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# ANALYSIS OF THE FREE-RIDER ISSUE IN EXTENDED PRODUCER RESPONSIBILITY PROGRAMS

***– Final Report –***

*Submitted to:*

**Canadian Council of Ministers of the Environment**

*Submitted by:*

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# EXECUTIVE SUMMARY

## E1. BACKGROUND

The Canadian Council of Ministers of the Environment (CCME)'s Extended Producer Responsibility (EPR) Task Group was established to provide guidance on the development and implementation of EPR and product stewardship programs in Canada. One of the key issues that has plagued EPR programs of all types and in all sectors is the problem of free-riding. Free-riding occurs when one firm (or individual) benefits from the actions and efforts of another without paying or sharing the costs[1]. The EPR Task Group commissioned a study to analyse the free-rider issue from a Canadian perspective, paying particular attention to packaging and electronics stewardship programs.

The objectives of this assignment were to determine the extent of the free rider issue within EPR/product stewardship programs in Canada, focusing on the electronics and packaging sectors; to recommend management options to address the free-riding issue and to suggest potential jurisdictional roles and responsibilities. To undertake this work a combination of interviews, literature review, and case study research was undertaken.

## E2. ANALYSIS OF ISSUE IN CANADA

The common causes of free-riding identified in Canadian EPR programs are outlined in this report. This information is based on a sampling of specific EPR programs and as such it is not a comprehensive list, but it is believed to be representative of the main causes of the problem in Canada. The causes identified include:

- Jurisdictional authority limitations
- Lack of regulatory backdrop
- Lack of enforcement
- No brand owner identified
- Multiple players/data availability
- Systems based solely on fees at point of sale
- Program design.

The extent of the free-riding issue and the causes vary across programs in Canada. In the majority of programs reviewed, it is considered a minor issue. In others, the scale of the problem is somewhat greater. Although it is possible that the scale of free riding could threaten the financial viability of an EPR program, this is currently not the case in most Canadian programs. However, significant equity concerns were obvious in all free-rider situations reviewed regardless of the scale of problem. Addressing free-riding is somewhat easier in programs that target single category packages (for example, single packaging such as beverage container deposit-return systems) rather than in other programs that involve multiple types of packaging or products.

[1] More detailed definitions are outlined in Section 3.2.

In the electronics sector, the estimates of free-riding by both program managers and regulators are surprisingly low. In the Alberta Electronics Program, all large scale producers that are engaged in internet sales are registered in the program and pay based on sales volume. The limited free-riding that does occur is attributed to small producers engaged in internet sales. However, it should be noted that the potential for free-riding to be an issue in other jurisdictions remains high, and depends largely upon program design, regulatory details and the level of engagement of large scale internet sales companies.

## E3. ANALYSIS OF ISSUE IN OTHER JURISDICTIONS

In the European Union, a 2006 study of free-riding in seven electronics recycling programs initiated in response to the WEEE Directive estimates that free-riders represent between 10-20% by volume of products placed on the market.[2] Two electronics sector case studies from EU member states are presented in Section 5.3.

In the United States, two states are in the early stages of operating mandatory electronics recycling programs: Maine and California. The most developed system is in Maine, which uses a system whereby producers are billed for the quantity of electronics collected for recycling by state approved material consolidators at end-of-life. Information obtained from the state of Maine indicated that estimates of free-riders in their program are less than 10%.

In terms of packaging programs, free-riding in many of the European schemes are to be high, due to the inherent difficulties in establishing responsibilities for packaging, compared to products. A 2006 study cited estimates of between 10 - 50% free-riding in various mandatory European packaging programs. Information presented suggested the free-rider situation is largely due to a lack of auditing procedures to monitor reported sales volumes (sales volumes are used as the basis for paying into the system). No comparable packaging programs were identified in the United States.

## E4. MECHANISMS TO ADDRESS FREE-RIDING

There are a variety of mechanisms available to address the free-rider issues. In terms of packaging, addressing free-riding is somewhat easier in programs that target single category packages associated with incentives (for example, beverage container deposit-return systems) rather than in programs that involve multiple types of packaging. For multiple packaging programs, program design to use producer fees based on sales volumes, removal of stewardship exemptions, and ensuring appropriate incentive structures are key elements to minimize free-riding.

In terms of electronic waste in Canada, there is a low documented incidence of free-riding from internet sales due to program design which mandates producers to remit fees based on market sales volume (both internet and retail), the existence of strong regulatory backdrops which specifically mandate the 1st importer as the responsible party, and delegation of enforcement authority to a third party administrative organisation. It should be noted that although the potential for free-riding from internet sales is significant, the incidence is greatly reduced

[2] *The Product Stewardship Movement: Understanding Costs, Effectiveness, and the Role for Policy*, Resources for the Future, 2002.

through the use of industry partnerships in program design, implementation, and operation, which is key to gaining buy-in from large players. Having all the large players registered in a program, and paying program fees based on market sales volume, are crucial for program success.

## E5. ROLES AND RESPONSIBILITIES

There are a variety of potential roles and responsibilities for governments which can assist in addressing the free-rider problem in Canada, some with a minimal level of involvement and some with a high level of involvement. For example, provincial or territorial governments must delegate or follow through with their enforcement responsibilities, review the incentive structures in their program design, and contribute to information sharing. The federal government could provide guidance, share information, become a voluntary steward, or develop a national protocol or regulation. These responsibilities are discussed in Section 7 of this Report.

# 1. INTRODUCTION

## 1.1 BACKGROUND

The Canadian Council of Ministers of the Environment (CCME)'s Extended Producer Responsibility (EPR) Task Group was established to provide guidance on the development and implementation of EPR and product stewardship programs in Canada. One of the key issues that has plagued EPR programs of all types and in all sectors is the problem of free-riding. Free-riding occurs when one firm (or individual) benefits from the actions and efforts of another without paying or sharing the costs[3].

The EPR Task Group commissioned a study to analyse the free-rider issue from a Canadian perspective, paying particular attention to packaging and electronics stewardship programs.

## 1.2 OBJECTIVE

This assignment was undertaken in two Parts. The objective of Part I of this assignment was:

- To determine the extent of the free rider issue within EPR/product stewardship programs in Canada, focusing on the electronics and packaging sectors. This includes:

    1. Defining terminology
    2. Outlining how the term is used in Canada
    3. Identifying for whom it is an issue through identification of actual and potential causes of free-riding in Canada
    4. Identifying existing agencies, programs, regulations, or protocols to track product movements
    5. Identifying opportunities and barriers for using these systems to track products covered by EPR programs.

The objective of Part II of this assignment was:

- To recommend management options to address the free-riding issue and suggest potential jurisdictional roles and responsibilities. This includes:

    1. Summarizing guidance from the Organisation for Economic Co-operation and Development (OECD) and other relevant sources
    2. Documenting how existing programs have successfully or unsuccessfully addressed free riding
    3. Identifying options to address free rider issues
    4. Recommending potential roles and responsibilities for producers and government.

[3] More detailed definitions are outlined in Section 3.2.

## 1.3 SCOPE

The target programs of interest this for assignment included province/territory-wide or national programs with mandatory roles or responsibilities for producers (for a definition of producer used in this report, see Section 3).

## 1.4 THIS REPORT

The remaining sections of this report are comprised as follows:

Section 2: Methodology
Section 3: Terminology
Section 4: Analysis of the Free-Rider Issue in Canada
Section 5: Analysis of the Free-Rider Issue in Other Jurisdictions
Section 6: Mechanisms to Address Free-Riding
Section 7: Potential Roles and Responsibilities.

# 2. METHODOLOGY

To fulfill the needs of both Part I and Part II of this assignment, our approach consisted of three key elements: document review, key informant interviews, and case studies.

**A document review** of information related to this issue was undertaken. Documents reviewed included international guidance, program reports, presentations, fact sheets, and academic studies. A list of documents reviewed for this study can be found in Appendix A.

**Key informant interviews** were undertaken to supplement research and gain first hand knowledge of experience in dealing with this issue from program managers. A list of potential interviewees was established and agreed upon by the Project Authority.

Interviewees were selected to include:

- A range of program types (specifically including at least one multi-packaging program and one electronics program in Canada)
- A range of jurisdictions (both in Canada and abroad)
- A range of viewpoints on the issue (such as views from government regulators, third party administrators, industry associations, and academics).

Most program managers selected for interview have had extensive experience with stewardship programs extending over a number of years). Interviewees included three stewardship program managers from third party organisations, five government regulators, two industry associations, and one academic expert. In total, 11 interviews were completed.

Following the document review and interviews, a series of four international **case studies** was prepared to determine elements used to successfully address the free riding issue.

The collected information was then analyzed to identify the current extent of the free rider issue, the main causes, and the potential solutions. The most promising mechanisms that emerged have been documented in Section 6 of this report. Potential roles and responsibilities for key government bodies is presented in Section 7.

# 3. TERMINOLOGY

## 3.1 OVERVIEW

An internet search using the term "free rider" easily demonstrates that the term is applicable in a wide variety of circumstances including: business competition and the marketplace; collective bargaining; spending public money on public goods or security; brokerages; and scholastic group work fairness. In terms of environmental issues, the term is most often used in circumstances related to natural resource management of common properties, including water, fisheries, or forests. In terms of EPR or product stewardship programs, definitions in relation to the term are limited and include definitions by the OECD and Environment Canada.

## 3.2 DEFINITIONS OF FREE-RIDER

In economics, collective bargaining, and political science, free riding are actors who consume more than their fair share of a resource, or shoulder less than a fair share of the costs of its production. The free rider problem is the question of how to prevent free riding from taking place, or at least limit its negative effects.[4]

Definitions of free-riders in relation to EPR programs include the following, both of which are used in Canada.

OECD: "Free riding occurs when one firm (or individual) benefits from the actions and efforts of another without paying or sharing the costs."[5] Supplemental OECD references on this issue state that: "Free-riders do not participate in the Producer Responsibility Organisation (PRO) and avoid the cost of financial contributions to the operating costs of the PRO."[6]

Environment Canada: "Free riders benefit from the EPR system without contributing an appropriate share of the costs. There is scope for all kinds of participants (consumers, producers, importers, retailers, collectors and recyclers) to free ride one way or another. The scope for free riding is greater and more complicated to deal with when a large number of producers (packaging material manufacturers, brand owners, wholesalers, retailers, etc.) are part of a long production chain."[7]

Other definitions of free riders in relation to EPR programs include the New Zealand Ministry of Environment, which states that free-riders are those that do not meet their fair share of the costs of their involvement in a program, but reap the same level of benefits.

[4] Wikipedia online Encyclopaedia website: http://en.wikipedia.org/wiki/Free_rider_problem

[5] OECD Glossary of Statistical Terms website: http://stats.oecd.org/glossary/detail.asp?ID=3222. OECD terminology in relation to waste management topics is often used as a reference in the development of Canadian guidance.

[6] *Analytical Framework For Evaluating The Costs And Benefits Of Extended Producer Responsibility Programmes*, OECD Working Group on Waste Prevention and Recycling, March 2005.

[7] Environment Canada – Extended Producer Responsibility and Stewardship – Glossary of Terms, website http://www.environnement-canada.ca/epr/en/glossary.cfm?defn=14

In Canada, free-rider terminology is most often used in reference to a non-compliant producer who is aware of his/her responsibilities but chooses not to comply.[8] Canadian program managers may consider free-riding to be producers outside of their jurisdictional reach who are selling a product into that jurisdiction and not complying with the applicable regulatory programs. In this report, free rider terminology also encompasses producers who are not obliged to comply with a program due to program design, yet they benefit from the program by having their products recycled at end of life.[9]

## 3.3 OTHER TERMINOLOGY USED IN THIS REPORT

Other terms used in this report are adapted from terminology used in Environment Canada's EPR/Stewardship inventory.

Product Stewardship: The act of entrusting the careful and responsible management of the environment and natural resources to one's care for the benefit of the general community.[10] This is generic terminology used that refers to both EPR programs (see definition below), as well as programs which are mainly government operated, or operated via a third party stewardship agency without involvement from producers/ manufacturers/brand owners.

EPR: An environmental policy approach in which a producer's responsibility, physical and/or financial, for a product is extended to the post-consumer stage of a product's life cycle. There are two key features of EPR policy: (1) the shifting of responsibility (physically and/or economically, fully or partially) upstream to the producer and away from municipalities, and (2) to provide incentives to producers to take environmental considerations into the design of the product.[11] This OECD definition is supported in principle by the CCME EPR Task Group, although the Task Group is currently in the process of developing its own EPR definition.

IFO: Industry Funding Organisation and PRO: Producer Responsibility Organisation: These terms are often used inter-changeably, and refer to an EPR program administered by a group of brandowners / producers who have incorporated a new organisation for the purpose of administering an EPR program.

Orphan products: This term refers to products that are subject to an EPR policy, but whose producer is non-existent due to bankruptcy or other reasons.[12]

Producer: This term refers to the brand-owner or most responsible entity, including franchisee, assembler, filler, first importer, distributor, or retailer, etc.[13]

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[8] Most often, new players who are not initially aware of the program are willing to comply with the program once they are made aware of it.

[9] Free rider terminology is also sometimes applied to consumers who collect and transport a product for an EPR program, such as beverage containers, from one jurisdiction to another where there is a significantly higher refund available in a deposit-refund program. This issue is outside the scope of this study, which is focussed on producers.

[10] Environment Canada – Extended Producer Responsibility and Stewardship – Glossary of Terms, website http://www.environnement-canada.ca/epr/en/glossary.cfm?defn=14

[11] OECD definition, as cited on the Environment Canada – Extended Producer Responsibility and Stewardship website http://www.environnement-canada.ca/epr/en/glossary.cfm?defn=14

[12] *EPR - A Guidance Manual for Governments*, OECD, 2001

# 4. ANALYSIS OF THE FREE-RIDER ISSUE IN CANADA

## 4.1 CURRENT EXTENT OF THE FREE-RIDER ISSUE

Information on the extent of the free rider issue in Canadian EPR/stewardship programs was gleaned from two sources: documented instances of the issue in the Environment Canada EPR/stewardship inventory updated in 2006, and telephone interviews with program managers or regulators of EPR programs in Canada (see Section 2.3).

Exhibit 4.1 below outlines fifteen Canadian programs that are affected in various ways by the free-rider issue (ten of these are in relation to the electronics or packaging sectors, while five of these are not).

**Exhibit 4.1: Types of Programs that Have Been Affected by the Issue of Free-Riding**

| Program | Organisation | Type of Program |
|---|---|---|
| ***Packaging or Electronic Sectors*** | | |
| Brewers Association of Canada Recycling Program | Brewers' Association of Canada | Voluntary program at the national level; with mandatory requirements depending on the jurisdiction. |
| Beverage Container Recycling Program | AB Beverage Container Management Board | Mandatory. |
| Beverage Container Programme | BC Ministry of Environment and Encorp | Mandatory. |
| Beverage Recycling Program | NFLD Multi-Materials Stewardship Board | Mandatory. |
| Refillable Beverage Container Program | PEI Dep't of Environment, Energy and Forestry | Mandatory. |
| Beverage Container Recycling Program | SARCAN (SK) | Mandatory. |
| Milk Container Recycling Program | Alberta Dairy Council | Voluntary. |
| ON Blue Box Programme | Waste Diversion Ontario | Mandatory. |
| Manitoba Product Stewardship Program | Manitoba Product Stewardship Corporation | Mandatory |
| Electronics Recycling Program | Alberta Recycling Management Authority | Mandatory. |
| ***Other Sectors*** | | |
| Used Oil Recovery Program | AB Used Oil Management Association | Mandatory |
| Used Lubricating Oil, Filters, and Containers Programme | BC Used Oil Management Association | Mandatory |
| QC Used Oil Recovery Programme | Société de Gestion des Huiles Usagées | Mandatory. |
| Call2Recycle | Rechargeable Battery Recycling Corporation | Voluntary. |
| QC Eco-Peinture Programme | Société québécoise de gestion écologique de la peinture | Mandatory. |

Further details on these programs are presented in Exhibit 4.2, including causes of free-riding, the estimated scale of the issue,[14] and mechanisms used to address it. Further information on the mechanisms is presented in Section 6.4.

[13] *National Extended Producer Responsibility Workshop,* Final Report prepared for CCME by Marbek Resource Consultants, 2006.

[14] The scale of the issue was defined for the purposes of this study as follows (where the percentage): 0-10% = low; 11-20%= medium; 20% or greater = high. This information was gleaned either from published documentation or interviews.

## Exhibit 4.2: Details of the Free-Rider Issue in Canadian Programs

| Program | Organisation | Region | Free-Rider Situation | Causes | Mechanism Used |
|---|---|---|---|---|---|
| ***Electronic and Packaging Sectors*** | | | | | |
| Brewers Association of Canada Recycling Program | Brewers' Association of Canada | National | This is a national umbrella-type program, with differing legislative programs for return-for-refill within each jurisdiction. A small number of imported beer containers are free-riders in programs where a deposit is not charged for the container. In Ontario for example, all imported beer sold jointly by the LCBO and The Beer Store carries a deposit and the containers are returned to The Beer Store for recycling. However imported beer sold exclusively by the LCBO carries no deposit. These containers are free-riders that will be recycled or discarded via municipal recycling programs, or returned to the Beer Store for recycling.<br>SCALE OF FREE-RIDING: low. The estimate of free-riders in the Ontario program is less than 7%, so this issue is likely to of minor scale in other jurisdictions. | • Jurisdictional authority limitations | None |
| Beverage Container Recycling Program | Beverage Container Management Board (BCMB) | AB | All beverage containers sold in the province must be registered as part of the program, and all registrants pay program fees. The free-rider situation has been largely addressed: if a depot receives a returned container that is not registered, they withhold the deposit. If a free rider is identified, the Board notifies the company and the free-rider is obligated to register or refrain from selling in the province.<br>SCALE OF FREE-RIDING : low. | • Multiple players | • Regulatory backdrop<br>• Retail sales ban<br>• Spot checks |
| Beverage Container Programme | Encorp Canada or BC Ministry of Environment | BC | All beverage containers sold in the province must be registered as part of the program, and all registrants pay program fees. The free-rider situation has been largely addressed: when a free-rider is identified, and is unwilling to comply, retailers refrain from selling their product.<br>SCALE OF FREE-RIDING : low. | • Multiple players | • Regulatory backdrop<br>• Retail sales ban<br>• Spot checks |
| Beverage Recycling Program | Multi-Materials Stewardship Board | NFLD | All beverage containers sold in the province must be registered as part of the program, and all registrants pay program fees. The free-rider situation has been largely addressed: If a depot receives a returned container that is not registered, they withhold the deposit. The MMSB does carry out frequent spot checks at retail outlets in order to identify free-riders. If a free-rider is identified (un-registered, but selling in the province), the MMSB notifies the company and the free-rider is obligated to register or refrain from selling in the province.<br>SCALE OF FREE-RIDING : low. | • Multiple players | • Regulatory backdrop<br>• Retail sales ban<br>• Spot checks |
| Refillable Beverage Container Program | PEI Dept. of Environment, Energy and Forestry | PEI | All beverage containers sold in the province must be refillable. The free-rider situation has been largely addressed: free riders are controlled through enforcement measures at the point-of-sale (retailer).<br>SCALE OF FREE-RIDING : low. | • Multiple players | • Regulatory backdrop<br>• Retailer fines<br>• Spot checks |

## Exhibit 4.2 Cont'd

| Program | Organisation | Region | Free-Rider Situation | Causes | Mechanism Used |
|---|---|---|---|---|---|
| Beverage Container Recycling Program | SARCAN | SK | All beverage containers sold in the province must be registered as part of the program, and all registrants pay program fees. The free-rider situation has been largely addressed: SARCAN maintains a list of "approved" beverages sold in the province. If they find a beverage container through their depot system that is not registered, they will immediately notify the Department of Finance, who in turn ensures that these producers/brandowners register in the program.<br>SCALE OF FREE-RIDING: low. | • Multiple players | • Regulatory backdrop<br>• Spot checks<br>• SK Department of Finance |
| Milk Container Recycling Program | Alberta Dairy Council Milk Container Recycling Program | AB | All milk producers within the province are part of the program, but there is one importer who refrains from complying. This situation is not considered by managers to be infringing on the successful operation of the program.<br>SCALE OF FREE-RIDING: low. | • Multiple players<br>• Lack of regulatory backdrop | None |
| Blue Box Programme | Waste Diversion Ontario | ON | The free-rider aspect of this program was inherently part of the design of the program: only stewards that generate Ontario sales equal to or greater than $2 million or generate >15 tonnes of packaging in Ontario are required to be a part of this program. Free-riders in this program include:<br>• Hundreds of thousands of small business owners<br>• Federal departments/agencies who participate in paper based mailings are exempt from provincial regulations by virtue of being federally mandated.[15]<br>• Direct magazine subscriptions from U.S.<br>• White box assemblers (i.e. no single brandowner)<br>SCALE OF FREE- RIDING: high. | • Program design<br>• Multiple players<br>• Jurisdictional authority limitations<br>• No brand owner identified | • Negotiation with federal agencies<br>• Industry partnerships<br>• IFO pays the MOE to conduct enforcement |
| Manitoba Product Stewardship Program | Manitoba Product Stewardship Corporation | MB | The free-rider aspect of this program was part of the design of the program: a two-cent levy on beverage containers subsidizes all other packaging materials in the system. MB intends to establish a PRO for all product packaging and printed paper to help fund the program, so the free-rider situation will be minimized.<br><br>There is also the possibility of free riding among those required to pay the levy but who nonetheless do not. The incidence of this is estimated to be very low.<br>SCALE OF FREE- RIDING: medium (by design - for exempted sectors) | • Program design<br>• Multiple players | • Establish an PRO for paper materials to level the playing field somewhat |
| Electronics Recycling Program | Alberta Recycling Management Authority | AB | The free-riders in this program are anticipated to be small producers that do not sell in any of the major retail locations, but rather engage in internet sales. Estimates of free-riders are approximately 5% of electronics sales volume in the province. All large brandowners selling over the internet are registered in the program and remit program fees based on sales volume. All large internet sales companies were involved in the design of the program.<br>SCALE OF FREE- RIDING: low. | • Multiple players<br>• Jurisdictional authority limitations<br>• Competitive advantage to not charge a visible fee | • Regulatory backdrop<br>• Delegation of authority to 3rd party<br>• Monitor sales flyers<br>• Online registry<br>• Business Model<br>• Use of collection agencies |

[15] The option of being a voluntary steward is under consideration.

## Exhibit 4.2 Cont'd

| Program | Organisation | Region | Free-Rider Situation | Causes | Mechanism Used |
|---|---|---|---|---|---|
| ***Other Sectors*** | | | | | |
| Used Oil Recovery Program | Alberta Used Oil Management Association | AB | A small number of small-scale producers that are not members of the industry association are free riders since their waste oil products are still recovered and handled within the system. The program estimates a 77% recovery rate of waste oil, 92% for used filters, and 57% of oil containers. A small percentage of the remainder are anticipated to be free-riders, with another small percentage anticipated to be paid for within the system, but not recovered by small scale users. The handling charge is a substantial portion of the retail selling price of a product, so there is a competitive advantage for a retailer or producer to not charge the fee.<br>SCALE OF FREE- RIDING: low. | • Lack of enforcement<br>• Competitive advantage to not charge a visible fee | • Regulatory backdrop<br>• Online registry<br>• Fines<br>• Spot checks<br>• Harmonization among provinces |
| Used Lubricating Oil, Filters, and Containers Programme | BC Used Oil Management Association | BC | A small number (5-10%) of small-scale producers that are not members of the industry association are free-riders since their waste oil products are still recovered and handled within the system. The program estimates a 73% recovery rate of waste oil, 81% for used filters, and 51% of oil containers. A small percentage of the remainder are anticipated to be free-riders, with another small amount anticipated to be paid for within the system, but not recovered by small scale users. The handling charge is a substantial portion of the retail selling price of a product, so there is a competitive advantage for a retailer or producer to not charge the fee.<br>SCALE OF FREE- RIDING: low. | • Lack of enforcement<br>• Competitive advantage to not charge a visible fee | • Regulatory backdrop<br>• Online registry<br>• Fines<br>• Spot checks<br>• Harmonization among provinces |
| QC Used Oil Recovery Programme | Société de Gestion des Huiles Usagées | QC | Brand owners or 1st sellers are responsible to implement a recovery scheme, or join the SOGHU. Free rider situations potentially include:<br>• Municipalities or companies directly importing oil (i.e. no retail sale in province)<br>• Large brandowners that chose to operate their own program are registered to do so for their own brands (rather than join the SOGHU); however they are not audited or spot checked. Officials also indicate that they may sell and recycle other brands within their stores which are not registered in their approved program, and for which no handling charge is paid.<br>SCALE OF FREE- RIDING: unknown. | • Lack of enforcement<br>• Loophole in program (no retail sale) | • Regulatory backdrop<br>• Online registry<br>• Fines<br>• Spot checks |

## Exhibit 4.2 Cont'd

| Program | Organisation | Region | Free-Rider Situation | Causes | Mechanism Used |
|---|---|---|---|---|---|
| Call2Recycle | Rechargeable Battery Recycling Corporation | National | Batteries produced by companies that are not members of RBRC can be returned and recycled together with those batteries produced by members. In the United States the Environmental Protection Agency regulations state that the shipments of non-eligible batteries (i.e. mixed shipments) will be returned, unless separate arrangements are made directly by the organization with the consolidation facility.<br>SCALE OF FREE- RIDING: unknown | • Lack of regulatory backdrop | None |
| QC Eco-Peinture Programme | Société québécoise de gestion écologique de la peinture | QC | Eco-fees are attached for every paint product sold in the province, including 1st importers. There may be small incidences of free-riders from small producers local or foreign who don't have a long term presence and who cannot afford the membership fee.<br>SCALE OF FREE- RIDING: low. | • Multiple players<br>• High membership fees | • Regulatory backdrop<br>• Spot checks |

## 4.2 COMMON CAUSES OF FREE-RIDING

Exhibit 4.2 outlined some of the common causes of free-riding identified in Canadian EPR programs. This information is based on a sampling of specific EPR programs and as such it is not a comprehensive list, but it is believed to be representative of the main causes of the problem in Canada. The causes identified include:

- Jurisdictional authority limitations
- Lack of regulatory backdrop
- Lack of enforcement
- No brand owner identified
- Multiple players/data availability
- Systems based solely on fees at point of sale
- Program design.

Details on each identified cause, and on the main associated challenges, are provided below.

*Jurisdictional authority limitations*: Jurisdictional authority limitations have been documented in the following three situations:

- In some cases a brandowner does not have a physical company presence in the country. In such cases the 1st importer is typically required to be part of the program. However, there is a grey area related to internet sales, where there is no "importer" in the traditional sense, and hence no direct jurisdictional authority. This means that small-scale internet sales companies that are hard to identify can easily act as free-riders. However, at least in the specific case of electronics, these small-scale free-riders have been shown to have limited impact, since the large companies usually represent over 90% of the internet market. As a consequence it is more effective to focus efforts on registering these large players[16].
- Federal government departments, agencies, and crown corporations are not legally obliged to participate in the EPR programs established by the provinces or other jurisdictions (a province has does not have authority to regulate the federal government). In cases where these federal agencies are producers of waste (such as production of printed papers), they become free-riders if they do not participate in the established EPR programs.[17]
- Due to differences between provincial and federal mandates with respect to waste, only transportation and disposal of hazardous waste clearly have a federal mandate, while post-consumer "waste" has traditionally been a provincial / territorial mandate. This has resulted in a variety of program types and rules across the country to address packaging and / or electronic waste. This lack of consistency creates opportunities for free-riding.

*Lack of regulatory backdrop*: There is evidence that use of a regulatory backdrop provides a level playing field and reduces the incidence of free-riding. Most programs reviewed indicated that they relied heavily on backdrop regulations to support their enforcement activities. Certain existing voluntary programs have indicated that they would prefer regulatory support to reduce the incidence of free-riding.

[16] Alberta Recycling Management Authority, personal communication, 2006.

[17] In other cases such as packaging, paint, tires, and electronics, the federal is a consumer not a producer. As long as fees are paid into programs through the levies on purchases, the federal government will not be a free rider.

*Lack of enforcement*: Some managers indicated that a lack of enforcement of a regulation was a key cause of free-rider problems, since enforcement is essential to ensuring a level playing field among producers. This cause has two sub-elements:

- A lack of clarity surrounding roles and responsibilities with respect to enforcement (for example, responsibilities of a 3rd party administering organisation, industry association, and government at both provincial and federal levels)
- A lack of resources, or political will, to follow up with enforcement measures.

*No brandowner identified*: For some programs, it is difficult to identify the brand owner or 1st importer due partially to a lack of available information, and partially to a lack of political will on behalf of other government agencies to collaborate and share information.

*Multiple players/data availability*: Program managers interviewed for this assignment consistently indicated that identifying, tracking, and communicating with multiple players in a complex marketplace without adequate data contributed to the free-rider problem. Data needs include current business contact information for retail sales based businesses operating in each jurisdiction, as well as information on product movements (for example, from manufacture to retail location, or inter-jurisdictional movements within Canada). This information is vital for assessment as to whether a company is required to be part of the program or not. Often, program managers negotiate with large retailers to examine their supplier lists as the main method to obtain contact information; however information on product movements is largely lacking for all programs examined. .

*Systems based solely on fees at point-of-sale:* This issue is twofold:

- It is possible that fees charged at the point-of-sale may contribute to the free-rider problem because there may be a greater likelihood that some small producers or retailers will attempt to improve their competitiveness by not charging and remitting the fee. For example, the selling price of an oil filter may be $5.00, with a $0.50 visible fee for end-of-life recycling. A small producer not charging and paying this fee would have a competitive advantage over others because of the lower price of the product on the shelf[18].

- In the specific case of internet sales, if the system is solely based on fees levied by conventional retail outlets, then there is increased likelihood of free-riding due to sales that by-pass the levy system. In contrast, systems that operate through a producer paying fees to an administering organisation based on sales volume are much more likely to capture internet sales. The major internet sales players can be registered in the program and remit their fees based on sales volume (they may or may not chose to incorporate this cost into the consumer price).

*Program design*: In addition to the above list of common causes of free-riding, there is also the situation of free-riding as an inherent design characteristic of the program. In multiple-packaging EPR programs, due to the different types of packaging involved, an extremely complex marketplace, and large number of players, both existing programs examined included

[18] According to the OECD, producers that charge and remit fees (visible or not) do not face any incentives to minimise the waste management costs of the products they produce, through Design for Environment (DfE) innovations.

free-riding in the explicit design of the program. These types of free-riders are of concern due to equity issues associated with the producers that are paying the costs of the program. However, from an administrative perspective, this approach allows a program to operate cost effectively and, once established, likely with a high participation rate of stewards.

It should be noted that the design of a program can only minimize free-riding to a certain extent, and research has indicated that a small amount of free-riding is probably inevitable (and even tolerated) in all programs reviewed. The decisions to be made with respect to program design revolve around the extent of free riding and the associated market place distortion, balanced against the cost burden of a program design that attempts to capture every small free rider.

## 4.3 SUMMARY OF THE ISSUE

This summary is based on the fifteen programs presented in Exhibit 4.1. This includes nine packaging programs, three used oil programs, one paint program, one battery program, and one electronics program. Since the electronics sector is of primary interest for this study, program-specific details from the one operating electronics program have been reviewed in greater detail than the other programs.

The extent of the free-riding issue and the causes vary across programs in Canada. In the majority of programs reviewed, it is considered a minor issue. In others, the scale of the problem is somewhat greater. Although it is possible that the scale of free riding could threaten the financial viability of an EPR program, this is currently not the case in most Canadian programs. However, significant equity concerns were obvious in all free-rider situations reviewed regardless of the scale of problem. From the programs examined in Exhibit 4.2, addressing free-riding is somewhat easier in programs that target single category packages (for example, single packaging such as beverage container deposit-return systems) rather than in other programs that involve multiple types of packaging or products.

In the electronics sector, the estimates of free-riding by both program managers and regulators are surprisingly low (given the known rise in internet computer purchases in Canada[19]). Due to mechanisms such as: having a strong regulatory backdrop; careful program design with producers paying program fees based on their sales volume; use of a business model that can use judicial supports as well as collection agencies; legislated delegation of enforcement activities; active monitoring and enforcement; and early and ongoing engagement with industry associations (see Section 6), internet sales do not currently generate a significant free-rider problem in the Alberta electronics program. All large scale producers that are engaged in internet sales are registered in the program and pay based on sales volume. The limited free-riding that does occur is attributed to small producers engaged in internet sales. However, it should be noted that the potential for free-riding to be an issue in other jurisdictions remains high, and depends largely upon program design, regulatory details and the level of engagement of large scale internet sales companies.

[19] Approximately 20% of all desktop computers are sold through direct Internet sales, Electronic Product Stewardship Canada, personal communication 2006.

This summary of the extent of the free-riding issue in Canada is consistent with some of the key points raised in an OECD general summary of the issue. The OECD outlined the main instances in which free-riding occurs with respect to EPR and product stewardship programs as follows:[20]

- Producers under-declare the volume of products put on the market in sales-volume based systems
- Producers refrain from registering in a registration-fee based system
- Producers may free ride by paying their fees in a low cost jurisdiction and selling their products in a high-cost jurisdiction (for regional systems with differing fee structures)
- Collectors may mix products for which fees have been paid with those for which fees have not been paid
- Consumers may put products or packaging for which no fee has been paid into a designated recycling collection container (there may be incentives to do this when general waste management charges are high).

The OECD acknowledges that free-riders are more prevalent in programs that have thousands of producers/multiple players (i.e., general packaging) compared to those in more concentrated markets (single product packaging such as deposit return for beverage bottles).

In addition, the OECD notes that competition issues arise through the level and pattern of enforcement of the programme. In particular, the pattern of competition may be affected by post-contractual free riding, which arises where firms which have agreed to participate in the programme nonetheless subsequently evade some of their responsibilities under the programme. Firms may fail to meet individual obligations regarding take-back, recycling, or the use of recycled materials. Post-contractual free-riding through non-compliance would generally give the free-riding firms a competitive advantage over those which comply with their obligations under the programme.[21]

[20] OECD, EPR: A Guidance Manual for Governments, 2001.

[21] OECD, Analytical Framework For Evaluating The Costs And Benefits Of Extended Producer Responsibility Programmes, 2005.

# 5. FREE-RIDER ISSUES IN OTHER JURISDICTIONS

## 5.1 INTRODUCTION

This section presents information obtained through document review and interviews with international contacts. Section 5.2 presents background to the free-rider issue in the European Union and the United States with specific reference to electronics and packaging sectors. Section 5.3 presents a series of case studies of examples that are considered by experts in the field to have somewhat successfully addressed this issue in their programs. Section 5.4 provides an overview of published international guidance on this issue.

## 5.2 BACKGROUND

### 5.2.1 Electronics

The European Union passed the Waste Electric and Electronic Equipment Directive (WEEE) in 2003. The EU is comprised of 25 member states who must establish their own jurisdictional programs to comply with this Directive. The EU does not impose the requirements of its directives directly on companies or consumers, but rather on its member states. The EU can impose penalties on member states that fail to comply. Management systems may be organized by producers on an individual or collective basis. The directive sets separate targets for reuse/recycling and recovery, based on amounts collected by weight. The WEEE Directive is very broad in scope, and includes products imported and sold over the internet. There are ten categories of products covered:[22]

1. Large household appliances (refrigerators, washing machines, stoves, etc.)
2. Small household appliances (vacuum cleaners, toasters, hair dryers, etc.)
3. Information and telecommunications equipment (computers and peripherals, cell phones, calculators, etc.)
4. Consumer equipment (radios, TVs, stereos, etc.)
5. Lighting (fluorescent lamps, sodium lamps, etc.)
6. Electrical and electronic tools (drills, saws, sewing machines, etc.)
7. Toys, leisure, and sports equipment (electric trains, video games, etc.)
8. Medical devices (ventilators, cardiology and radiology equipment, etc.)
9. Monitoring instruments (smoke detectors, thermostats, control panels, etc.)
10. Automatic dispensers (appliances that deliver products such as hot drinks).

In the European Union, a 2006 study of free-riding in seven electronics recycling programs initiated in response to the WEEE Directive estimates that free-riders represent between 10-20% by volume of products placed on the market.[23] Two electronics sector case studies from EU member states are presented in Section 5.3.

In the United States, two states are in the early stages of operating mandatory electronics recycling programs: Maine and California. Maine uses a system whereby producers are

[22] *Inform, Strategies for a Better Environment*, European Union Electrical and Electronic Products Directives, 2003

[23] *The Product Stewardship Movement: Understanding Costs, Effectiveness, and the Role for Policy*, Resources for the Future, 2002.

billed for the quantity of electronics collected for recycling by state approved material consolidators at end-of-life. Information obtained from the state of Maine indicated that estimates of free-riders in their program are less than 10%, although program regulators have indicated that due to their program design (producers billed on the actual end-of-life volume collected for recycling) they have extremely high operating costs. The California program is not yet operating fully. Regulations to support the program were adopted in November 2006 (at the time of writing of this report). Minnesota is in the planning stages for a mandatory program (which might be regionally-based with neighbouring states). This program will include producer fees based on sales volume on the market, similar to the Alberta electronics program.

### 5.2.2 Packaging

The EU passed the Packaging and Packaging Waste Directive in 1994[24]. This Directive aims to harmonize national measures in order to prevent or reduce the impact of packaging and packaging waste on the environment and to ensure the functioning of the recycling market. It contains provisions on the prevention of packaging waste, on the re-use of packaging, and on the recovery and recycling of packaging waste.

Member States have established distinct systems to comply with the requirements set out in the Directive, both in terms of legislative provisions and implementation strategies, taking existing national waste policies into account. In eight Member States a "green dot" system has been established. By contracting with the green dot system, the companies responsible for producing packaging entrust their take-back obligation to the PRO scheme in return for an annual fee based on the types of packaging materials used, and on the amount of packaging put on the market (European Commission, European Packaging Waste Management Systems, 2001).

Free-riders in many of the European schemes are estimated to be high, due to the inherent difficulties in establishing responsibilities for packaging, compared to products. A 2006 study[25] cited estimates of between 10 - 50% free-riders in various mandatory European packaging programs. Information presented suggested the free-rider situation is largely due to a lack of auditing procedures to monitor reported sales volumes (sales volumes are used as the basis for paying into the system).

Two case studies from the European packaging sector are presented in Section 5.3 below. No comparable packaging programs were identified in the United States.

## 5.3 CASE STUDIES FROM THE PACKAGING AND ELECTRONIC SECTORS

This section presents information on four case studies of EPR programs that are addressing the issue of free-riding in various ways. Two cases are from the electronics sector, and two are from the packaging sector.

[24] There were no EPR packaging programs identified for profiling from the United States.

[25] Effectiveness of Packaging Waste Management Systems in Selected Countries: a European Environment Agency Pilot Study, 2005.

The criteria for case study selection were: demonstrated success in addressing free-rider situations (with particular interest in those situations which were identified as problematic in the Canadian programs reviewed); evidence of addressing free-riding in a unique way; evidence that the program is successfully addressing free-rider issues (based on the views of the interviewees for this study).

The two packaging case studies are programs that address multi-packaging systems, similar to the Canadian multi-packaging programs presented in Exhibit 4.2 . The packaging case studies have very different approaches to program design than the Canadian packaging programs.

The two electronics case studies selected differ in their program design: one is based on a visible fee charged at point of sale (as in the Canadian electronics program presented in Exhibit 4.2), and one is based on the end of life cost of recycling electronics charged directly to a producer based on the weight recycled of their brand. All programs reviewed are considered by experts in the field to be successfully addressing the problem of free-riding, although in all programs reviewed free-riding remain a problem to some degree.

The case studies presented are:

- German Packaging Ordinance (Multi-Packaging Sector)
- Netherlands Packaging Decree (Multi-Packaging Sector)
- Belgium – Recupel program (Electronics Sector)
- Netherlands – ICT Milieu program (Electronics Sector).

Each case study presents a profile of the program, and an outline of mechanisms used which contribute to program success in addressing the free-rider issue. Information from case studies was gleaned primarily from available reference sources, supplemented with personal communications for two of the case studies.

| **CASE STUDY#1** | **GERMAN PACKAGING ORDINANCE** |
|---|---|
| **Overview** | The Ordinance on the Avoidance and Recovery of Packaging Waste, (Packaging Ordinance), places a legal obligation on trade and industry to take back and recycle transport, secondary and sales packaging. The ordinance was first passed in 1991 and amended in 1998. It sets a clear hierarchy for the handling of packaging waste. First and foremost, packaging waste must be prevented or reduced. Secondly, used packaging is to be re-used or recycled by returning it to the production loop. Only packaging waste which cannot be prevented, re-used or recycled may be disposed of by means of incineration or landfilling. Trade and industry can be exempted from their individual obligation to take back sales packaging if they join a nationwide, consumer-oriented system for the collection, sorting and recycling of used sales packaging (for example, Duales System Deutschland GmbH). The 1st importer is mandated to comply with the regulation. To provide proof of program participation, the federal government requires a signed contract to use a trademark (a green dot on the package label) to demonstrate that the fees for the recycling of this package have been paid for by the producer. The trademark contract is a licensing contract, protected by copyright laws. |
| **Type of Program** | Mandatory |
| **Year Initiated** | 1991 |
| **Targets** | The Packaging Ordinance Amendment sets targets for the recycling of used sales packaging. These differ according to the type of material and must be fulfilled. |
| **Financing** | Under the Packaging Ordinance, costs of collection, sorting and recycling are borne solely by licence holders. Fillers represent the majority of all license holders. The extent to which responsible parties have passed costs on to consumers cannot be accurately determined. |

| | |
|---|---|
| **Administering Body** | One centralized PRO administers multiple material packaging collection and recycling programs for set licensing fees – the Duales System Deutschland (DSD). This PRO handles 92% of packaging waste in Germany. |
| **Monitoring and Reporting** | The Ordinance does outline reporting parameters. |
| **Unique Program Elements** | Opportunities are given to the chemical industry through subsidies to develop new technologies for recycling of packaging wastes. Available recycling technologies were based on raw materials processes to convert waste plastics to new plastic products. To meet quotas, it was necessary to find other processes for conversion of waste plastic to create new markets for secondary materials. The emphasis in new technologies is on recycling to recover oils, gas and chemicals and the use of plastics as a reducing agent in steel production. |
| **Free-rider issues:** | Estimates of free-rider issues are in the range of 20% of packaging volume. Examples of "free riding" issues in this program are:<br>• Fraudulent use of the Green Dot symbol, when no licence fee has been paid.<br>• Fraudulent reporting of sales volumes to DSD (sales information is used to estimate the volume of packaging put on the market, and the associated licensing fees owed to the DSD).<br>• Consumer wastes for which Green Dot licenses have not been paid enter the system (households fail to separate packaging not carrying the Green Dot, such that non-participating producers get a free ride). |
| **Mechanisms to address free-riding** | • *Use of a licensing contract:* Licensed use of a trademark (a green dot on the package label) demonstrates that the fees for the recycling of this package have been paid for by the producer (a solid legal backdrop protected by copyright laws).<br>• *Use of one administering body*: Firms not participating in the Green Dot system are required to demonstrate through annual reporting that they are able to reach the same collection, sorting and recycling quotas as the DSD for their packaging waste. In light of amendments to the Ordinance which impose the same duties on non-participants as on participants, numerous companies decided to join the DSD scheme.<br>• *Use of fines:* Companies can be fined for failing to meet DSD requirements, or reporting incorrect information.<br>• *Agreements to engage retailers in the verification process*: The DSD was given authority to require verification (by an independent accounting firm) that amounts of packaging certified by licence holders as carrying the Green Dot were not exceeded. There are now formal agreements in place between retailers and the DSD to deduct green dot fees from payments to suppliers that did not submit audited green dot accounts.<br>• *Appropriate incentive structure*: The problem of consumer misuse of designated receptacles has been addressed by changing the incentive structure that applies to waste collectors, and by encouraging peer group pressure. Collectors were previously paid according to the weight of materials collected; they are now paid only for the portion of materials that should have been collected. This provides an incentive to reject any materials put out for collection for which fees have not been paid (i.e. packaging not carrying the Green Dot symbol). |

| **CASE STUDY#2** | **NETHERLANDS PACKAGING DECREE** |
|---|---|
| **Overview** | The Netherlands has addressed packaging in a variety of ways, and their system has evolved dramatically in the last decade. The *Packaging, Paper and Cardboard Management Decree*, or the Packaging Decree, came into force in 2006. Under this Decree, businesses are responsible for collecting and recycling any packaging they bring onto the market. This Decree supersedes the previous Packaging Covenant. The most important difference between the Decree and the Covenant is that municipalities and businesses are no longer jointly responsible for processing packaging waste. The new Decree imposes full responsibility for collecting and recycling on the business community. A PRO has been established to coordinate collection and recycling of all packaging. If companies choose not to join the PRO, they must organise and pay for the collection and processing themselves. Companies are also obliged to use as little packaging material as possible and to design packaging that is recyclable. The current Decree is also supported by the *Packaging and Packaging Waste Regulation* which outlines that anyone in The Netherlands who puts a product in packaging on the market is obliged to reduce the amount of packaging waste, to recycle packaging waste, and to report the achievements in these fields. Other parties from the packaging chain have the duty to cooperate by supporting the producer/importer in fulfilling its obligations. Similarly, imported packaging has to meet the requirements of the Regulations. |
| **Type of Program** | Mandatory |
| **Year Initiated** | This program was established by the first voluntary covenant in 1991 and a second voluntary covenant in 1997. The third voluntary covenant was signed in 2002. The new mandatory Decree which supersedes the covenants took effect in 2006. |
| **Targets** | The Decree requires companies to collect and recycle 65% of all used packaging. There are specific targets outlined for each material type. |
| **Financing** | Producers pay an annual fee for membership to a PRO. The PRO takes responsibility for all the obligations imposed on businesses by the Packaging Decree. This includes setting up a waste collection system, consulting with municipalities, prevention projects, monitoring, and reporting to the Ministry of Housing, Spatial Planning and the Environment (VROM). The PRO charges a fixed fee for these activities, in three categories, depending on the total quantity of commercial and household packaging put onto the market every year. Businesses that bring 15,000 kilograms or more of household packaging onto the market also pay a variable fee alongside the fixed fee. The amount of the fee depends on the quantity and type of packaging material. Every year, businesses declare the quantities of packaging they bring onto the market. They are billed on the basis of this declaration. The fees are used to pay municipalities for material collection and recycling. The PRO charges a low all-in-one rate per year for small businesses. |
| **Administering Body** | A PRO, called Nedvang, was established to help individual businesses comply with the Decree. Nedvang organises collection and recycling for members. For this purpose, it enters into agreements with municipalities for collection. Nedvang also takes care of collective reporting to the Ministry of Housing, Spatial Planning and the Environment. |
| **Monitoring and Reporting** | Companies must declare to the Ministry of Housing, Spatial Planning and the Environment how much packaging material they add to their products and report annually what they have done to reduce environmental pollution from their packaging. |
| **Unique Program Elements** | Members of the PRO will be expected to pursue an active policy of minimizing environmental pollution from their packaging. Every year, companies must declare the quantities of packaging they bring onto the Dutch market. |
| **Free-rider issues:** | When the program was voluntary, not all corporations in the packaging chain undersigned the original Covenant, creating a free-rider problem. Now that the program is mandatory free-rider problems have been reduced. Estimates of free-riding are not available. |
| **Mechanisms to address free-riding** | • *Regulatory Back-drop*: Following 15 years of using voluntary covenants to address packaging, the government opted to use a regulatory tool to engage all producers.<br>• *Bar codes* allow collecting machines to automatically distinguish PET bottles outside of their own systems. PET bottles without a proper bar code (which identifies that the deposit fee has been paid), would be pushed out from the collecting machines.<br>• *Enforcement*: The Ministry has the resources to follow up directly with companies identified by the PRO as free-riders.<br>• *Self-policing*: The members of the PRO know the markets better than government officials and they are successful in self-policing to address free-riding. |

| **CASE STUDY#3** | **BELGIUM RECUPEL PROGRAM** |
|---|---|
| **Overview** | Recupel is an organisation that collects, transports and treats WEEE in Belgium. The convention establishing Recupel came into force on July 1 2001. It is run on a not-for-profit basis, without government funding and relying on a visible fee on new electronics charged at point-of-sale. The purpose of the convention is to set up a system of obligations to take back WEEE to producers. Consumers are able to dispose of WEEE by taking it back to a retail location when buying new equipment or by taking it, at no cost, to a waste collection centre. WEEE is collected at approximately 18000 points, made up of retailers (20% volume), waste disposal sites and other centres with social aims (80% volume). To comply with the obligation producers or importers may chose one of the following routes<br>1. Implement an in-house WEEE management plan approved by the authorities<br>2. Call upon an accredited body to fulfil the take-back obligation<br>3. Enter with the region into an environmental convention stipulating the special rules for enforcing and implementing their obligations. |
| **Type of Program** | Mandatory |
| **Year Initiated** | 2001 |
| **Targets** | Mandatory targets exist, in accordance with the EU WEEE Directive. |
| **Financing** | Producers assume responsibility for the costs of collecting and recycling WEEE, with Recupel undertaking these responsibilities on their behalf. These costs are passed onto the consumer in the form of a fixed fee. At the time of purchase of a new EE appliance, the end user contributes a fixed amount to the costs of recycling, determined by the type of appliance. The fee must be displayed separately at the retail outlet and also shown separately on the purchase invoice. Producers, importers and retailers must not sell EEE for which no contribution has been paid. The visible fee and related financing mechanism was designed specifically for this program. The system does not make use of any official fiscal mechanisms. |
| **Administering Body** | Recupel consists of 5 sector specific management bodies, to which importers and producers belong according to their product categories. These organisations are financing companies that manage long term assets and liabilities for WEEE in the given sector. Sitting above these organisations is the central Recupel organisation, responsible for day-to-day administration of collection and treatment operations and managing short term assets and liabilities.<br>1. RECUPEL A/V (consumer electronic equipment)<br>2. RECUPEL SDA (small household appliances)<br>3. RECUPEL ICT (IT, office and telecommunication equipment)<br>4. B/W-RECUPEL (household appliances)<br>5. RECUPEL ET & Garden (electrical and gardening tools) |
| **Monitoring and Reporting** | Recupel operates its own register of companies operating in the electrical goods arena, and actively contacts the names of those non-compliant to the authorities. The company has several full time employees dedicated to audit and monitoring services. |
| **Unique Program Elements** | • Recupel has relied solely on market forces to ensure adequate recycling and logistics capacity is in place. Two new commercial electronic waste recyclers appeared as a direct response to market signals from Recupel.<br>• Unlike other systems with retailer take back, Recupel does not reimburse retailers for their participation as retailers are required by law to take back goods on a one-for-one basis. |
| **Free-rider issues** | Internet based sales are estimated to be a small free-rider problem. Estimates are in the range of 10% of market volume. |
| **Mechanisms to address free-riding** | • *Use of a central administering body:* The PRO has resources for active monitoring of electrical goods companies operating in the marketplace.<br>• *Enforcement*: The Government has the resources to follow up directly with companies identified as free-riders.<br>• *Engaging retailers*: Directly mandating retailers to take back used WEEE by law involves them in the producer/supplier chain of responsibilities. |

| **CASE STUDY#4** | **NETHERLANDS ICT MILIEU PROGRAM** |
|---|---|
| **Overview** | ICT Milieu includes the take back of computers, printers, fax machines, photocopiers and telephones. There is a mandatory responsibility for producers/importers to take back and treat their equipment at end of life. ICT Milieu uses a two-tier collection system through 540 municipal collection sites and 65 regional collection and sorting depots, as well as retailer-take back. Initially, ICT Milieu set up a system of financing based upon a fixed annual fee plus a charge per kilo of equipment taken back and processed according to brand. The charge reflected the actual costs of collection, sorting and treatment of manufacturers' products. In January 2003, this system was changed to a 'current market share' system, developed by an industry working group. The Dutch WEEE management Decree and WEEE management regulations of 2004 require manufacturers to give official notification to the Minister of Environment of their take-back systems and to monitor yearly the volume of the equipment they have taken back for treatment. A producer must notify the Ministry of the Environment of its 5 year plan for:<br>1. The manner in which the goods are to be collected.<br>2. The percentage of these products that are to be re-used.<br>3. The manner in which the remaining percentage is to be disposed of.<br>4. The manner in which the system will be financed.<br>5. The checking and reporting means that have been put in place. |
| **Type of Program** | Mandatory |
| **Year Initiated** | 1998 |
| **Targets** | None identified. |
| **Financing** | Fees for producers are based on a current market share system, which is based upon a fixed annual fee for membership of the ICT Milieu system, together with a variable cost dependent upon current market share. All companies make a declaration of the total weight of equipment put on the market in a certain period by category of equipment as defined in the legislation. For reasons of commercial confidentiality, the market share data are provided to a 'black box' – operated by Cap Gemini Ernst and Young, as a trusted third party. The black box registers the incoming data and invoices participants according to their share. The market share data is currently based upon a limited period of reported data. A distribution factor is calculated on the basis of a company's total percentage of the weight per category. |
| **Administering Body** | The Nederland ICT federation was started on June 13, 2001. Nederland ICT is a co-operative of five associations: FENIT, ICT Telecom, VIFKANTEC, ICT Milieu (ICT Environment) and Werkgeversvereniging ICT (ICT Employer Association). Representing sales of more than 25 billion Euros and over 200,000 employees, it is the main representative body of the ICT sector. |
| **Monitoring and Reporting** | ICT depends on a degree of operational trust. Contracted recyclers and transporters report figures but are self-certifying. Participants are also responsible for reporting accurate market shares but there is currently no system of audit to verify the accuracy of reported data. |
| **Unique Program Elements** | Registration data can be taken from a range of sources, including intrastat registration, transport costs, packaging registration, and production administration. Companies chose to either absorb costs of participation or pass them on through the retail supply chain. |
| **Free-rider issues:** | The financing system was changed due to the high level of orphan and free rider products entering the system for which a manufacturer could not be charged. Manufacturers with significant levels of historic waste but limited current market share regarded the system as unfair and effectively a retrospective tax. The proportion of free-rider/orphan products was initially as high as 44%. In addition, the demands of brand sorting proved too expensive and were not transparent. The current market share system is felt to be more equitable and avoids problems of parallel imports, whereby brands are put on the market by third parties but no contribution made. Current estimates of free-riders are in the neighbourhood of 10-20%. |
| **Mechanisms to address free-riding** | • *Current market share fee system* for producers is an all-encompassing way to address producers collectively. For participants with market share too small to measure, a nominal fee is charged to ensure a level playing field. The current market share system was developed in association with industry partners. |

In summary, the following are a few noteworthy points with respect to the design, structure, and operation of the four European EPR programs profiled in the case studies:

- All of the case studies are mandatory programs (some evolved from voluntary to mandatory).
- All of the case studies are run by Producer Responsibility Organisations (PROs).
- Scheme legislators and managers regard the economies of scale, market power in negotiation of contracts, centralisation of control, and clarity of monopolistic systems as the most effective way of providing a universal service and dealing with enforcement and free-rider problems.[26]
- The…"Government's job is to set the rules and enforce them". The lack of enforcement by government was a recurring theme amongst scheme managers. The failure to hold non-compliers to account is considered the key issue impacting the cost effectiveness and equity of program operation, contributing to any instances of free-riding that remain.[27]
- None of the case studies include free-riding "by-design"; even small companies have a minimum amount they must pay into the program annually.

With respect to the two packaging programs identified, there are many similarities in program design and operation. Both are mandatory and use a PRO. Both base the fees payable to the PRO on both quantity and type of packaging put on the market. The licence fee is calculated by multiplying the weight of the materials that make up the complete package with the respective material prices (the price for using plastic in the package is the most expensive of all materials). In both programs, the producers are responsible for declaring the material quantities. The DSD program offers discounted rates to producers who use designated material types.

Both programs are considered by experts in the field to be successfully addressing the issue of free-riding, largely through the use of a regulatory back-drop and enforcement tools. However, slight differences in complementary mechanisms used to address free-riding were identified, such as the use of licensing contracts and agreements with retailers in the German system, versus self-policing in the Dutch system.

In addition, there is evidence that the programs are able to achieve broader environmental goals, such as Design for Environment (DfE). For example, the German DSD program has streamlined the packaging types that are used on the market to focus on recyclability, since companies are required to pay for the recycling costs. For instance, blister pack packaging, which is expensive and difficult to recycle, has been reduced as a packaging choice by manufacturers and fillers and they have developed alternative packaging.[28]

With respect to the two electronics programs reviewed, there are some similarities identified in program design. For example they both use a PRO with 5 sub-sectors/associations responsible for different elements of the program. However, with respect to program financing, there are more differences than similarities. One key difference is that the Belgium program requires consumers to pay a fee at the point of purchase, while the Dutch program is based on a producer's fee (which is based on the current market share and the total weight of products). The Dutch program also engaged industry in the design of the program, in order to gain industry buy-

[26] Study Into European WEEE Schemes, Prepared for the Department of Trade and Industry by Future Energy Solutions, 2003.

[27] Ibid.

[28] DSD website http://www.gruener-punkt.de/en/special-pages/faqglossary/glossary.html

in. In addition, the Dutch program requires producers to submit five-year plans to the Minister of Environment with respect to how its products will be handled at their end of life.

A summary of mechanisms used to address free riding is outlined in Section 6.

## 5.4 INTERNATIONAL GUIDANCE

The OECD was the only international organisation identified in this study that has developed official guidance to address the free rider issue.

The OECD acknowledges that free-riders are more prevalent in programs that have thousands of producers/multiple players compared to those in more concentrated markets. They recommend use of incentive structures, partnerships, peer group pressure, government involvement, and careful program design as the most effective means to address this issue.

### 5.4.1 Incentive Structures

The OECD recommends careful analysis of the incentives created for the various actors in a program to ensure that these incentives are consistent with the goals and objectives of the program. Generally, the lower the cost is for a producer to participate in a program, the greater the incentive to participate. Similarly, incentives must be present for consumers to both participate and determine the difference between products covered by an EPR program and those that are not. The OECD notes that the problem of consumer misuse of designated receptacles has been addressed by the German DSD (as outlined in Section 5.3) by changing the incentive structure that applies to waste collectors. Collectors were previously paid according to the weight of materials collected; they are now paid only for the portion of materials that should have been collected. This provides an incentive to reject any inappropriate materials put out for collection.[29]

### 5.4.2 Partnerships

The problem of producers under-reporting the amount of packaging they put out on the market can be addressed with the use of agreements between a PRO and retailers, when there is a system of payments to be made to a PRO through the supply chain. Such agreements can outline the process in which a retailer will only sell products from suppliers for which fees have been paid to the PRO. In the German case study outlined in Section 5.3), the DSD entered into a formal agreement with German retailers, whereby retailers would deduct green dot fees from payments to suppliers that did not submit audited green dot accounts to the PRO. This mechanism requires a working arrangement between many retailers and the PRO.[30]

[29] OECD, EPR: A Guidance Manual for Governments, 2001.

[30] OECD, EPR: A Guidance Manual for Governments, 2001.

### 5.4.3 Peer Group Pressure

Peer group pressure can play an important role in addressing free riding through self-policing, since there is an economic incentive to report free-riding to program authorities to level the playing field. The vital complementary component of this strategy is that follow-up enforcement measures must exist and be used in order to demonstrate the value of both participating in the program, and the value in ensuring a level playing field through self-policing. For electronics, follow-up enforcement measures could include retail sales bans, producer or retailer fines or other penalties. In the packaging sector, enforcement measures could include an auditing system of sales volume reports. Public disclosure of producers who have been found to cheat the system may be an additional tool to encourage compliance.[31]

### 5.4.4 Government Involvement

The OECD points out that national governments play a key role in establishing the legal policy framework for EPR and setting parameters for special agreements. National governments can contribute to the effectiveness of EPR programs and reduce free-riding by:[32]

- Raising awareness of the programme and requirements
- Eliminating policies that are inconsistent with EPR objectives (for example subsidy programs for raw material extraction)
- Implementing supportive policies and measures such as green procurement
- Establishing legal mechanisms to avoid free-rider problems.

However, there are distinct differences in state structure between European and North American systems which may limit the extent of influence of national governments. For example, the Canadian federal system delegates extensive authority to provinces over natural resources, environmental protection, and solid waste (the U.S., and Australia also have systems similar to this). European countries maintain national authority over many of the elements with only limited powers delegated to provinces or local governments.

### 5.4.5 Careful Program Design

The OECD outlines the advantages of carefully considering program design options and their respective abilities to reduce free-riding. For example, a statutory advance disposal fee levied on the output (sales volume placed on the market) of all producers could limit the opportunity for free-riding (to some degree) compared to a registered fee-remittance system levied at point-of-sale.[33]

[31] Ibid.

[32] Ibid.

[33] OECD, Analytical Framework for Evaluating The Costs And Benefits Of Extended Producer Responsibility Programmes, 2005.

In addition, the advantages of a tradable credit system for an EPR program have been outlined by the OECD in relation to reducing free-riding *and* encouraging DfE. A tradable credit system has flexibility over a system in which a producer must recycle a certain percentage of their products. Firms whose products are particularly difficult to recycle may purchase credits, while firms whose products are easy to recycle may sell credits. Since selling credits is a revenue source, there is a strong incentive for DfE.[34]

[34] OECD, Economic Aspects of Extended Producer Responsibility, 2004.

# 6. MECHANISMS TO ADDRESS FREE-RIDING

## 6.1 OVERVIEW

This section presents:

- A summary of possible mechanisms available to track product responsibility, and
- A summary of the mechanisms used to address free-riding in all programs reviewed.

## 6.2 MECHANISMS TO TRACK PRODUCT RESPONSIBILITY

A list of existing agencies, programs, regulations or protocols that might in principle be used to track product movements (imports/exports, and inter-provincial movements) is presented in Exhibit 6.1 A preliminary assessment of opportunities for and barriers to using these systems to track products covered by EPR programs is also included. It should be noted that most of these mechanisms are designed to track products, not packaging. However, opportunities where this information could potentially be applicable in the packaging sector have been noted.

## Exhibit 6.1: Mechanisms to Track Product Movements

| Mechanism | Details | Opportunities | Barrier |
|---|---|---|---|
| Canadian Border Services Agency (CBSA) | • All imported product information is reported to Customs by carriers at the point of entry, and cross referenced with 1st importer reporting to CBSA, in accordance with the *Customs Act*. | • Potential access to import product data for 1st importers in each jurisdiction in the country (applicable for tracking electronics, and estimating sales volumes for packaging responsibility). | • Jurisdictional authority issues (federal data).<br>• Fees collected for EPR are not government taxes, they are 3rd party industry fees so sharing confidential government data with a non-government body could be problematic. |
| Canada Revenue Agency | • Administers GST (Goods and Services Tax) across the country<br>• CRA has over 300 memoranda of understanding (MOUs) and agreements with federal, provincial and territorial departments and organizations for sharing information. These MOUs are under the control of the Federal Provincial Relations and Policy Division (FPRPD) in the Policy and Planning Branch. | • Would have contact information for all business located in each jurisdiction via GST registration number or Business Number (applicable for tracking electronics)<br>• Could possible have company-specific sales volume information (potential for estimating sales volumes for packaging responsibility). | • Would not include product movement information.<br>• Data may be cumbersome to decipher since it is likely in an aggregated form, not product-specific.<br>• Confidentiality of business related information is paramount via the *Privacy Act*; CRA policies related to security and privacy; and confidentiality provisions of the legislation the CCRA administers. |
| Industry Canada | • Canadian Importers Database provides lists of companies importing goods into Canada through Customs, by product, by city and by country of origin. | • Possible opportunity to access this data for electronic product sales | • Includes only major importers (defined as companies which collectively make up the top 80% of all imports in terms of $ value) for each product category.<br>• No $ values are associated with individual company names to protect business confidentiality.<br>• Does not address internet sales which is a growing market for electronics. |
| Finance Canada | • Authority to establish product-specific tariffs for goods entering Canada. | • An increased tariff could be placed on electronics products imported to cover end-of-life recycling. | • A tariff requires a national harmonized fee system.<br>• The logistics of administering separate tariffs for EPR could be cumbersome.<br>• The purpose of a tariff is to support economic, not environmental, objectives, and they are often set via International Trade Agreements. |

| Mechanism | Details | Opportunities | Barrier |
|---|---|---|---|
| Natural Resources Canada's *Energy Efficiency Regulations* | • These regulations apply to dealers who import into Canada or ship from one Canadian province to another designated energy-using products.<br>• These regulations require importers/dealers to provide specific information to designated authorities: product name, model number or UMI, brand, and address of the dealer. The regulations continue to apply to designated products if they are incorporated into a larger unit or machine, even when that unit or machine is an unregulated product. | • Can be used as an example of regulations used to track a specific category of products to attain a specific purpose by one department (applicable for electronics product imports). | • Is a national approach, while most EPR programs underway are provincial/territorial and may not be completely harmonized.<br>• Requires political will of a lead department.<br>• Requires communication regarding administration with Customs officials. |
| Foreign Affairs and International Trade - The Export and Import Controls Bureau (EICB) | • EICB monitors the trade in certain goods and ensures the personal security of Canadians and citizens of other countries by restricting trade in dangerous goods and other materials subject to tariffs in accordance with the *Export and Import Permits Act* | • An import control could be placed on electronics products until they pay a certain fee, for example. | • Currently, import controls exist for 4 sectors: Textiles and Clothing; Agricultural Products; Steel Products; and Weapons and Munitions. It is unlikely that electronics products are worthy of an official import control, since it is not a dangerous or vulnerable economic sector. |
| Statistics Canada | • Canadian Import Trade data available by product code #, in overall $ value (aggregate per year) | • Possible opportunity to access this data for electronic product sales at the jurisdictional level, could be used to cross-reference with estimated sales volumes of imports for each jurisdiction. | • Data may be cumbersome to decipher since it is likely in an aggregated form. |
| Canada Post | • Is a primary carrier of direct mail-based magazine sales in Canada, sold from the U.S. | • Opportunity to collaborate on this issue and facilitate company information tracking to identify 1st importer. | • Agency is not willing to collaborate in these efforts, negotiations have stalled. |
| Provincial Ministries of Finance | • Authority to charge taxes on all goods sold through various pieces of provincial tax legislation | • Would have contact information for all businesses in each jurisdiction<br>• Is likely to have sales volume related information for each company based on Provincial Sales Tax remittances. | • Would not have access to product movement information.<br>• Data may be cumbersome to decipher since it is likely in an aggregated form, not product-specific. |

As Exhibit 6.1 outlines, there are a variety of mechanisms currently in use to track product movements into Canada, but none readily identified that track product movements from one jurisdiction to another within the country. This finding is supported by information gleaned through interviews, where EPR program administrative organisations (either 3rd party, or an industry PRO) all indicated a lack of a government role or responsibility in tracking inter-jurisdictional product movements. This was true for all sectors interviewed: electronics, paint, oil, and multi-packaging.

Program managers related to the electronics sector programs indicated that for their purposes, although information from federal agencies such as Canadian Border Services Agency would be valuable in ongoing monitoring and enforcement activities, they have adapted their program to operate in the absence of this information. In fact, they are of the opinion that the largest incidence of free-riding is due to inter-jurisdictional movements by small manufacturers. This opinion was supported by representatives of other sectors interviewed. They indicated that large manufacturers want to comply with new legislation and are not the source of the problem. In addition, the viability of using many of the existing legal mechanisms outlined Exhibit 6.1 is questionable, since most EPR type programs use product fees (not taxes) which are administered by a non-government party (such as an PRO) and therefore federal agencies may not be able to assist in information sharing.

Packaging movements are not tracked in the same manner that products are tracked in Canada, legislation only exists for packaging standards and labelling requirements. The only example identified in tracing packaging movements is through product tracking (as a surrogate for packaging) using supplier lists. For example, supplier lists of large retailers can be examined to gather company contact information on product distributors within a jurisdiction, to allow monitoring and enforcement of a packaging program registration. Estimates of packaging responsibility can be generated based on sales volume data for each company identified.

## 6.3 MECHANISMS TO ADDRESS FREE-RIDING

Mechanisms considered successful in addressing the free rider issue are summarized in Exhibit 6.3, correlated with causes of the free-riding issue (previously presented in Section 4.2). There were no mechanisms identified to address free-riding in voluntary programs. All of the mechanisms outlined in Exhibit 6.3 relate to mandatory programs.

## Exhibit 6.3: Mechanisms Used to Address Free-Riding

| Cause of Issue | Mechanism | Potential Elements of the Mechanism |
|---|---|---|
| Jurisdictional authority limitations | Harmonized approach | • Across the western provinces (BC, AB, SK, and MB) the oil recovery programs are harmonized and this has contributed to levelling the playing field for industry, and to minimizing free-riding.<br>• Use of an EU Directive (multi-country) as well as country-specific national legislation with respect to waste has been valuable in streamlining rules and responsibilities to reduce the incidence of free-riding. |
| Lack of regulatory backdrop | Regulatory back-drop | • Legislation must mandate the 1st importer as responsible party<br>• Legislate use of retail sales bans for products sold by un-registered brandowners/importers<br>• Legislate use of retailer fines for products sold by un-registered brandowners/importers<br>• Legislate producer fines for failing to comply (failure to register, and remit fees for programs)<br>• Legislation should outline details regarding timing for responsibilities: normally brand owner/1st importer is required to comply as per the date the regulation came into effect or their date of incorporation (*not* date of notification). |
| Lack of enforcement | Delegation of authority for enforcement | • Roles and responsibilities for enforcement should be clearly outlined in the legislation or agreement so the procedures are formalized, and clear to all parties.<br>• A PRO has the option to pay the Government to conduct enforcement.<br>• Ensure active enforcement follow-up activity by delegated authority or government to demonstrate commitment (to address internet sales)<br>• Active, random spot checks at retailer locations |
| No brandowner identified | Use of a business model for administration body | • Body that is administering program follows a business model approach to collect fees owed to the program (in accordance with the legislation) and has legal avenues for collecting fees owed (i.e. judicial system, collection agencies, etc.) (to address internet sales)<br>• Consolidating registrants through one administration body streamlines the process. |
| | Industry partnerships and self-policing | • Industry partnerships in program design gains buy-in (to address internet sales)<br>• Focus efforts on registering large industry players who usually represent 90% of sales in a jurisdiction (to address internet sales)<br>• Use of an industry association as the PRO<br>• Use of an online registry of companies registered in the program allows self-policing since industry has the utmost interest in maintaining a level playing field.<br>• Industry associations working in partnership with administering agency or governing department show clear advantages in self-monitoring for compliance (to address internet sales). |
| | Licensing contracts or bar codes | • Use of a licensing contract to use a trademark to demonstrate that the fees for the recycling of the package have been paid for by the producer is a legal backdrop protected by copyright laws (International programs use this mechanism).<br>• Use of designated bar codes that demonstrate fees paid into the system can be incorporated at the retail point of sale, or by collecting machines. |
| | Memoranda of Understanding | • Formal agreements between retailers and a PRO to require verification (such as audited statements) that fees have been paid by suppliers have been shown to reduce free-riding (International programs use this mechanism). |
| System based solely on fees at point of sale | Fees based on sales volume | • Systems that operate through a producer paying fees to an administering organisation based on their sales volume (which may or may not be passed on to consumers through a fee-at-point-of-sale) is much more likely to address the issue of internet sales because the major internet sales players can be registered in the program and remit their fees based on sales volume. |
| Program design | No Steward Exemptions | • Multi-packaging programs that do not use an exemption threshold provide a level playing field for all stewards. As alternative option to an exemption threshold (which still keeps the administrative burden low) is for smaller producers that do not meet the base threshold to pay a default set amount.<br>• None of the international programs reviewed included free-riding "by design". |
| | Appropriate Incentive Structures | • Ensure an appropriate incentive structure that applies to waste collectors, producers, and consumers (International programs use this mechanism) |

## 6.4 SUMMARY

The information presented in Exhibit 6.3 shows that there are a variety of mechanisms available to address the free-rider problems identified in Section 4.2.

Many of the key mechanisms for addressing free-riding are similar for both Canadian and international programs reviewed. However, upon review of the international programs three additional mechanisms not often used in Canadian EPR programs were identified: use of licensing contracts, memoranda of understanding agreements, and regularly reviewing program design for appropriate incentive structures. These mechanisms are used in the international multi-packaging programs reviewed.

In terms of packaging, addressing free-riding is somewhat easier in programs that target single category packages associated with incentives (for example, beverage container deposit-return systems) rather than in programs that involve multiple types of packaging. For multiple packaging programs, program design to use producer fees based on sales volumes, removal of stewardship exemptions, and ensuring appropriate incentive structures are key elements to minimize free-riding.

In terms of electronic waste in Canada, there is a low documented incidence of free-riding from internet sales due to program design which mandates producers to remit fees based on market sales volume (both internet and retail), the existence of strong regulatory backdrops which specifically mandate the 1$^{st}$ importer as the responsible party, and delegation of enforcement authority to a third party administrative organisation. It should be noted that although the potential for free-riding from internet sales is significant, the incidence is greatly reduced through the use of industry partnerships in program design, implementation, and operation, which is key to gaining buy-in from large players. Having all the large players registered in a program, and paying program fees based on market sales volume, are crucial for program success.

# 7. POTENTIAL ROLES AND RESPONSIBILITIES

This section outlines recommended roles and responsibilities to address free-rider problems. The following sub-sections consider potential roles for provincial / territorial governments, and the federal government.

## 7.1 PROVINCIAL/TERRITORIAL GOVERNMENT

- **Enforcement**

In all programs reviewed, adequate enforcement of the legislation is key to addressing free-riding, especially in the case of addressing internet sales. This may take the traditional approach of government ensuring adequate resources and effort spent on enforcement follow-up. Alternatives include a third party administrating body authorized in the legislation to conduct enforcement on behalf of the government, or a PRO/IFO paying the government directly to conduct enforcement as needed. A delegated third party authorized in the legislation to conduct enforcement could use a business model to collect program fees, supported by the provincial judicial system and collection agencies as appropriate. Tools such as formal agreements to verify that fees have been paid, can compliment this approach.

Regardless of the mechanism, the provincial/territorial governments must ensure enforcement follow-up in order to demonstrate their commitment to the regulation governing the program, and their commitment to ensuring a level playing field for industry. Demonstrating this commitment will assist in securing industry participation in the program as well as industry partnerships in self-policing. It is evident that engaging with industry associations in program design, implementation, enforcement and operation has been successful in addressing free-riding in some programs.

- **Incentive Structures / Program Design**

It is the provincial or territorial government's responsibility to examine the design of each program to ensure the desired incentive structures are in place for both producers and consumers to participate in the program, as well as for collectors and recyclers to collect and recycle designated material.

A critical issue is the matter of program design choices that deliberately allow a significant number of free riders (through exemptions for small producers, for example). As an alternative, the program design could establish a minimum payment into the system for companies that generate any post-consumer packaging at all (remove the stewardship exemptions of sales volume below which companies are not required to pay).

There are also a number of tools which could be implemented into the program design to reduce the amount of free-riding. For example, formal agreements can be established between retailers and a PRO to require verification that fees have been paid by suppliers. Likewise, use of designated bar codes on packaging could demonstrate that designated fees have been paid for that package. Another tool identified that relates to improved program design is the use of a delegated authority; where the designated party administering the program is authorized through legislation to collect fees owed to the "business" through the judicial system or through

collection agencies. Lastly, the use of licensing contracts is appropriate in programs that use a trademark on a package to indicate a recycling fee has been paid.

- **Information Sharing**

Lastly, information sharing between government departments at the provincial or territorial level is important in the identification of free-riding. Ministries of Finance, Trade, or Economic Development often have listings of each registered business in a province or territory, and this information should be available with appropriate controls to the administering ministry operating the EPR program, as well as to a 3rd party administering organisation directly operating the program. In the programs examined for this study, some cases were identified in which this information was not offered, or not solicited, by government ministries authorizing the EPR program.

## 7.2 FEDERAL GOVERNMENT

There are various levels of involvement available to the federal government in their effort to address free riding. These options are described below.

### 7.2.1 Low Involvement

- **Guidance**

The provision of guidance, such as an overview of mechanisms used to address free-riding as provided in this paper, would likely provide some insight to program managers at both the regulator and third party administrator level. Guidance would include an overview of mechanisms used to address the issue by other Canadian and international programs. This type of guidance would likely be welcomed as a minimum involvement by the federal government.

### 7.2.2 Medium Involvement

- **Information Sharing**

The federal government, led by Environment Canada, could engage in negotiations with key departments or agencies that have information of interest to provincial authorities who are operating general packaging EPR programs.

For example, **Canada Post** would have information that could shed some light on complex situations which Canadian PROs are trying to understand, such as direct mail subscriptions from the U.S. that originate in Canada (mailed through Canada Post). PRO's have engaged in negotiations with Canada Post to share information but these negotiations have failed.

With respect to tracking sales volumes, **Canada Revenue Agency (CRA)** has numerous MOUs with provinces/territories regarding sharing of confidential business information. The agency could be engaged to explore the options for sharing sales volume information for companies involved in retail sales in each jurisdiction, in order to assist with

monitoring sales volumes reporting for EPR programs, and tracking company contact information for packaging, electronics, and other sectors.

With respect to tracking electronics and packaging movements, contact information on product movements into the country would be available from the **Canadian Border Services Agency (CBSA)**. This data could assist in the identification of potential free-riding in both electronics and packaging programs. This type of information would be most useful in national programs (most European programs are national programs and some use national importing information). However, experts in the field of electronics stewardship indicate that the larger free-rider problem in Canada is inter-jurisdictional within Canada. This reduces the value of import information for this sector. All major internet based electronics companies have already registered in the one operating electronics stewardship program in Canada.

Given this background, it may be worthwhile to conduct a pilot study with any of the three options outlined (i.e. perusing information sharing with either Canada Post, CRA, or CBSA). The objective of a pilot study would be to determine whether the exercise "catches" a significant proportion of free-riding. This will help inform both the regulator, the administering body, and Environment Canada as to whether a formal arrangement to access this information on a regular basis is worthwhile.

### 7.2.3 High Involvement

- **Voluntary Steward**

The federal government, led by Environment Canada, could conduct a review of federal departments and agencies that contribute to post-consumer solid waste anywhere in the country. This would likely include departments that send out paper-based mailings (i.e. forms) which contribute to the post-consumer (household or business) waste stream[35].

This initiative would include dialogue with individual departments or agencies to estimate volumes of paper-based post-consumer waste (based on printing purchase orders) to determine appropriate EPR payments. Although the federal government is notionally "exempt" from most provincial legislation, there is a real opportunity for the government, as a producer, to become a voluntary steward by assuming responsibility for the federal contributions to the post-consumer municipal waste management stream.

- **National Protocol (Sector Specific)**

Fostering a harmonized approach for waste issues across the country would assist in addressing jurisdictional authority limitations. Without this, producers that sell products in all jurisdictions in Canada face a myriad of rules for differing programs, including different product/packaging definitions, fees, and administrative procedures. This is problematic and although producers respect the fact that consumer waste is traditionally a

[35] For example, departments or agencies engaged in these types of operational activities include Canada Revenue Agency (tax and tax benefit forms and guidance), Human Resources and Social Development Canada (employment and social assistance forms and guidance), Canada Mortgage and Housing Corporation (mortgage forms, housing publications, fact sheets, and research for consumers and business), Elections Canada (elections notification cards), Immigration and Refugee Board of Canada (forms, guidance), and Statistics Canada (forms, guidance).

provincial or territorial jurisdiction, attempts to harmonize programs should be encouraged from the "top down".

For example, a national model EPR protocol for either electronics or packaging (or both) could streamline the base requirements for EPR programs (five EPR electronics programs are under development across the country[36]). Each provincial or territorial jurisdiction would be encouraged to establish a program in accordance with model protocol. A harmonized EPR program has been operating in Canada's waste oil sector among five provinces. According to program administrators, this has helped to reduce the incidence of free-riding by establishing clear rules and procedures for large players. Having a national model protocol for packaging programs and another for electronics programs, endorsed by the Canadian Council of Ministers of Environment would add significant value and effectiveness to provincial-level initiatives, while helping to ensure a level playing field for industrial stewards.

- **National Regulation**

All of the European programs reviewed included national-level programs for both packaging and electronic waste. Most had sub-national responsibilities outlined, but these programs operated through a mandatory national directive or decree.

In Canada, consumer solid waste is a provincial or territorial responsibility. However, it is possible that provincial/territorial Ministers of Environment could be receptive to negotiations surrounding the development of a National Regulation with respect to waste electronics, as long as existing programs (and those under development) are considered.

A mandatory Regulation at the national level would require federal authority under existing legislation. Environment Canada's key piece of environmental legislation, the *Canadian Environmental Protection Act*, 1999, addresses hazardous waste, hazardous recyclable materials, and prescribed non-hazardous waste. Used electronic products only become waste at the post-consumer stage, and under existing CEPA 1999 waste-related regulations (*Export and Import of Hazardous Waste and Hazardous Recyclable Material Regulations*) waste collected from households is specifically excluded from the definition of hazardous waste or hazardous recyclable material. However, there are two possibilities with respect to CEPA 1999 and waste electronics:

1) CEPA 1999 does authorize regulations to be made with respect to prescribed non-hazardous waste (currently there are none), so in principle the development of new regulations specifically designed to address post-consumer electronic waste as prescribed non-hazardous waste is an option.
2) CEPA 1999 authorizes the federal government to make regulations for products containing toxic substances, and this authority could be used to require the establishment of EPR programs for electronic products containing toxic substances, as well as mandating producers to participate in the program.

These options would require extensive negotiations with provincial and territorial counter parts, would take years to implement, and would require specific guidance and

[36] Industry associations are strong advocates of harmonizing programs.

administrative support from the federal government. Preliminary meetings with respect to this option would be worthwhile to gain insight and gauge reception to the idea.

## 7.3 SUMMARY

For provincial/territorial governments, key tools for reducing free riding are enforcement (both dedicated action and delegated or legislated responsibility), use of incentive structures, and information sharing. For the federal government, key design tools include guidance and information sharing as a minimum. Higher involvement activities include voluntary stewardship, establishing a National Model Protocol, and consideration of national regulation.