What have we learned about Extended Producer Responsibility in the past decade?

Case Study – Chile

An overview of key qualitative and quantitative topics
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The last decade has seen a substantial increase in implementation and interest in Extended Producer Responsibility (EPR) programs. Such programs assign financial or physical responsibility to producers for their products post-consumption, with the aim of reducing waste disposal, resource conservation, increasing recycling, and encouraging more environmentally-friendly product design.

As on-the-ground implementation of EPR programs has grown, an academic literature on the economics of EPR has also developed over the past decade. However, as the existing studies are heavily tilted towards theoretical and conceptual analysis, a number of important questions remain which may be better answered via context-specific case studies.

Therefore, this template offers an overview of the key quantitative and qualitative information and questions that follow-up case studies will need to address, with the goal of updating the 2001 OECD report “Extended Producer Responsibility: A Guidance Manual for Governments.”

The following key aspects should be considered in order to provide empirical material for the update of the 2001 OECD report:

1. Legal aspects
2. Governance of the system
3. Environmental effectiveness
4. Coverage and quality of waste collection and treatment
5. Cost effectiveness
6. Competition and market barriers

The above list was built from the insights gained through the review of the existing literature on EPR, as well as from discussions with the OECD Secretariat and the OECD Expert Group on EPR. While this set of information items was primarily developed to collect information about take-back systems (the most frequently used type of EPR (66%)) many questions are also relevant for EPRs that are set-up around advance disposal fees or deposit/refund systems.

- The remainder of this report focuses on EPR in Chile -
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- Unique expert hands-on knowledge of the financial, accounting, financial reporting and tax implications for Producers and collective schemes of regulatory developments;
- Understanding of the cultural diversity of the respective regions and countries.

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1. Legal aspects

Please provide the following information:

1.1 A summary of the applicable legislation regarding:
- the definition of key concepts;
- the role and respective obligations of manufacturers and importers, distributors (retailers), municipalities, citizens/consumers, and other interested parties in the value chain (downstream and upstream);
- the definition of the financial obligations.

Legislation in Chile

In 2005, the Comprehensive Policy on Solid Waste Management was promulgated, which aims "to ensure that solid waste management is carried out with minimal risk to the health of the population and the environment, promoting a holistic view of waste, and ensuring a sustainable and efficient development of the sector." One of the actions which was set in the policy was to harmonise and complete the already existing regulations, and evaluate the need for additional legislation.

Within the already existing health legislation, the Regulation on Hazardous Waste Management (DS 148/2004) at the moment defined hazardous waste as: "waste or a mixture of wastes that poses a risk to public health and/or causes adverse effects on the environment, either directly or because of its current or intended use" (Art. 10). The hazardous characteristics include (Art. 11): acute and chronic toxicity, extrinsic toxicity, flammability, corrosivity and reactivity.

Previously, the health authority considered the management of for instance e-waste as hazardous waste management, and required that generators complied with DS148, sending waste to approved disposal sites and declaring them through the information system of hazardous waste (SIDREP).

Ley marco para la gestión de residuos y responsabilidad extendida del productor

A new EPR framework bill was presented to the Chilean Chamber of Deputies on September 10, 2013. It is currently in the first stage of the ‘constitutional procedure’. The Bill would establish a framework for the management of product wastes, with principal reliance on extended producer responsibility (EPR), aimed at minimizing waste generation and incentivizing the reuse, recycling, or recovery (as either materials or energy) of wastes.

The Bill is designed to fill gaps in Chile’s waste regime, and would not repeal any existing laws related to waste management, including Chile’s principal hazardous waste regulation, Supreme Decree No. 148/2004. In addition to its waste provisions, the Bill would amend Chile’s framework environmental law, No. 19300/1994, to authorize and standardize a general system of sustainability certification and labeling for goods and services. (Art. 37)

Covered Producers (Art. 3(n))

The Bill would impose the majority of its obligations on producers of priority products. A "producer" would be defined as an entity that, regardless of the method of commercialization:
1. introduces a priority product into the Chilean market for the first time;
2. introduces under its own brand a priority product acquired from a third party that is not the primary distributor;
3. imports a priority product for its own professional use; or
4. in the case of packaging, introduces onto the market the packaged consumer good.
**Covered Products (Art. 9)**

The Bill designates nine classes of priority products that would be subject to its various EPR provisions:

- a) lubricating oils;
- b) electrical and electronic equipment, including lamps or bulbs;
- c) newspapers, magazines and periodicals;
- d) packaging;
- e) pharmaceuticals;
- f) tires;
- g) batteries;
- h) expired pesticides;
- i) vehicles.

**Extended Producer Responsibility**

Producers of priority products would be responsible for organizing and funding "Management Systems" (i.e., take-back programs) for the wastes of priority products they introduce into Chile. (Art. 8) The specified obligations for producers would include:

1. enrolling in the Registry of Emissions and Transfers of Contaminants ("RETC"; see below);
2. organizing and financing the collection throughout Chile and end-of-life management of priority products;
3. complying with the collection and recovery targets and associated obligations to be established in future regulations; and
4. ensuring that the management of collected wastes is conducted by authorized waste managers.

Producers and importers of priority products would only be allowed to sell products in Chile that are subject to a Management System that complies with any collection and recovery targets and associated obligations that are in effect. (Art. 25)

**Collection & Recovery Targets (Art. 11)**

Targets for the collection and recovery of priority products would be established by the Ministry of the Environment (the "Ministry") in implementing decrees. (Art. 10) The Bill indicates that targets would be imposed "in relation to quantity and coverage, considering the necessary distinctions within each product, the compliance deadlines and conditions, and applying the principles of gradualism and the hierarchy in waste management." (Id.)

The target-setting regulations would also establish various associated producer obligations, including:

1. labeling (general nature and content of labeling unclear in the Bill);
2. information to be provided to distributors, merchants, managers, and consumers including breakdowns of the costs of waste management on slips or invoices (which should stay consistent throughout the product's chain of commercialization);
3. designing communication strategies and public awareness campaigns; and
4. designing and implementing waste prevention measures.

**Management (i.e., Take-Back) Systems**

The Bill would allow producers to meet their take-back obligations through either individual or collective Management Systems. (Art. 16) To pursue a collective option, producers would have to incorporate a legal entity that would have the exclusive purpose of managing waste. Such entities would not, however, take on the producers' underlying liability for product take-back. (Id.) The entity would also be required to be composed exclusively of producers, unless subsequent regulations allow for others, such as distributors, to be included. (Art. 17)

The financing of collective Management Systems would have to be provided by the producers, "based on objective criteria, such as the quantity of products sold in the country and the composition and design of such products." (Id.)
The Management Systems would be required to:

1. obtain insurance or another financial guarantee to ensure compliance with the collection and recovery targets to be established in future implementing decrees;
2. enter into necessary agreements with registered waste managers and municipalities;
3. report to the Ministry on compliance with targets and associated obligations through a report certified by an external auditor;
4. furnish to the Ministry any other information requested.

(Note that, regarding item (a) above, the Bill does not clarify the nature of the presumed relationship between insurance and compliance.)

The external audit report would be required to include: the quantity of priority products sold in the country during the preceding period; a description of activities carried out; the costs of end-of-life management; for collective systems, the fees that correspond to the costs of end-of-life management, and their method of calculation; and compliance with any applicable collection or recovery targets. (Art. 18(c))

Management Systems would be allowed to contract only registered waste managers to conduct the physical collection and recovery of priority products. (Art. 19) The Bill would require that the procurement of waste managers be conducted through an open bidding process, although Management Systems could petition for an exemption to this requirement under some circumstances: if they receive no bids, if there is an emergency, or under other contract-specific conditions. (Art. 19)

The Bill also contains a provision wherein Management Systems would be able to enter into agreements with municipalities to establish and operate storage sites for collected end-of-life products. (Art. 20)

**Management Plans**

Prior to operating, Management Systems would need to submit a Management Plan and receive the Ministry’s approval. Management Plans would have to include the following:

1. Identification of the producer(s), including representatives and contact information;
2. For a collective Management System, identification of the legal entity and its members;
3. For a collective Management System, the rules and procedures for incorporating new members and the functioning of the system, ensuring respect for principles of competition;
4. Estimate of the annual volume of priority products to be sold in Chile, the average lifespans of these products, and an estimate of annual product waste generation;
5. Strategy for achieving targets and associated obligations, including those for storage facilities;
6. Finance mechanism for the Management System and copy of the corresponding insurance, surety, or other financial guarantee;
7. For a collective Management System, bidding procedures for waste management contractors;
8. Procedures for auditing waste management contractors;
9. Procedures for the collection and submission of information to the Ministry; and
10. Procedures for verifying compliance with the targets and other obligations through external auditors, carried out periodically through third parties (waste managers not eligible) certified by the Superintendent of the Environment.

(Art. 21) Once approved, Management Plans would be registered in the RETC, and would have a term of five years. To renew its Management Plan, the Management System would be required to submit an application (i.e., a plan that contains the elements listed above) six months before expiration of the five-year term. (Art. 22)

The Ministry would need to be informed promptly of any modifications to an existing Management Plan. Certain types of modifications would require the Ministry’s prior authorization: i.e., changes to the legal entity (for a collective system), the rules for incorporating new producers (for a collective system), the strategy for achieving targets, the finance mechanisms, or the bidding procedures for procurement of waste managers. (Art. 23)
Reporting Through the Registry of Emissions and Transfers of Contaminants

In the Bill’s EPR regime, the recently created RETC (Registration of Contaminant Emissions and Transfers) would play a key role in the reporting and publication of information on both take-back operations and the commercial activities of producers. As currently authorized, the RETC is intended to a public data base of emissions and other “transfers” of potentially hazardous substances. Under the Bill, the RETC would be expanded to include information on the producers, distributors and merchants of priority products, their authorized Management Systems, authorized waste managers, compliance with take-back and recovery targets, and “all other information,” as established by future regulation. (Art. 32) Both Management Systems and waste managers would be required to file reports and documentation through the RETC.

In addition, the RETC would serve an interim role in the period immediately following the Bill’s enactment: while awaiting the issuance of regulations, producers of priority products would be required to report annually to the Ministry through the RETC on:
1. the quantity of priority products sold in the prior year;
2. the collection, recovery, and elimination activities and their costs;
3. the quantity of wastes collected/subjected to recovery processes and eliminated; and
4. whether the Management System was collective or individual.
(Transitory Art. 2) This information would be due for the first time within three months of the Bill’s publication as an enacted law.

Merchant and Distributor Obligations

Merchants and distributors of priority products—i.e., those with sufficient space—would be required to accept end-of-life products from consumers and provide them to the waste managers contracted by the corresponding Management System. (Art. 30) Such collections could not be subject to fees or to conditions tying the return to a new sale. The storage of collected end-of-life products by merchants and distributors would not require the health permits that would normally be required for waste storage.

Waste Managers

The Bill would require waste managers to comply with all relevant waste management laws and obtain the necessary permits. Waste managers would be required to declare through the RETC the nature, quantity, costs, origin, treatment, and destination of the wastes they manage. (Art. 6) The Bill also requires that waste managers contracted by Management Systems be registered, although it is not clear whether this refers to the RETC or another registry.

Transboundary Waste Movements

Importers and exporters of wastes would continue to be required to comply with the Basel Convention and all other legislation regulating transboundary movement of wastes. (Art. 7) The Bill also outlines a provision that would enable the Ministry, at the importer or exporter’s expense, to adopt emergency measures to manage unauthorized shipments of waste that can be expected to pose an imminent risk of harm to human health or the environment. (Id.)

Sustainability Certification and Labeling

The Bill would amend Law No. 19.300, Chile’s framework environmental law, to authorize the creation of voluntary sustainability certification and labeling programs for technologies, processes, products, goods, services, or activities. (Art. 37) The Ministry would be responsible for establishing by regulation the procedures for the granting of sustainability certifications and labels, and could authorize technical entities to conduct compliance verifications—presumably along the lines of the third-party product certification that Chile currently requires under its energy efficiency and safety testing and labeling regulations for certain electrical products.
Implementing Regulations

For many of its key features -- in particular, the collection and recovery targets, collection mechanisms, and other take back obligations for priority products -- the Bill would establish only the general nature of the requirement, leaving the details to be developed through implementing regulations. In addition, the Bill would first require the Ministry to write a regulation to govern the rulemaking process. (Art. 13)

Prior to issuing implementing decrees, the Ministry would be required to conduct a general economic and social impact analysis, consult with relevant public and private authorities, submit its proposed decrees to the Council of Ministers for Sustainability, and allow public consultation before enacting any such decrees. (Arts. 12, 13) Once these decrees were made final and published in the Diario Oficial, any party negatively affected would have thirty days to contest the decree in one of Chile’s new environmental courts. (Art. 14) Implementing decrees would be subject to revision every five years. (Art. 15)

Overview of additional legislation in Chile

<table>
<thead>
<tr>
<th>Name</th>
<th>Applies to</th>
<th>Summary</th>
</tr>
</thead>
<tbody>
<tr>
<td>Código Sanitario</td>
<td>Solid waste</td>
<td>Establishes the obligation of municipalities to collect, transport and dispose garbage by appropriate method.</td>
</tr>
<tr>
<td>(Sanitary Code, 1967)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decreto ley N° 3.063/19</td>
<td>Solid waste</td>
<td>Law on Municipal Income – refers to the municipal collection of residential solid waste. In this regard, the law establishes exemption criteria for charging, which results in an exemption for about 70% of the community, environmental programs, including recycling, frequency of extraction volumes, accessibility, etc. – further criteria to be established by each municipality through local ordinances.</td>
</tr>
<tr>
<td>Decreto Ley No. 3.063/1979</td>
<td>Solid waste</td>
<td></td>
</tr>
<tr>
<td>Law No. 19.300</td>
<td>Waste / Environment</td>
<td>The Basic Chilean environmental law, ensuring that all Chileans are able to &quot;live in an environment free of pollution&quot;, granting them the right to &quot;environmental protection and preservation of nature&quot;. It imposes legal liability for damaging the environment and establishes standards for liability.</td>
</tr>
</tbody>
</table>
1.2 A summary of:

- the objectives and targets assigned by law to the producers (and/or retailers);
- how producers (and/or retailers) will comply with the obligations;
- the sanctions foreseen in case of non-compliance;
- the definition of targets such as recovery rate and collection rate (e.g., whether recycling rate includes energy recovery, what is the denominator of the collection rate, etc.).

Objectives and targets:
Targets for the collection and recovery of priority products would be established by the Ministry of the Environment (the “Ministry”) in implementing decrees. (Art. 10) The Bill indicates that targets would be imposed “in relation to quantity and coverage, considering the necessary distinctions within each product, the compliance deadlines and conditions, and applying the principles of gradualism and the hierarchy in waste management.” (Id.)

How to comply:
Producers of priority products would be responsible for organizing and funding "Management Systems" (i.e., take-back programs) for the wastes of priority products they introduce into Chile. (Art. 8) The specified obligations for producers have already been described above, along with the obligations for merchants, distributors and waste managers.

Sanctions in case of non-compliance:
Producers and importers of priority products would only be allowed to sell products in Chile that are subject to a Management System that complies with any collection and recovery targets and associated obligations that are in effect (Art. 25).

In addition, other (financial and non-financial) sanctions are included in the legislation in case of non-compliance as well (e.g. Art. 35). For instance:

- Minor offenses can give rise to:
  o a formal warning;
  o a fine of 1 to 3000 annual tax units;
  o publication of the offender on the websites of the Superintendencia and the Ministry;
- Serious offenses will result in:
  o a fine of 3001 to 7000 annual tax units;
  o publication of the offender on the websites of the Superintendencia and the Ministry;
- The most serious offenses will result in:
  o a fine of 7001 to 10000 annual tax units;
  o the prohibition of selling the product while the infringement is maintained;
  o withdrawal of the authorization of the infringer;
  o publication of the offender on the websites of the Superintendencia and the Ministry.

The additional implementing regulations may establish further sanctions in addition to those contained in the current legislation.

1.3 If take-back policies are in place, how are the contributions to be paid by producers determined (e.g., import/manufacturing volumes, possible thresholds determining liability etc.)? What is their level, the manner of collection and relationship with recyclability and true cost?

The Management Systems would be required to obtain insurance or another financial guarantee to ensure compliance with the collection and recovery targets to be established in future implementing decrees. However, no additional details on the amount/calculation of these financial guarantees are known at the moment.
1.4 In the case that an ADF/ARF (Advanced Disposal/Recycling Fee) is levied, what is the level of the fee and who manages the collected ADF? Is the collected ADF/ARF itself taxed?

Not applicable at the moment.

1.5 What is done to ensure that procurement related to collection, sorting and recycling is achieved in a transparent and non-discriminatory way? What is done to ensure a level playing field in the market?

**Procurement in a transparent and non-discriminatory way**

Management Systems would be allowed to contract only registered waste managers to conduct the physical collection and recovery of priority products (Art. 19). The Bill would require that the procurement of waste managers be conducted through an open bidding process, although Management Systems could petition for an exemption to this requirement under some circumstances: if they receive no bids, if there is an emergency, or under other contract-specific conditions (Art. 19). The same article mentions that the collective management systems require a report of the Tribunal de Defensa de la Libre Competencia (which is a separate judicial organ functioning within the framework of the Supreme Court, aimed at safeguarding free competition) declaring that the underlying basis and criteria for the bidding process do not impede, restrict or hinder free competition.

**Ensuring a level playing field in the market**

In addition to the obligation mentioned in the previous paragraph, a number of other obligations for Management Systems are also included in the Framework EPR law, which are all aimed at ensuring a level playing field in the market (obtaining insurance or providing financial guarantees, entering into the necessary agreements with registered waste managers and municipalities, reporting to the Ministry on compliance with targets and associated obligations, furnishing any other information requested by the Ministry, etc.).

1.6 How is dialogue organized between the involved entities (producers, national/regional authorities, municipalities, private waste collectors, sorters and recyclers)?

'Mesas de trabajo’ have been organized with stakeholders (by product: oil, tyres, computers, batteries, packaging) since 2008.

In addition to these mesas de trabajo, prior to issuing the necessary implementing decrees as described above, the Ministry would be required to conduct a general economic and social impact analysis, consult with relevant public and private authorities, submit its proposed decrees to the Council of Ministers for Sustainability, and allow public consultation before enacting any such decrees. (Arts. 12, 13)

Once these decrees were made final and published in the Diario Oficial, any party negatively affected would have thirty days to contest the decree in one of Chile’s new environmental courts. (Art. 14) Implementing decrees would be subject to revision every five years. (Art. 15)
1.7 What efforts are being developed as part of the EPR to inform and educate consumers?

The Ministry will develop and implement environmental educational programs in order to transmit knowledge and create awareness in the community on the environmentally sound management of waste (Art. 26). At the moment, no specific information/education project has been defined; general information will be contained in seminars or expositions of the law.

1.8 What are the possible supporting measures taken at national/regional/local level to support producer responsibility objectives (pay as you throw schemes, landfill/incineration taxes, mandated separate collection, etc.)? Are there standards, codes of practice or other guidance that have been used/considered to guide the environmental, health and safety and other aspects of the EPR activity? Are those supporting measures compliments or substitutes to EPR?

There are no 'pay as you throw' schemes, nor are there any landfill/incineration taxes.

Municipalities can mandate separate collection on an individual basis.

Standards on waste management are in place (complementary).
2. Governance of the system

2.1 A description of the governmental oversight over the EPR system:
- Is there a public oversight and if yes, what type of institution is tasked with this role and what are the means at its disposal?
- How many people are involved?
- What is the level of enforcement executed?
- Is there a public certification/accreditation for the producer responsibility organization, and what are the criteria?
- What is done to ensure that the funds collected through the EPR are used appropriately, that targets are met and that the problem of free riders is addressed?
- Are there fees/contribution levels, or is collection subject to the approval by public authorities?
- What type of quality control systems are in place at each step of the value chain (including collection, sorting, recycling, and exports)?
- What is done to enforce the EPR law in order to ensure a level playing field and that fair competition is guaranteed?

Public oversight:
Superintendencia del MA.

How many people are involved?
Still needs to be defined.

What is the level of enforcement executed?
Not in place yet.

Is there a public certification/accreditation for the producer responsibility organization?
See above – the organisations have to present a 5-year plan, which needs to be approved by the MMA.

Collection subject to the approval by public authorities?
The organisations have to present a 5-year plan, which needs to be approved by the MMA.

What type of quality control systems are in place at each step of the value chain (including collection, sorting, recycling, and exports)?
This subject will be further defined in the additional waste management regulations.

What is done to enforce the EPR law in order to ensure a level playing field and that fair competition is guaranteed?
Please refer to the answer under 1.5 regarding procurement in a transparent and non-discriminatory way and ensuring a level playing field in the market.
2.2 Please provide a stakeholder analysis of the EPR environment, including:
- their interests and expectations;
- the legal status of the producer responsibility organization (private, not for profit, public-private partnership etc.);
- the position of the producers (and other stakeholders) in the producer organizations;
- the position of the government in the producer organizations.

<table>
<thead>
<tr>
<th>Stakeholders</th>
<th>Direct Benefit (corporate income, employment, industrial improvements)</th>
<th>Indirect Benefit (health, environment, release of resources, provision of equipment for second use)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individual consumer</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Large consumers (businesses, public and private institutions)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Primary Recyclers (transport to the collection center)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Supermarkets and commercial establishments</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Local carriers (van or small truck)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Interregional carriers (large truck)</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Municipalities (collection centers, specific campaigns and collections)</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Producers</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Refurbishing and recycling companies</td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>

The legal status of the producer responsibility organization
Article 17 of the Framework EPR Law, which deals with collective PROs, explicitly states that producers wishing to fulfill their obligations collectively should do so by forming or joining a corporation that does not distribute profits among its members, and which shall be responsible to the authority (not for profit organization).

The position of the producers (and other stakeholders) in the producer organizations
Furthermore, Article 17 of the Framework EPR Law also states that the entity would be required to be composed exclusively of producers, unless subsequent regulations allow for others (such as distributors) to be included. (Art. 17). Therefore, no participation of (for instance) the government or other parties is foreseen at the moment.

The position of the government in the producer organizations
See previous paragraph.

2.3 Please provide the following information:
- How is the transparency of the EPR system ensured?
- Is data and information on the performance of the system easily and publicly accessible?
- What are the legal requirements to ensure transparency of the scheme?
- How are the producer declarations about the products that are put on the market verified, and by whom?
- What additional monitoring is put in place by the producer organizations (auditing, control of exports, etc.?)
Ensuring transparency of the EPR system

The Bill allows producers to meet their take-back obligations through either individual or collective Management Systems. (Art. 16) To pursue a collective option, producers would have to incorporate a legal entity that would have the exclusive purpose of managing waste. The Management Systems would be required to report to the Ministry on compliance with targets and associated obligations through a report certified by an external auditor, and furnish any other information to the Ministry as deemed necessary.

The external audit report would be required to include: the quantity of priority products sold in the country during the preceding period; a description of activities carried out; the costs of end-of-life management; for collective systems, the fees that correspond to the costs of end-of-life management, and their method of calculation; and compliance with any applicable collection or recovery targets. (Art. 18(c))

Management Systems would be allowed to contract only registered waste managers to conduct the physical collection and recovery of priority products. (Art. 19), and the procurement of waste managers should be conducted through an open bidding process, thus ensuring transparency.

Furthermore, prior to operating, Management Systems would need to submit a Management Plan and receive the Ministry’s approval. Management Plans would have to include the following:

1. Identification of the producer(s), including representatives and contact information;
2. For a collective Management System, identification of the legal entity and its members;
3. For a collective Management System, the rules and procedures for incorporating new members and the functioning of the system, ensuring respect for principles of competition;
4. Estimate of the annual volume of priority products to be sold in Chile, the average lifespans of these products, and an estimate of annual product waste generation;
5. Strategy for achieving targets and associated obligations, including those for storage facilities;
6. Finance mechanism for the Management System and copy of the corresponding insurance, surety, or other financial guarantee;
7. For a collective Management System, bidding procedures for waste management contractors;
8. Procedures for auditing waste management contractors;
9. Procedures for the collection and submission of information to the Ministry; and
10. Procedures for verifying compliance with the targets and other obligations through external auditors, carried out periodically through third parties (waste managers not eligible) certified by the Superintendent of the Environment.

As a result, the information contained within the Management Plans (which are also registered in the RETC upon approval by the Ministry) ensure a necessary amount of transparency. Furthermore, the Ministry would need to be informed promptly of any modifications to an existing Management Plan, and certain types of modifications would require the Ministry’s prior authorization: i.e., changes to the legal entity (for a collective system), the rules for incorporating new producers (for a collective system), the strategy for achieving targets, the finance mechanisms, or the bidding procedures for procurement of waste managers. (Art. 23)

Verification of producer declarations

As already stated above, Management Systems are required to report to the Ministry on compliance with targets and associated obligations through a report certified by an external auditor.

Reporting Through the Registry of Emissions and Transfers of Contaminants

In the Bill’s EPR regime, the recently created PRPT (Pollutant Release and Transfer Register) would play a key role in the reporting and publication of information on both take-back operations and the commercial activities of producers. As currently authorized, the PRPT is intended to be a public database of emissions and other “transfers” of potentially hazardous substances. PRPT includes the registration of waste generated and disposed of (Art. 26-28). Under the Bill, the PRPT would be expanded to include information on the producers, distributors and merchants of priority products, their authorized Management Systems, authorized waste managers, compliance with take-back and recovery targets, and “all other information,” as established by future regulation (Art. 32). Both Management Systems and waste managers would be required to file reports and documentation through the PRPT.
3. Environmental effectiveness

Please provide the following information:

3.1 What is the current state of policy implementation? (qualitative description)

A. AFIPA (pesticides packaging, after ‘triple washing’) represents 65% of the producers, started its program in 2001. The program does not comply chlorinated packaging. Actually, IMMPA, 22% of producers, is preparing its own system. Recently AFIPA started a program for recovery of expired pesticides.

B. In 2008 a project started on the implementation of EPR on a voluntary basis, together with the elaboration of a proposal of the Bill. Five sectors were invited: tires, lubricant oils, lead acid-batteries, electronic equipment and packaging. The first four sectors agreed to start a voluntary EPR, and the 4 largest producers of tires signed a voluntary agreement (APL) on this. Although the other sectors presented their interest, no collective actions were agreed upon: there were only individual actions. ‘Mesas de trabajo’ were initiated for those sectors, and a study on economic, environmental and social impacts of the implementation of EPR was made. It is important to mention that the largest lubricant-oil company (COPPEC, 50% of the market) created their own used oil management system (Via Limpia). In 2008 the two largest companies on lamps contacted the Ministry on the implementation of EPR for their products. In 2011 the packaging sector presented their interest and an impact study for this sector was made. Later on, studies on other products were also elaborated.

C. The Framework EPR Law is still going through the constitutional phase, which means it has not been officially implemented at the moment.

3.2 What has been improved by applying EPR? What issues remain unsolved? What issues have newly emerged after applying EPR? (qualitative description)

A. Related to the program of AFIPA, about 25% of the relevant waste is recovered by the program. However, there is also an (illegal) ‘recovery’ of plastic containers, which are then used for pelletizing in Chile and are at times also exported to China. Most probably, this waste includes containers without ‘triple washing’, which in fact means this can be qualified as the export of hazardous waste. Administrative problems and regional requirements for the program can be regarded as a disincentive to participate.

B. Based on the commitments of the 4 tires producers, a plant for the treatment of collected tires was built. Other individual initiatives include a project for a plant for re-refinery of used lubricant oils.

C. With regard to the application of EPR initiated by the Framework EPR Law, it is too soon at the moment to draw any definitive conclusions as the law is yet to be officially implemented.

3.3 What are the collection amounts and/or rates achieved and how do they compare to the targets that were set for the scheme?

There are no targets set yet. Nevertheless collection amounts include:

A. Pesticide packaging (AFIPA): about 25% recovery by the program
B. Tires: about 22%
C. Lubricant oils: about 50%
D. Lead-acid batteries: about 80%
E. Electronic equipment: about 15%
F. Glass bottles: about 50%
G. Aluminum bottles: about 35%
H. Paper and carton: about 80%
I. Tetrapack cans: about 3%
J. Bottles (PET): about 12%

Although no official targets have been established at the moment, the list above indicates that some high collection amounts are already achieved. In the case of lead-acid batteries (80%) and paper/carton (80%), this is mainly due to high market prices within the vast informal sector. Lead-acid batteries for instance are not only being recycled in Chile, but are also being (illegally) exported to other countries. Moreover, with regard to tires (22%) there has also been a large improvement due to the voluntary agreements which have already been concluded.

3.4 What are the impacts on prevention of waste, natural resource use, and on design for the environment?

Impacts cannot be assessed at the moment, and there has not been an official implementation of the Framework EPR Law and the measures expected to encourage waste prevention should be defined within the specific regulations. Nonetheless, the impact on the subjects above might be limited as most products are imported.

3.5 What has been the role of other existing policies in generating the observed environmental results (i.e., other policies that provide economic actors with incentives to improve collection and recycling rates, for instance landfill taxes, information campaigns, support for R&D)?

Impacts cannot be assessed at the moment, and there has not been an official implementation of the Framework EPR Law.
4. Coverage and quality of waste collection and treatment

4.1 Please provide the following information:
- A description of the organization of separate waste collection schemes;
- The level of standardization of sorting and collection methods;
- A description of the systems that have been set-up to monitor whether waste that is collected and sorted is effectively treated in the appropriate facilities;

Tires (Neumático Fuera de Uso / NFU)
In 2008, approximately 3 million tires for light vehicles (cars/light trucks), buses and trucks were sold in Chile.

After a tire is worn out a replacement is usually performed, generating the tire out of use (NFU). However, in the case of trucks and public transport it is common to retread the tires, which allows an extension of their useful life and reuse for prolonged periods. In these cases, the waste is only generated after the reuse.

The table below illustrates the destination of used tires in Chile during the year 2008.

Furthermore, the NFU generation in both units and tonnage for the years 2015 and 2020 can be estimated as indicated in the table below:

Organization of separate waste collection for NFU
Tire producers are developing a Clean Production Agreement and have begun implementing NFU retirement plans and transport, funded on their own behalf, from distributors in three regions in the center of the country (mainly for shipment to the new treatment plant (shredding) and also energy recovery in a cement kiln).
**In addition, the following projects from other private companies exist:**

- One authorized and operating plant to shed NFU in the metropolitan region, in the center of the country;
- One authorized and operating cement kiln for energy recovery;
- Three landfills using NFU for slope protection;
- Pilot projects for the use of rubber in asphalt, through the Ministry of Public Works (MOP).

**In the public sector, the following initiatives exist:**

- **Municipalities:** The town of La Pintana has an authorized collection site for NFU, and the town of La Reina also has dedicated collection workshops. The town of Santiago accumulates its NFU in municipal workshops, and some regions (Arica, Iquique, La Pintana, Talcahuano and other) use tires for games, in plazas and in gardens.
- **Army:** Has begun to manage their NFU by delivery to suppliers.

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**Lead-acid Batteries (Baterías Fuera de Uso / BFU)**

In 2008, approximately 1.45 million starter batteries for vehicles (lead acid type) were sold in Chile, all of which were imported. The lifetime of such a battery is usually between 2 to 4 years.

The table below illustrates the destination of used batteries in Chile during the year 2008.

![Table 22: Cantiidades y destinos de las BFU en Chile (año 2008)](image)

Furthermore, the BFU generation in both units and tonnage for the years 2015 and 2020 can be estimated as indicated in the table below:

<table>
<thead>
<tr>
<th>Year</th>
<th>BFU (units)</th>
<th>BFU (tonnage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>1.450.741</td>
<td>24.663</td>
</tr>
<tr>
<td>2015</td>
<td>1.909.076</td>
<td>32.454</td>
</tr>
<tr>
<td>2020</td>
<td>2.322.682</td>
<td>39.486</td>
</tr>
</tbody>
</table>

**Organization of separate waste collection for BFU**

There is a public-private initiative of CONAMA, with the aim of improving the management of batteries, in which importers, distributors, institutions and recyclers are participating. Moreover, there are 2 authorized and operating private companies for the treatment of lead acid batteries (recovery of lead): one in the region of Antofagasta (in the northern part of the country), and another in the region of Valparaiso (in the center of the country). Another private company is authorized for shredding, but is not operating.
Oils / Lubricant oils (Aceites lubricantes Usados / ALU)

In 2008, 142,000 tons of oil (of which 65% were basic mineral oils and 35% finished oils) were imported for use within the vehicular and marine fleets (amongst others).

The table below illustrates the destination of ALU in Chile during the year 2008.

Furthermore, the ALU generation in both m³ and tonnage for the years 2015 and 2020 can be estimated as indicated in the table below:

<table>
<thead>
<tr>
<th>Year</th>
<th>ALU (m³)</th>
<th>ALU (tonnage)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2008</td>
<td>90.188</td>
<td>72.150</td>
</tr>
<tr>
<td>2015</td>
<td>104.317</td>
<td>83.453</td>
</tr>
<tr>
<td>2020</td>
<td>117.334</td>
<td>93.867</td>
</tr>
</tbody>
</table>

Organization of separate waste collection for ALU

The largest producer of lubricant oils in Chile (COPEC) has installed its own management system for the collection of used oil. Nearly 50% of ALU is illegally treated, mostly as alternative fuel in standard boilers.

In addition, the following projects from other private companies exist:

- Removal network for waste oil initiated by the oil company Copec through "Via Clean" (11 offices throughout the country, collection sites and truck transportation authorized);
- Seven collection, transport and recovery companies, transport and recovery;
- Four cement plants authorized to use ALU as alternative fuel (one of them actually using ALU);
- A recycling company that re-refines used oils;
- A recycling company which recycles ALU for use in explosive processes;
- Two treatment companies for developing alternative fuel;
- Six recycling projects currently in the rating system of the environmental impact assessment;
- A hazardous fraction disposal company.

In the public sector, the following initiatives exist:

- The town of Valdivia considered the management of ALU, and the region in general is concerned about the dumping of oil into waterways. However, in overall (on a country-level) municipalities do not take care of the management of this waste.
WEEE (Residuos Electrónicos / RE)

In 2008, approximately 7.45 million units of computer equipment and phones were sold in Chile. The lifetime of such a battery is usually between 2 to 4 years.

The lifetime of the electronic devices depends largely on the quality of the product and the technological advancement. On average, the following timeframes have been determined for both first and second use:

- PC: 8 years (6 years first use, second use 2 years);
- Laptop: 6 years (4 years first use, second use 2 years);
- CRT Monitor: 8 years (6 years first use, second use 2 years);
- LCD Monitor: 8 years (6 years first use, second use 2 years);
- Printers: 8 years (6 years first use, second use 2 years);
- Phones: 2 years.

The table below illustrates the destination of RE in Chile during the year 2008.

![Table 49: Cantidad de residuos en Chile (año 2008)](image)

Furthermore, the RE generation in both units and tonnage for the years 2015 and 2020 can be estimated as indicated in the table below:

![Table 50: Proyección de la generación de residuos electrónicos](image)

Organization of separate waste collection for RE

There is a public-private initiative between CONAMA (now the Ministry of Environment), importers, distributors, recovery institutions, recyclers and NGOs, with the aim of improving the management of electronic waste. The main
producers associated with this initiative have already begun to implement voluntary plans (funded by themselves) to accommodate end-of-life computer equipment and cell phones in retail outlets and other places, mainly for onward shipment to recycling.

**In addition, the following projects from other private companies exist:**
- Three authorized dismantling companies, for either some or all types of electronic waste;
- Two cell phone collection companies for export, with reception points across the country;
- Three landfills for receiving hazardous waste fractions, one in the RM and two in Region VIII;
- Some recycling companies have launched cell phone collection together with charities.

**In the public sector, the following initiatives exist:**
- The out-of-use computer equipment from some state agencies as well as those received from private companies are donated as grants;
- Some municipalities have made partial collection activities: the Municipality of Vitacura has a waste collection center where they receive electronic waste, segregating monitors, computers and appliances. Other municipalities have had to take over abandoned RE (e.g. in the Free Zone of Iquique);
- Some state agencies such as the Army, Navy and Police are actively involved in cell phone collection campaigns nationwide, as well as the Subway in the metropolitan region.

**General packaging**

The table below illustrates the quantities of packaging generated in 2010 and estimations for 2016 and 2021:

<table>
<thead>
<tr>
<th>Material</th>
<th>2010</th>
<th>2016</th>
<th>2021</th>
</tr>
</thead>
<tbody>
<tr>
<td>Papel y cartón</td>
<td>456.946</td>
<td>633.648</td>
<td>832.085</td>
</tr>
<tr>
<td>Vidrio</td>
<td>292.014</td>
<td>465.970</td>
<td>687.839</td>
</tr>
<tr>
<td>Metal</td>
<td>100.665</td>
<td>122.315</td>
<td>143.874</td>
</tr>
<tr>
<td>Plásticos</td>
<td>355.934</td>
<td>450.222</td>
<td>565.564</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,205.559</td>
<td>1,680.155</td>
<td>2,229.381</td>
</tr>
</tbody>
</table>

- Paper and carton are collected from all over the country and recycled in Santiago. In fact, paper and carton are imported by the recycling companies to satisfy their demands.
- Glass bottles are collected in nearly all of the country, and recycled by two producers in Santiago.
- Aluminum cans are exported to Brazil for recycling.
- There are 2 PET recycling companies in Santiago, and another one is in construction. Those companies import used PET bottles.
- Other plastics are collected and exported, depending on the market values.

**Pesticide packaging**

About 40 collection points are active, and there are also a lot of specific activities (1 day in a specific place). Only packaging of ARPA members is being received in the collection points; with regard to the specific activities, sometimes there is no limit. No chlorinated plastic packaging is accepted.
4.2 What is the quality of the collection, sorting and recycling operations (residue rates)? What proportion of the territory/population is covered by the EPR system?

No official implementation of the Framework EPR Law at the moment.

Nonetheless, nearly all waste is being collected in the whole country, excepted for the extreme South (from Puerto Montt to the South) and the extreme North (from Iquique to the North). Paper and carton, lubricant oils and lead-acid batteries are collected throughout the whole country. As it is voluntary, a lot depends on market values and producer’s interests.

4.3 Please provide a description of the removal and treatment of hazardous substances and those requiring proper treatment. How has it improved since the introduction of EPR?

No official implementation of the Framework EPR Law at the moment.

4.4 Please provide an assessment of the proportion of waste/products that are exported.

- Lead recovered from the recycling of batteries is exported;
- Non-hazardous components of disassembled computer equipment and cell-phones are exported for recycling;
- Aluminum packaging is exported for recycling;
- Plastic packaging is exported, except for PET (recycling in Chile) and (non-chlorinated) pesticide packaging (energy recovery by Polpaico cement kiln).
5. Cost effectiveness

Please provide the following information:

5.1 A summary of information about the use of the funds collected, structured into different categories:
- expenses for information and public awareness;
- expenses for collection/sorting/recycling/incineration/disposal, general expenses, reserves, etc.;
as well as the main revenues (contribution of producer with breakdown per relevant category, sales of the materials, etc.).

No info at the moment, as the Framework EPR Law has not been officially implemented and therefore no funds have been levied yet.

5.2 What is the overhead cost of the system? What are their financial liabilities in relation to their obligations? What is the economic/financial sustainability of the schemes? What is their strategy to ensure coverage of the financial liabilities of the producers?

No elaborate info at the moment, as the Framework EPR Law has not been officially implemented.

The specific regulations / decrees which will be established following up on the general legislation will define targets (taking into account both the existing recycling capacity and possible new investment projects, as well as a market evaluation). The Management Plans which will need to be submitted by the producers on the other hand will also contain a certain approach to their obligations, featuring adherence to the targets (which will most likely incrementally increase), as well as an expanding geographic coverage of the EPR system. Finally, no quantitative information on put-on-market volumes is available at the moment. All these elements combined makes it very difficult to provide a current cost estimate at the moment.

5.3 Please provide an analysis of overall costs and benefits of the EPR scheme:
- What are the marginal external costs of waste disposal?
- Are there other unregulated emissions or other externalities either in the production stage or the extraction stage affected by the policy?
- What are the total social benefits of EPR from avoided waste disposal and other externalities?
- What other benefits (besides the environmental ones) have been anticipated or achieved (e.g. jobs, economic growth, contributions to other policies goals such as climate change mitigation for example, etc.)?
- What are the economic costs of the EPR policy?

No info at the moment, as the Framework EPR Law has not been officially implemented.
5.4 Has the EPR generated net benefits and if so, has there been a comparative assessment of the costs and benefits of alternative policy options that identified EPR as the most efficient option?

No info at the moment, as the Framework EPR Law has not been officially implemented.
6. Competition and market barriers

Please provide the following information:

6.1 A summary of the details, impacts or characteristics of competition within the EPR and/or between EPR schemes. If possible, the information should also provide an analysis of the trade-off between economies of scale and the establishment of competition between different Producer Responsibility Organizations.

No info at the moment, as the Framework EPR Law has not been officially implemented.

Nonetheless, the four principal tire companies (about 60% of the market) have initiated their voluntary EPR together, while the principal lubricant oil company (more than 50% of the market) implements an individual system. The producers of electronic equipment and lead-acid batteries did not (yet) agree on a collective system. Each one has its own campaigns; in some cases two companies have combined initiatives.

6.2 What is the state of the domestic recycling industry? Is recycling capacity a barrier to increased recycling?

At the moment, in general, yes – the installed capacity of dismantling and recovery plants should be expanded by 2015. Some (private) projects have already been designed and are under evaluation (for instance with regard to WEEE). With regard to tires, the creation of the voluntary agreement was key to convince companies to invest in their recycling capacity/plants. Therefore, the specific regulations which will be established following up on the general legislation and which will also define targets (taking into account both the existing capacity and the new projects, as well as a market evaluation) may very well speed up the expansion of the domestic recycling industry and the eagerness to invest.

With regard to paper, carton, glass and lead-acid batteries there is sufficient capacity.

6.3 Are there issues with market access and competition for producers that may result from the EPR? Have these issues been addressed in the scheme?

The mechanism through which producers must meet their EPR obligations is called the Management System. In case a collective Management System is opted for, it is contained within the Framework EPR Law that the legal entity which is established should respect a multitude of requirements intended to ensure that the goals envisaged in the law are achieved, and behavior which undermines free competition is avoided. For instance, there is a prohibition of sharing profits and the statutes of the legal entity must also guarantee the freedom of incorporation and equal participation of all producers. Moreover, the law considers a control by the 'Tribunal de Defensa de Libre Competencia', which will have to approve the Management Systems in order to assure that there are acceptable criteria which define the participation of producers.