefore to report out on units collected.

In lieu of reporting on actual collection volumes, OPEIC conducts sampling studies at select CARI collection sites to confirm that EOPE is being managed through the scrap metal system. Since 2012, OPEIC has conducted multiple sampling study events at select CARI collection sites each year to confirm that EOPE is being managed through the existing scrap metal system. According to CARI, while all sampling locations are within the Lower Mainland and Vancouver Island, these locations serve as consolidation points for the vast majority of all scrap metal collected throughout the province (see Appendix 3). The number of sampling events conducted by OPEIC reflects what the Program has determined to be a reasonable and adequate sampling size. According to a third-party statistician retained by OPEIC, generating a statistically significant estimate of the total amount of EOPE recycled would require a sampling effort that would be both cost prohibitive and logistically problematic, requiring year round sampling at considerable disruption to scrap metal recycling businesses.

In addition, OPEIC participates in waste composition studies coordinated by regional governments to determine the type and quantity of materials disposed of in landfills throughout the Province. Waste composition studies are very resource intensive and not economically realistic for one stewardship program to undertake on its own. Consequently, the Program consults with local government and other stewardship agencies each year to identify waste composition studies of municipal landfills scheduled for that year and participates in opportunities that fit within the OPEIC availability schedule and budget.

Results from sampling studies and waste composition audits over the past five years confirm that EOPE is being recycled at EoL and not ending up in landfill.

Collection System and Consumer Accessibility Commitments



The Program accessibility target will maintain a level of at least 95 per cent of the provincial population, in accordance with the Standard set by the Stewardship Agencies of BC. Areas that meet the Standard and do not have a contracted collection facility will be identified and targeted for efforts to recruit new collection sites.

Given the stability of the collection network, an accessibility study will be completed in 2021 or sooner if there is a significant change in provincial demographics or the network itself.

OPEIC will report annually on the location (i.e. municipality and regional district) of contracted collection facilities and any changes in the number and location of collection facilities from the previous report. In addition, the Program will report out on the number and location (i.e., municipality and regional district) of collection events in its annual report. On a semi-annual basis, OPEIC will confirm the listing of contracted collection sites on the collection site finder. Updates to contact information are also made when a depot notifies the Program.

OPEIC will report annually the total amount of EOPE sold in BC by product category.

OPEIC will continue to conduct sampling studies on an annual basis. Specifically, OPEIC will:

- Report on its sampling methodology.
- Complete a minimum of four sampling events each year.
- Sample a minimum of eight sites per sampling event.
- Report the estimated quantity of EOPE found as a percentage of total estimated material sampled.

OPEIC will also continue to participate in waste composition studies of municipal landfills in partnership with local governments and other stewardship organizations that fit within the OPEIC availability schedule and budget. The Program will report annually on:

- the location and date of each waste composition study
- units of EOPE identified during each waste composition study

OPEIC will contact contracted collection sites on a semi-annual basis to confirm contact information, hours of operation and are continuing to adhere to their contractual obligations.

7 CONSUMER AWARENESS

Section 5(1) of the Regulation provides:

- *(c) the plan adequately provides for:*
 - (iv) making consumers aware of:*
 - (A) the producer's product stewardship program,*
 - (B) the location of collection facilities, and*
 - (C) how to manage products in a safe manner.*
 - (v) assessing the performance of the producer's product stewardship program.*



Consumer awareness of the OPEIC Program is growing. However, efforts to increase consumer awareness levels are constrained by consumption patterns. First, industry sales indicate that EOPE is used by a limited segment of the population in suburban areas with outdoor space. Studies show that only 67% of BC households have outdoor space and 55% own OPE. Second, there is usually one person per household that uses EOPE. Fully 92% of households that own OPE indicate that one person in the household is responsible for recycling EoL EOPE. Third, EOPE products have a relatively long life and are only used seasonally. Therefore, it is reasonable to conclude that only a portion of the population will be aware of the Program and that EoL management options for these products are not top-of-mind with consumers.

7.1 COMMUNICATION & EDUCATION STRATEGIES

OPEIC draws on industry best practices and previous program experience to deliver a strategy that makes use of compelling, impactful marketing and communications tactics. OPEIC's annual report provides a description of the Program's educational materials and strategies. Tactics include:

Advertising

- **Digital Advertising**
 - Search Engine Marketing (SEM) through relevant keywords
 - Impression Retargeting – delivering relevant content based on users' search habits
 - Display advertising (big box, banner, expandable, etc.) on relevant third-party sites
- **Print Advertising**
 - Including relevant mass market and industry publications, municipal calendars
- **Broadcast Advertising**
 - Mainstream and community radio spots for broad reaching messages, where it is the best medium
- **Direct Mail**
 - Distribution of branded OPEIC informational materials to selected and targeted groups or segments

Information Resources

- **Point of Sale (PoS) and Point of Return (PoR) Materials**
 - Materials such as rack cards for existing retailers and collection sites are readily available for re-order, free of charge
- **Program Website**
 - A dedicated website to make Program information easily available for all audiences, including:
 - Geographically searchable Collection Site finder
 - Collection site hours and operations
 - Accepted product lists
 - Program FAQs
 - Important Program resource documents, such as annual reports
- **Toll-free Number**

- A toll-free customer service to answer consumer queries

Partnerships

Leverage positive working relationships with key existing and new industry partners in order to advance consumer awareness. Partnerships can include:

- Local governments across British Columbia
- School districts, school principals and regional superintendents
- Stewardship industry groups such as the Recycling Council of British Columbia (who operate the RCBC Hotline and Recyclepedia search tools), and the Stewardship Association of British Columbia (who operate the BC Recycles information resource, bcrecycles.ca)

Where local governments and depots identify opportunities for participating in education or awareness activities about the Program in their region, OPEIC will continue to support such activities through a sharing of costs where these efforts are considered cost effective with a reasonable likelihood of achieving greater consumer awareness. Each initiative will be considered on a case-by-case basis.

Community Events

Pursue a presence at relevant third-party events to raise awareness and, where appropriate, provide one-time product collection services in partnership with other local governments and stewardship agencies. The Program will continue to promote and engage in community events, even though it is difficult to ascertain a definitive participation commitment due to their sporadic nature and inconsistent frequency.

7.2 CONSUMER AWARENESS LEVELS

OPEIC is continuously seeking to improve the quality of its reporting on outcomes.⁹ Previous surveys were done in conjunction with other stewardship programs with different product characteristics and consumer demographics resulting in higher response percentages. 46% and 49% of respondents stated they were aware of a program or service that recycled EOPE in 2013 and 2015 respectively. Accordingly, in 2017, OPEIC refined its methodology for surveying of consumer awareness by developing a discrete survey from other stewardship programs. The Program also enhanced its analytics to target consumers of EOPE (i.e., those who owned EOPE). As a result, awareness levels amongst consumers of EOPE in 2017 was 29%. The Program believes this is a more accurate reflection of consumer awareness levels given that the Program has historically invested modestly in promoting the Program on the understanding that consumers are naturally managing EOPE correctly at EoL. Indeed, survey results show that 71% of consumers that disposed of EOPE in the past two years state they either recycled their EOPE through a scrap metal facility, recycling depot, donated or sold it, or returned it to a retailer.

The Program reviewed its consumer awareness survey methodology and identified areas for improvement. Instead of basing survey results on general questions, survey questions have been revised

⁹ BC Auditor General, *Product Stewardship: An Overview of Recycling in BC* (November 2016), p.13. Available at http://www.bcauditor.com/sites/default/files/publications/reports/FINAL_Product_Stewardship.pdf.

to allow for additional depth and subsequent data mining. Given the impacts on reported awareness levels resulting from the improvement in survey methodology, the Program will use the 2017 awareness level as its new baseline. The Program anticipates that with this new level of insight and focus it will be able to raise awareness levels considerably over the next five years. Given this context, the Program expects to see steady, but modest increases in consumer awareness as a result of its concerted efforts; achieving a target in the range of 40% - 50% by 2022. To ensure the Program's communication strategy is responsive to the evolving nature of consumer outreach, the Program will engage a reputable third party polling research firm to conduct consumer awareness surveys and assess results against the Program's communication strategy on an annual basis between 2018 and 2022.

Consumer Awareness Commitments and Targets

To measure the performance of the communication strategy, OPEIC will:

- Achieve a consumer awareness level in the range of 40% - 50% by 2022.
- Report annually on the Program's educational materials and strategies.
- Conduct a consumer awareness survey on an annual basis between 2018 and 2022.

8 MANAGEMENT OF PROGRAM COSTS

Section 5(1) of the Regulation provides:

- *(c) the plan adequately provides for:*
 - (i) the producer collecting and paying the costs of collecting and managing products within the product category covered by the plan, whether the products are currently or previously sold, offered for sale or distributed in British Columbia.*
 - (v) the management of costs incurred by the program.*
 - (v) assessing the performance of the producer's product stewardship program.*

OPEIC is funded by environmental handling fees (EHFs) remitted to OPEIC by its participants based on the volume of sales of EOPE in British Columbia. EHFs are not a government tax and no part of the fee is remitted to the government. EHF rates are set by the OPEI-CTF. Retailers recover the amount of the fees from consumers as a separate, visible EHF applied at point of sale or by incorporating it into the cost of the product. Revenues from EHFs are used to fund Program administration and communications.

OPEIC's annual report will include a summary of Program revenues and expenditures as part of OPEIC's audited financial statements. An independent audit will be performed on member deposits received and refunds paid, as well as on revenues and expenditures.

Reserve Fund

As part of its risk management system, OPEIC maintains a reserve fund. The reserve fund stabilizes funding in the case of year-to-year cost variances resulting from fluctuations in sales, Program enhancements and to cover unforeseen expenses of the Program. OPEIC has placed a cap on the reserve fund in accordance with its Reserve Fund Policy.

Free Market System

As noted previously, OPEIC relies on the pre-existing scrap metal recycling industry in British Columbia to manage EoL EOPE. This is a cyclical industry familiar with fluctuations in metal commodity prices. The industry has maintained its presence, reaping profits in strong years and weathering lean years, as is evidenced by the historical commodity price for #1 scrap metal (see Figure 2).

Figure 2: Chicago #1 Scrap Metal Commodity Price Index (2004-2017)¹⁰



History substantiates the financial sustainability of the free market collection system, including in rural and remote areas, in the context of EOPE products. The downturn in commodity prices in 2016 is similar to that experienced in 2005 and 2009. Throughout those periods, and prior to the start of the OPEIC Program in 2012, the industry remained viable. As experienced after previous market downturns, and as shown in the table above, commodity prices are again recovering.

In addition, the stability of OPEIC's contracted collection network through the 2016 downturn demonstrates the resilience of the recycling value stream in its ability to weather market fluctuations in commodity prices. There are a number of factors that contribute to the stability of the recycling value stream for EOPE:

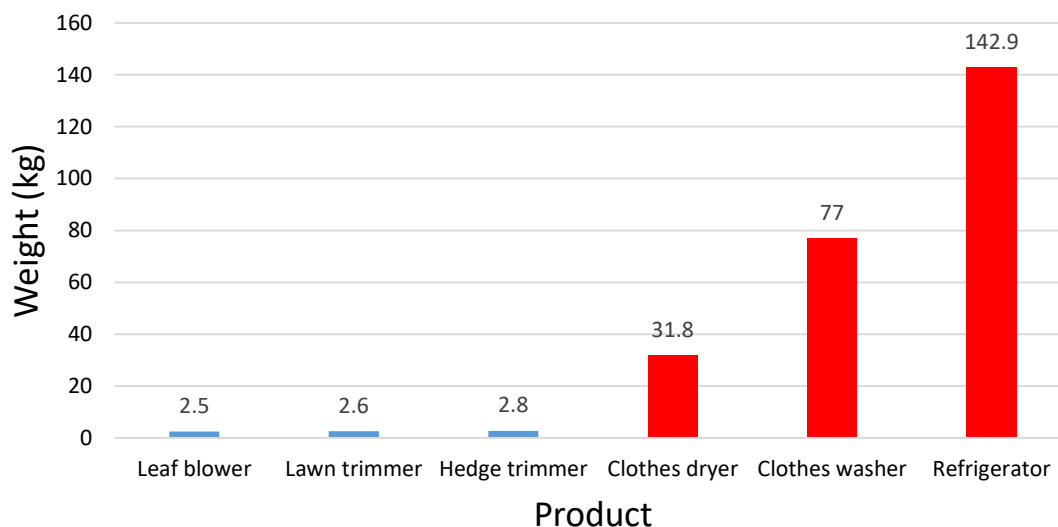
- Unlike other metal products, EOPE contains no ozone depleting substances that must be removed prior to processing at additional cost to collectors.
- EOPE are relatively small and light compared to other metal-based products collected. The cost to handle and store them is correspondingly small for collectors.

¹⁰ Source: www.mnp.com/resources/chicago-1-scrap-index/

- Unlike major household appliances, collection sites confirm that, due to the nominal weight of EOPE and the relatively small numbers of EOPE reaching EoL, EOPE is commingled with other metal-based products prior to transport as filler or dunnage thereby generating economic efficiencies in the transport of EoL EOPE from collectors to processors.
- According to sales reports, the majority of EOPE is purchased and used in urban areas close to the two facilities responsible for processing recycled scrap metal in BC thereby minimizing transportation distances and costs for these products relative to other metal-based products, which are collected throughout the province (e.g., automobiles, major appliances).

In general, transportation represents the greatest portion of costs associated with the management of EoL metal-based products. However, the cost of transporting EOPE from depot to processing centers under the current market-based system is minimal because of their small weight and volume, even for collectors in rural and remote areas. To illustrate this point, Figure 3 provides a graphical comparison of the average weight of three EOPE products (leaf blower, lawn trimmer, hedge trimmer) and three major household appliances (clothes dryer, clothes washer, refrigerator), all currently managed through the scrap metal recycling system. The difference is dramatic. Numerically, EOPE products average between a twelfth to a fiftieth of the weight of the typical major household appliance. Alternatively, the average major appliance is approximately 32 times the weight of the average EOPE product. This comparison points to the significant differences in storage, handling and transport costs between metal-based products and EOPE products; all of which are contingent upon an item's weight and volume.

Figure 3: Weight Comparison of EOPE & Major Household Appliances



The above comparison demonstrates that recycled EOPE products do not require additional logistical consideration for transport from depots to processing locations. Furthermore, the cost of establishing a dedicated collection and transport network for EOPE products would far exceed the costs under the current recycling value stream, which capitalizes on the economic efficiencies of the larger scrap metal



recycling infrastructure and logistics. The suggestion for the Program to provide a fee to cover EOPE handling, storage, and shipping is not warranted.

9 MANAGEMENT OF ENVIRONMENTAL IMPACTS

Section 5(1) of the Regulation provides:

- *(c) the plan adequately provides for:*
 - (v) the management of environmental impacts of the program.*
 - (v) assessing the performance of the producer's product stewardship program.*
 - (vii) eliminating or reducing the environmental impacts of a product throughout the product's life cycle.*
 - (viii) the management of the product in adherence to the order of preference in the pollution prevention hierarchy. The pollution prevention hierarchy is as follows in descending order of preference, such that pollution prevention is not undertaken at one level unless or until all feasible opportunities for pollution prevention at a higher level have been taken:*
 - (a) reduce the environmental impact of producing the product by eliminating toxic components and increasing energy and resource efficiency;*
 - (b) redesign the product to improve reusability or recyclability;*
 - (c) eliminate or reduce the generation of unused portions of a product that is consumable;*
 - (d) reuse the product;*
 - (e) recycle the product;*
 - (f) recover material or energy from the product;*
 - (g) otherwise dispose of the waste from the product in compliance with the Act.*

OPEIC will manage materials according to the highest use as per the Province's pollution prevention hierarchy.

Product Design

Product design influences the durability and reliability of products, which has a direct impact on the life of a product and EoL management options. Producers optimize product design to reduce the materials used, which in turn reduces product weight, material content and product volume. Specifically, Producers conduct analyses on the use of plastics and other materials in the design and manufacture of EOPE, maximizing the use of materials that can be recycled and reused.

Product design eliminates, wherever possible, the use of hazardous substances, replacing them with non-hazardous materials that can be reprocessed and reused.

Producers actively work to reduce the environmental impact associated with product packaging waste. Trends include the reduction in packaging weight and volume, more efficient use of packaging materials, the use of recycled content and recyclable materials.



Producers actively encourage dealers to consolidate orders, rather than place multiple, small orders to lower packaging and transportation requirements.

Manufacturing Processes

Producers have ongoing initiatives to reduce waste associated with the manufacturing of products. These include the collection, recycling and reuse of remnant ferrous and non-ferrous metals that result from the manufacture of components. Other waste materials that can be recovered and recycled during the manufacturing process for productive uses, including plastic, corrugated and paper materials, are collected for processing and alternate uses.

Supply chain initiatives include the use of returnable/reusable packaging for components from suppliers. Suppliers are encouraged to locate support operations in close proximity to manufacturing operations, thereby reducing transportation-related energy use in the delivery of components.

Producers seek to reduce water use in water-dependent manufacturing processes through improved process efficiencies. Initiatives include the treatment and reuse of process water to reduce total needs.

Reuse and Repair

The reuse market for EOPE is very well developed. Valuable EOPE products that are not at the end of the functional life are not expected to be dropped off at collection sites or collection events because they have residual value. The market facilitates the repair and reuse of EOPE products through a variety of channels, including: re-selling websites (e.g., Craigslist and garage sales), charitable organizations (e.g., Salvation Army or local product dealerships) and trade-ins on new product purchases. The Program recognizes that there is a robust and effective reuse system already in place outside the parameters of the Program and hence will focus on the collection and recycling of the EoL EOPE.

Recycle, Recover and Dispose

Metals are divided into two primary classifications: ferrous metals (constituting about 90% of the metal waste stream) that can be sorted through electromagnetic separation, and non-ferrous metals (representing approximately 10% of total metals). Ferrous metals include mainly steel and cast iron; non-ferrous metals include aluminum, lead, copper, nickel and zinc. According to industry members, the metals in EOPE are primarily steel, aluminum and copper (see Table 2 for average breakdown of metals).


Table 2: Average Metal Composition of EOPE Products (%) and Management Option

Material	Composition (%)	Management Option
Aluminum	7	Recycle
Steel (ferrous)	20	Recycle
Copper	18	Recycle

As noted previously, EOPE collected at a contracted collection site is combined with other metal accumulated on-site, which is then sold to a larger metal recycler, usually a member of CARI, who processes the majority of metal-bearing products collected in BC for recycling.



Once sold to a larger metal recycler, the EOPE products are sorted by commodity and loaded into bins or baled on-site. All EOPE material is sent to a shredder due to the high cost of dismantling by hand or with other tools. Most whole EOPE is categorized as tin, which is usually shredded here in BC, but can also be barged or trucked to a nearby facility in Washington State. After shredding, the resulting material is sorted into ferrous metal, non-ferrous metal and waste material (plastics, fabrics, etc.). According to information provided by CARI representatives, shredders successfully pull out approximately 99% of the metal; this material is then shipped to smelters and formed into ingots. Ingots are then sold to manufacturers to make consumer and/or industrial goods.

Plastics are used in the manufacturing of EOPE, making products lighter and easier to handle by consumers and also requiring less energy to produce than metals, such as aluminum. There is a common misconception that all plastics are recyclable and available to be used in the manufacturing of EOPE and other products. This perception is further supported by the recycling symbols that are embossed into many plastic articles. The seven resin codes used inside the chasing arrows symbol  signifies the main chemical compound used to make that plastic part:

1. **PETE** - Polyethylene Terephthalate is in pop and water bottles.
2. **HDPE** - High Density Polyethylene is opaque and usually in bottles that store laundry detergent and milk.
3. **V** - Polyvinyl Chloride (PVC) is found in plastic pipes, shrink wrap.
4. **LDPE** - Low Density Polyethylene is in produce bags, plastic wrap, and plastic bags.
5. **PP** - Polypropylene is used for yogurt tubs, ketchup bottles.
6. **PS** - Polystyrene is found in Styrofoam, used for egg crates.
7. **Other** - This category covers a vast mixture of resins and includes food containers (clam shells), polycarbonate used in sport bottles, and bio-based plastic used in compostable food containers.

Most recycling facilities collect #1 and #2 types of plastic, or the plastic bottles made from PETE/PET and HDPE resin. These bottles are made in a blow-molding process. The other types of plastics, #3 through #7 are made with an injection molding or stamp molding process and involve additives. Many recycling facilities do not collect these plastics, which require different processing to recycle, and a different end market. The end markets for #1 and #2 plastics (bottles) are stable and numerous. The end markets for the other plastics are infrequent and not consistent. It is cost effective for those end markets to begin with new (virgin) plastic, rather than to source enough of the type (right color, with the correct additives, no ink, and so on) than to use recycled plastic.

According to one industry representative, "If plastic products were consistent in their resin composition, color, transparency, weight and size, everything could be recycled together; this is more or less the case with aluminum, which has the highest rates of global recycling. With millions of different plastic products and packages on the market, clearly this is not the case. Dyed and pigmented plastics, for example, can be troubling for materials recovery facilities (MRFs) as they have a much lower market value.

Clear plastics are always preferred in the recycled materials market, and have the highest material value. This is because transparent plastic can typically be dyed with greater flexibility. The next best is white, as its only limit is that it cannot become clear, but can be made into any other color. However, the colored

plastics (especially opaque varieties) are often limited to become darker shades of the original dye, or black. For this reason, some recycling facilities consider certain pigmented plastics contaminants to the recycler stream, and subsequently dispose of them instead of recycle them. This issue is extenuated with the low cost of oil, as that makes it even harder for recyclers to compete with the price of virgin polymers.”¹¹

Reuse of plastic shredder residue (sometimes referred to as “fluff” or “automotive shredder residue (ASR)”) left over from the shredding process is further limited because it contains plastics mixed with other non-metallic materials, including hazardous materials. Indeed, plastic shredder residue “...often contains hazardous substances such as lead, cadmium, and PCBs.”¹² This leftover shredder material is landfilled, as it is deemed contaminated and not recyclable. Based on current available technologies, it is recognized that “Even if (mechanical) post shredder processes already exist, economic recycling is only possible for a limited fraction.”¹³ Consequently, further processing would require significant capital investment and yield minimal results.

The use of recycled plastics in the manufacturing of EOPE is further restricted because of standards on specific material and performance characteristics required of these products, such as flame retardants, impact resistance, electrical conductivity, or extreme temperature capabilities. In these instances, a specially formulated plastic resin is essential to the product’s performance. In Canada and the US, EOPE products are tested and certified to Canadian Standards Association (CSA), International Electrotechnical Commission (IEC), and Underwriters Laboratories (UL) safety standards. As part of these certification processes, follow-up on-site visits are conducted that include verification of the actual virgin resin against the original certification. (F2Labs, n.d.) The use of recycled plastics in these instances is not possible because of the variability in its composition and properties.

Management of Embedded Products

Contracted scrap metal collection facilities manage embedded products included with recycled EOPE, including embedded products that are designed not to be removed by the user. Embedded products that can damage processing equipment or result in harm to the environment are removed by the scrap metal facility prior to the product being baled and shredded. These embedded products are managed separately. CARI members are required to comply with all environmental requirements, ensuring that embedded products are managed in a responsible manner. Each scrap metal facility makes its own business decision as to whom they contract with to recover and process embedded products.

¹¹ Tom Szaky, “The Many Challenges of Plastic Recycling”, *Waste Not* (April 22, 2015) available at http://www.sustainablebrands.com/news_and_views/waste_not/tom_szaky/many_challenges_plastic_recycling.

¹² Vermeulen, I. (June 2011). “Automotive shredder residue (ASR): Reviewing its production from end-of-life vehicles (ELVs) and its recycling, energy or chemicals’ valorisation”. *Journal of Hazardous Materials*. **190** (1-3): 8–27. doi:10.1016/j.jhazmat.2011.02.088.

¹³ “From Fluff to Stuff: An Economic Solution?”, *Waste Management World* (April 1, 2011). Available at <https://waste-management-world.com/a/from-fluff-to-stuff-an-economic-solution>. Accessed December 7, 2017.

Environmental Management Commitment

OPEIC's annual report provides a description of how EoL EOPE was managed.

10 DISPUTE RESOLUTION

Section 5(1) of the Regulation provides:

(c) the plan adequately provides for (vi) a dispute resolution procedure for disputes that arise between a producer and person providing services related to the collection and management of the product during implementation of the plan or operation of the product stewardship program.

OPEIC contracts with all suppliers and service providers through the use of commercial agreements. Any disputes arising from collection or processing contracts are resolved using normal commercial legal mechanisms as referenced in the Program's service provider contracts.

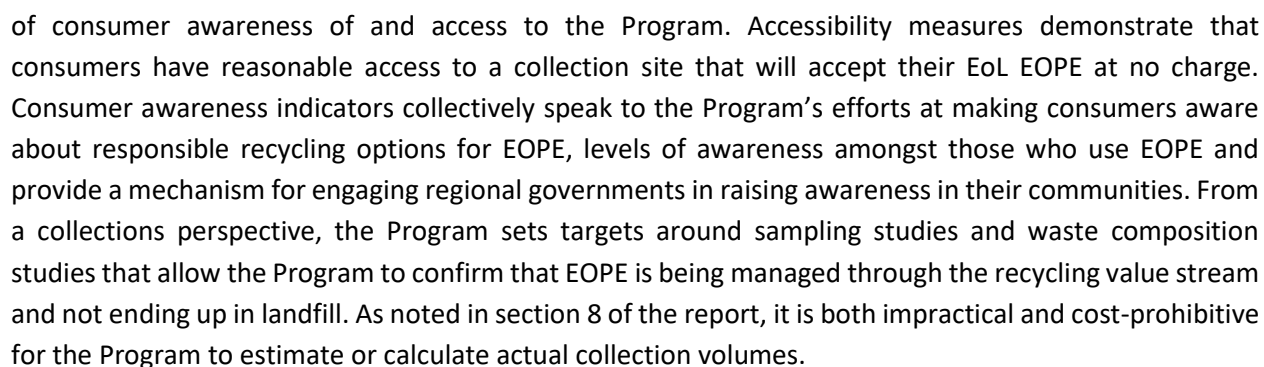
11 PERFORMANCE MEASUREMENT SUMMARY AND REPORTING COMMITMENTS

Section 5(1) of the Regulation provides:

- *(a) the plan will achieve, or is capable of achieving within a reasonable time:
 - (ii) any performance requirements or targets established by the director.*
 - (iii) any performance requirements or targets in the plan.**
- *(c) the plan adequately provides for (v) assessing the performance of the producer's product stewardship program.*

The Stewardship Plan sets out a number of performance measures that collectively demonstrate the Program's success in achieving its objective of diverting EoL EOPE from the waste stream. From a consumer perspective, the Stewardship Plan sets out a suite of measurable performance metrics that confirm levels of consumer awareness of and access to the Program. Accessibility measures demonstrate that consumers have reasonable access to a collection site that will accept their EoL EOPE at no charge. Consumer awareness indicators collectively speak to the Program's efforts at making consumers aware about responsible recycling options for EOPE, levels of awareness amongst those who use EOPE and provide a mechanism for engaging regional governments in raising awareness in their communities. From a collections perspective, the Program sets targets around sampling studies and waste composition studies that allow the Program to confirm that EOPE is being managed through the recycling value stream and not ending up in landfill. As noted in section 8 of the report, it is both impractical and cost-prohibitive for the Program to estimate or calculate actual collection volumes.

Table 3 below provides a summary of OPEIC's performance measures and targets. From a consumer perspective, the Stewardship Plan sets out a suite of measurable performance metrics that confirm levels



Performance Measure	Commitments & Targets	Auditable
Collection System and Accessibility		
Units Sold	<i>Commitment:</i> Report annually on EOPE units sold by product category.	Yes
Percent of population with access to a collection site	<i>Target:</i> Maintain a minimum accessibility level of 95 per cent based on the SABC Accessibility Standard.	Yes
Frequency of Accessibility Study	<i>Commitment:</i> Conduct an accessibility study in 2021 or sooner if there is a significant change in provincial demographics or the network itself.	Yes
Number and location of collection facilities	<i>Commitment:</i> Report annually on the location (i.e. municipality and regional district) of contracted collection facilities and any changes in the number and location of collection facilities from the previous report.	Yes
	<i>Commitment:</i> Ensure listing of contracted collection sites on the collection site finder is kept up-to-date.	No
Collection events	<i>Commitment:</i> Report annually on the number and location (i.e., municipality and regional district) of collection events.	Yes
Collections		
Collection Site Recruitment	<i>Commitment:</i> Consult with BCPSC on a regular basis to identify gap areas	No

Performance Measure	Commitments & Targets	Auditable
	<i>Commitment:</i> OPEIC will contact contracted collection sites on a semi-annual basis to confirm contact information, hours of operation and are continuing to adhere to their contractual obligations (i.e. no tipping fees, etc.)	No
Sampling Studies	<i>Target:</i> Conduct a minimum of four sampling events each year. Report annually the location and date of each.	Yes
	<i>Target:</i> Sample a minimum of eight sampling sites per event. Report annually the location and date of each.	Yes
	<i>Commitment:</i> Report out on sampling methodology.	No
	<i>Target:</i> Report the estimated quantity of EOPE found as a percentage of total estimated material sampled.	Yes
Waste composition studies	<i>Commitment:</i> Report the location and date of each waste composition study	Yes
	<i>Commitment:</i> Report units of EOPE identified during each waste composition study	Yes
Consumer Awareness		
Consumer Awareness Survey	<i>Target:</i> Conduct a consumer awareness survey annually between 2018 and 2022.	No
Consumer Awareness Level	<i>Target:</i> Achieve a consumer awareness level in the range of 40%-50% in 2022.	Yes
Education & Communication Strategy	<i>Commitment:</i> Report annually on education materials and strategy.	No
Stakeholder Consultations		
BC Product Stewardship Council	<i>Commitment:</i> Participate in regular meetings convened by BC Product Stewardship Council (BCPSC)	No
	<i>Commitment:</i> Have an OPEIC representative available to attend when the Stewardship Agencies of BC meets with the BCPSC, at the request of SABC or BCPSC	No
Environmental Management		



Performance Measure	Commitments & Targets	Auditable
Product Management	<i>Commitment:</i> Report annually on how the recovered product was managed.	No

APPENDIX 1: GLOSSARY

The following is a glossary of terms and abbreviations used in the Stewardship Plan.

Term	Definition
Stewardship Plan	Outdoor Power Equipment Stewardship Plan
Regulation	BC <i>Recycling Regulation</i> , BC Reg. 449/2004, as amended B.C. Reg. 88/2014, May 23, 2014
Program	Outdoor Power Equipment Stewardship Program which implements the Stewardship Plan

Acronym	Initial phrase
BCPSC	British Columbia Product Stewardship Council
CARI	Canadian Association of Recycling Industries
CWMA	Coast Waste Management Association
EHF	Environmental handling fee
EOPE	Electric Outdoor Power Equipment
EPR	Extended producer responsibility
OPE	Outdoor Power Equipment
OPEIC	Outdoor Power Equipment Institute of Canada
OPEI-CTF	Outdoor Power Equipment Institute Canadian Task Force
PCA	Product Care Association
RCBC	Recycling Council of British Columbia
RGAC	Regional Government Advisory Committee
SABC	Stewardship Agencies of British Columbia

APPENDIX 2: STAKEHOLDER CONSULTATION COMMENTS

The following is a summary of comments received by stakeholders during consultations on this Stewardship Plan. In each case, OPEIC's response indicates the extent to which the comment has been addressed in the Stewardship Plan.

#	Topic	Comment	Proposed Response
1.1	Accessibility – Gaps in Collection Network	There are gaps in the collection network across the province. SABC standards are not met for several communities.	<ul style="list-style-type: none"> • The OPEIC Stewardship Program has high accessibility in general across the province and continues to actively recruit scrap metal collection facilities in gap areas. • The number of contracted collection facilities (120) in the Program meets Program targets (120 by the end of 2015). Accessibility at the end of 2015 was 97%, which exceeds the target of 90%. • Accessibility is based on the SABC accessibility standard, which requires: <ul style="list-style-type: none"> ○ For rural communities with a population of 4000 or more, a 45 minute drive to a collection facility. ○ For urban communities with a population of 4000 or more, a 30 minute drive to a collection facility. • OPEIC also participates in collection events hosted by smaller communities to collect end of life OPE.
1.2	Accessibility – Indicator Accuracy	In certain instances, the accessibility indicator might be inaccurate because collection sites listed are not actual OPEIC collectors, or because contracted collectors are not complying with OPEIC's collection requirements.	OPEIC has contracts with all facilities in its collection network. OPEIC makes best efforts to ensure that all contracted collection sites listed are compliant with the terms of their contract.
2.1	Collections – Segregation	Why can't OPEIC require material segregation, data collection and reporting by contracted collections sites as a requirement of the contract? These tasks could be required if collection sites were paid. CESA and MARR products are segregated.	<ul style="list-style-type: none"> • OPEIC's Stewardship Program is based on the free market system for metal collection and processing. It is efficient and cost effective. OPEIC does not interfere with the way in which scrap metal collection facilities manage their operations and rely upon them to ensure that the materials are managed in

#	Topic	Comment	Proposed Response
			<p>accordance with applicable environmental standards</p> <ul style="list-style-type: none"> • OPEIC stewarded products are generally small compared to other items in the metal recycling stream, and are very low in quantity and weight in comparison to the stream of scrap metal products, with an irregular and seasonal pattern of reaching end of life. • The space, resources and cost associated with attempting to segregate these products in the metal recycling stream make it impractical for the metal recycling industry to manage. • OPEIC sampling of the metal recycling waste stream confirms that EOPE is being collected and processed. • OPEIC participation in waste composition studies confirms that EOPE is not a problem product for landfills.
2.2	Collections – Sites	Are the locations of the collections sites known and specified?	Yes, the location of each collection site is shown on OPEIC's depot locator at www.opec.ca .
2.3	Collections – Tipping Fees	Some facilities are charging a drop-off/tipping fee. The Steward does not appear to have the ability to guarantee that the consumer will not have to pay a disposal fee for dropping off OPE.	Facilities that contract with OPEIC are required to accept EOPE for free. If OPEIC becomes aware that a contracted collection facility is charging a drop-off fee, it addresses the issue directly with the facility.
2.4	Collections – Handling Costs	The return for the same product will vary from collection site to collection site; high-volume collection sites may have roll-off bins and hauling services supplied by the metal recycler, but low volume collection sites might not. This imposes a system of inequity on collection sites.	OPEIC is a market-based program. Each participating collection facility determines the most cost effective manner to manage materials received and operate their business.
2.5	Collections – Scrap Metal Prices	The cost of processing and transporting the material is not covered by the current revenue generated from the collected OPE. Section 3.1 of the Program Plan makes reference to the existence of a "robust scrap metal recycling industry". Dispute the	<ul style="list-style-type: none"> • The OPEIC Program is based on a free market stewardship model. The Program is predicated on the principal that there is intrinsic value in the products at end of life. The existence of a well-established network of

#	Topic	Comment	Proposed Response
		accuracy of this statement in the context of rural and remote communities. OPEIC should be responsible for bearing all risks or necessary costs for getting their end of life products to recycling markets.	<p>collection facilities throughout the province, including many rural and remote communities, is evidence of that. Additionally, the scrap metal system has been in existence for decades and has survived through the cyclical nature of the market. OPEIC continues to actively recruit scrap metal facilities into the Program.</p> <ul style="list-style-type: none"> Each participating collection facility determines the most cost effective manner to manage EOPE. EOPE was already being collected by the free market system prior to regulation.
2.6	Collections – CARI Partnership	Is the partnership document with CARI available to stakeholders? Including the provisions of this contract would explain the ability of OPEIC to obtain information from collectors and what obligations there is for reporting, and would show the level of incentivization for scrap metal collectors to participate.	Collection site contracts between OPEIC and its service providers are a confidential business matter and not available to the public.
3.1	Consultation	Will comments from the consultation be summarized and distributed to participants?	Comments from the consultations and responses will be documented in an appendix to the Program plan.
4.1	Consumer Awareness – Targets	With reference to historic targets, consumer awareness targets under the new program plan should be more ambitious, improving on a mere one percent annual increase.	In 2017, OPEIC refined its survey methodology and enhanced its analytics to target consumers of EOPE (i.e., those who owned EOPE). As a result, awareness levels amongst consumers of EOPE in 2017 was 29%. The Program believes this is a more accurate reflection of consumer awareness levels and will use it as its baseline going forward. By investing significantly in communication and outreach to consumers and the public, the Program anticipates that it will be able to raise awareness levels considerably over the next five years. Given this context, the Program expects to see steady, but modest increases in consumer awareness as a result of its enhanced efforts, achieving a target in the range of 40% - 50% by 2022.

#	Topic	Comment	Proposed Response
4.2	Consumer Awareness – Metrics	OPEIC should apply some form of metric for consumer awareness such as numbers of “reaches” via social media, radio, TV to help enhance their program.	<ul style="list-style-type: none"> • The increase in consumer awareness of the Program since its inception reflects the success of the Program’s outreach and public education initiatives. • Reaches via social media are the tools we use to increase consumer awareness, not the measures. • Other awareness metrics are influenced by seasonality and consumer behavior with respect to product usage and therefore serve as poor indicators of overall Program performance.
5.1	Fees – Modified Rates	Why was there a drop in fees in 2016?	Following an in-depth review of both product sales patterns and Program expenses, OPEIC concluded that a fee reduction was warranted. This is the first EHF adjustment since the start of the Program in 2012.
5.2	Fees – Program Plan	There is no mention of the environmental handling fees within the plan. As of Dec. 6 th , the last page of the draft plan seems to be missing.	<ul style="list-style-type: none"> • The BC Recycling Regulation does not govern Program fees and consequently, the Stewardship Plan does not address fees. Program fees are set by the stewardship organization and disclosed on the Program’s website. • The draft plan had a pagination error. No pages were missing from the consultation draft plan circulated.
5.3	Fees – Imported OPE Products	As with stewardship plans in BC generally, there is no mechanism for capturing financial contributions from similar products which have been purchased in Alberta or Washington state (etc.). However, this may be more of an issue for the Province to address with the Federal government than the individual stewardship plan holder?	As noted, this issue is outside the scope of the Program.
6.1	Participation in the Program	On p. 3, it says “Participation in the Program is open to all Producers of EOPE...”. Can this wording be strengthened? It appears that manufacturer participation is voluntary.	The BC Recycling Regulation defines who is obligated to be part of an approved stewardship plan. The regulation acknowledges that producers may choose other options or operate their own plan.

#	Topic	Comment	Proposed Response
7.1	Performance Metrics – Volumes	Does OPEIC report on volumes collected by Region? There should be better tracking of, and reporting on, collection tonnages. Local governments are segregating and measuring collection volumes.	No, the Program does not report out volumes collected by Region. OPEIC stewarded products are generally small compared to other items in the metal recycling stream, and are very low in quantity and weight in comparison to the stream of scrap metal products, with an irregular and seasonal pattern of reaching end of life. The space, resources and cost associated with attempting to segregate these products in the metal recycling stream make it impractical for the metal recycling industry to manage.
7.2	Performance Metrics – Sampling	Sampling is not a program performance measure. The sampling of a minimum of 8 sites per year is insufficient. Other EPR programs track all end of life materials. The information provided through this minimal auditing should not meet the criteria of tracking the end of life of OPE as required by the Recycling Regulation. It should be moved to a different section of the program plan.	<ul style="list-style-type: none"> • Sampling is a recognized and accepted method for collecting data and measuring performance. In the case of stewardship programs, it provides an estimate of the amount of Program product collected and diverted from landfill. When compared year-over-year and considered in tandem with waste composition study results, it provides confirmation of the Program's ongoing ability to divert EOPE from landfill. • The number of sampling events conducted by OPEIC reflects what the Program believes to be a reasonable and adequate sampling size. The majority of metal collected in the province ultimately goes through a number of consolidators that are represented in the group of sites sampled.
7.3	Performance Metrics – Collection Rates	The Program should provide more statistics, i.e. collection rate in order to be more accountable to consumers and local governments. The number of units recycled, and not the number of units sold, should be the focus of the Plan.	The Program plan sets out the performance metrics that OPEIC believes are reasonable and sufficient for the Program. The Program will be reporting out on finding from waste composition audits demonstrating that product is not going into landfill and is being diverted, which is the primary objective of the Program. A summary of Program performance metrics is

#	Topic	Comment	Proposed Response
			provided in section 11 of this Stewardship Plan.
7.4	Performance Metrics – Sampling Methodology	In addition to sampling percentages, it will be important to characterize the sampling methodology so that stakeholders can be informed about the significance of the results.	OPEIC has provided more detail about the sampling methodology in the Stewardship Plan. The methodology is corroborated through participation in waste composition studies confirming that EOPE is not making its way into landfill.
7.5	Performance Metrics – Market Health	The program should report annually on indicators and/or indices which demonstrate the 'health' of the market (i.e., "collector satisfaction"), which justifies this approach and to determine its viability. This performance measure must be normalized to account for differences in urban and rural areas.	OPEIC contracts with collection facilities that collect EOPE. Collection facilities choose to contract with the Program. As such, the number of facilities that contract with the Program is an indicator of the scrap metal industry's willingness to participate in the Program and the health of the market-based approach.
8.1	Producers	In the introduction, it says: "OPEIC manages the Program on behalf of its registered participants, who are defined as Producers of OPE products under the Regulation." The sentence says that the Regulation defines who are Producers of OPE, which it does not. Suggest reworking for better clarity.	The sentence in question has been revised in the Program plan to read "OPEIC manages the Program on behalf of its registered participants. The Regulation defines who is obligated to be part of an approved stewardship program."
9.1	Processing – Hazardous Materials	Handling of recognized hazards likes batteries, oil and gasoline must reasonably be included within the stewardship plan. Who covers the costs of handling hazardous materials?	<p>The OPEIC Program only includes electric powered outdoor power equipment and, as such, does not handle liquid hazardous materials.</p> <p>A section on management of embedded products has been added to the Stewardship Plan.</p> <p>Consumers are encouraged to remove embedded products from the product in accordance with the manufacturer's instructions and recycle them through an approved stewardship program. All embedded products returned embedded in Program products, including embedded products that are not designed to be removed by the user, are removed by the scrap metal facility prior to the product being baled and shredded. The embedded products are collected and managed separately.</p>

#	Topic	Comment	Proposed Response
10.1	Program Products – Fuel-powered OPE	It is not clear if fuel-powered OPE are accepted by the Program. Therefore, the Program is relying on municipalities to collect and manage all OPE, including fuel-powered OPE. Without compensation, it makes it difficult for regional districts to collect OPE.	Fuel-powered OPE is not designated under the BC Recycling Regulation and is not included in the Program.
11.1	Program Responsibilities	<p>OPEIC does not meet the tenants of EPR as it does not take on basic responsibilities for end of life management. Basic EPR responsibilities include:</p> <ul style="list-style-type: none"> tracking end of life of all its EPR materials, dealing with hazardous materials at end of life generated through EPR products, fairly compensating receiving locations for tracking, storage, recycling and reporting of EPR materials, and providing annual reporting (based on actual recorded data and not estimates) on materials recovered through the program. 	<p>The approved free-market based OPEIC Stewardship Program plan sets out the tenets for the Program. The Program does not follow the same approach as conventional EPR programs because it is based on the pre-existing scrap metal collection industry in the province. The Program maintains a high accessibility rate and welcomes all scrap metal collection facilities to participate in the Program.</p> <p>Based on the consultation with local governments, we recognize there are questions that remain with some regional districts. It appears that some do not have a clear understanding of the Program and the effectiveness of the free market metal recycling system. Therefore, in addition to the framework of the Stewardship Plan, we propose to engage local governments to provide education about how the Program works, its effectiveness through the reliance on the free market system, and the issues associated with providing the type of reporting they receive from conventional stewardship programs.</p>
12.1	Reserve Fund	Given that this is a 'market-based' program with no operational costs, only a small reserve seems justified. Has OPEIC placed a cap on the reserve fund?	Yes, OPEIC has placed a cap on its reserve fund in accordance with appropriate accounting principles.
13.1	Waste Composition Studies	<p>"OPEIC will continue to participate in waste composition studies in partnership with other stewardship organizations and regional governments, where feasible."</p> <p>"Feasible" needs to be defined in this context. Can the program plan provide more descriptive language regarding how the</p>	<p>The Program plan has been revised to provide clarifying language on how the Program identifies opportunities to engage in waste composition studies.</p> <p>The Program consults with local government and other stewardship agencies each year to identify any waste</p>

#	Topic	Comment	Proposed Response
		program identifies opportunities to undertake waste composition studies?	composition studies scheduled for that year. We participate in every opportunity available to the Program to engage in waste composition studies.

APPENDIX 3: DETAILED COLLECTION SITE SAMPLING METHODOLOGY

By way of Agreement, OPEIC staff are permitted to conduct sampling at select CARI scrap metal facilities four times a year for EOPE product; each time constitutes an “event”. This section outlines the approach taken in conducting the sampling.

1.1. Sampling Locations

According to CARI, the vast majority of scrap metal recycled in BC moves through and is consolidated by eight CARI member companies, which serve as the locations for OPEIC’s sampling studies. These eight companies represent 10 locations, of which at least eight are sampled during each sampling event. While all sampled sites are located in the Lower Mainland or Vancouver Island, as consolidation sites, they receive material from across the province.

Sampling sites are selected based onsite accessibility to materials, safety considerations and location. The sites currently sampled are listed in Table 4 and are subject to change.

Table 4: Sampling Site Locations

ABC Metals Recycling	8081 Meadow Ave	Burnaby
ABC Metals Recycling	4318 Terminal Place	Campbell River
Coast Environmental (previously Schnitzer Steel Pacific Recycling)	3015 Boys Road	Duncan
Davis Trading & Supply Ltd.	1100 Grant Street	Vancouver
Richmond Steel	11760 Mitchell Rd	Richmond
Rypac Aluminum Recycling Ltd.	11849 Tannery Road	Surrey
Schnitzer Steel Pacific Recycling	12301 Musqueam Dr.	Surrey
Schnitzer Steel Pacific Recycling	307 David Street	Victoria
Schnitzer Steel Pacific Recycling	13271 Trans Canada Hwy	Cassidy
Schnitzer Steel Pacific Recycling	5551 Duncan Bay Road	Campbell River

1.2. Frequency of Sampling

Sampling events occur four times each year at the sites listed under Table 4. The sampling events take place between April and October. Carrying out sampling during the winter months is problematic because the scrap metal piles can be covered in snow during that time and not observable.

Sampling is typically conducted over a period of one to two weeks. Sampling at each location takes between 2 – 4 hours, depending on the size and opportunity for sampling.

1.3. Sampling Methodology

Each site and pile sampled are identified with a unique ID numbers. At each location, local site staff identify scrap metal piles that might contain EOPE. These include:

- Tin
- Clean cast aluminum
- Light dirty aluminum
- Heavy dirty aluminum
- Christmas lights (Low grade wire)
- ELMO (electric motors)
- Breakage
- Unsorted non-ferrous

If the pile is small, OPEIC staff may weigh the entire pile, as well as pull out any EOPE and determine exact weights. If the pile is larger, OPEIC staff observe the pile, estimate the weight of portion of the pile that is observable, and either pull out EOPE product and weight it, or observe it and estimate its weight. The degree to which piles are scrutinized depends on a number of considerations, including site safety, product availability and scheduling. For each product found, OPEIC records whether the product is a whole unit or part (part products found are counted), and where the product was observed. Where possible, site visits are scheduled to coordinate with delivery schedules of municipal bins and at times that ensure appropriate materials are available to be screened. Photos are taken of all piles sampled and EOPE found.

1.4. Methodology for the Extrapolation of Data Collected

For sampling events conducted, OPEIC calculates the following:

- Total estimated tonnage of material sampled
- Total number of piles sampled
- Total number of EOPE units (whole and partial) found and estimated tonnage
- Amount of EOPE found as a percentage of total materials sampled