

“DISEÑO DE LAS BASES DE UN SISTEMA DE COORDINACIÓN PÚBLICO-PRIVADA PARA LA GESTIÓN DE RESIDUOS”

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Executive summary

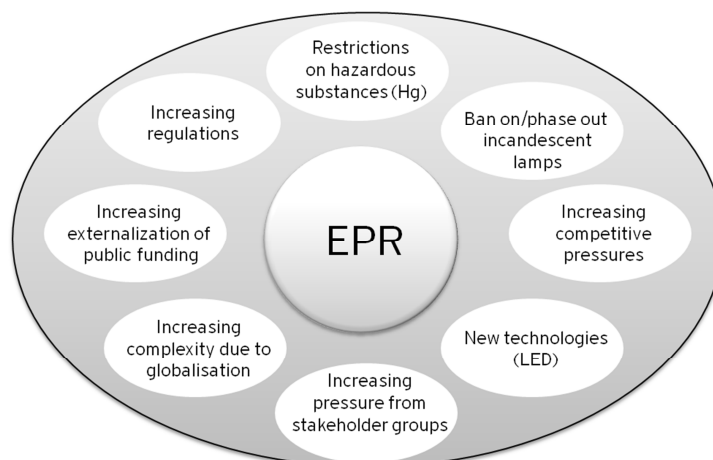
1. Framing the playing field for EPR in Chile

EPR is a common definition used for regulations which create an obligation for “producers” to organise and finance the collection and recycling / valorisation of the end-of-life products they “put on the market”. Exhaustive definition of “the producer” definition is key in avoiding that there would be a distortion in the market or that compliance avoidance would happen. Summarised it comes to the point that everyone who is involved with one or more of the following activities should be regarded as “producer”:

- Selling or reselling under own brand;
- Private label owners;
- Offering for free on the relevant market;
- Reselling or professional use upon acquisition from free rider;
- Import as professional end user;

EPR is a regulatory economic instrument to regulate the waste management of specific product categories that become end of life. It offers an optimal solution to several issues for countries dealing with a mix of challenges, if properly implemented. In the case of Chile following conditions are present which create an optimal environment for which EPR is an eligible instrument:

- 1) A rapid growth of consumer product consumption;
- 2) Lack of financial resources at public (municipal) level to finance the proper collection of waste;
- 3) Incremental awareness and pressure on “materials management”;
- 4) The lack of well-developed public infrastructure across the country to collect and manage waste.



The figure above reflects the drivers for Energy Saving lamps (cost of energy is part of stakeholder group pressure).

The “business case” for EPR in Chile (i.e. objectives and the mission) is to deal with the increasing issue of waste for a series of products in an economic and environmental sound and sustainable manner; to solve the issue lacking public financing and infrastructure at municipal level. Aside of this there is a mitigating social factor which is to be looked at, which is the possible role and inclusion of “recicladores de base” for a specific set of products.

EPR is a highly complex challenge for the government and the producers which are involved and it highly depends on the way how the law(s) and product specific regulation(s) are developed and implemented to harvest positive results and mitigate the risks involved when implementing this instrument. Another big challenge, especially in countries where households and other end-users do not have a “culture” of separating waste at the source, is the important change of behaviour and mind set of the end-users. Last but not least, the implementation of

EPR will lead to an increase of cost for society. To minimize that cost (collection / recycling and communication / education) it is important to establish a buyer market with the obligation of public tendering when buying collection and recycling services. This implies that the best option is to go for one coordination scheme per product group. In the event this is not possible for one reason or another, additional measures are required to mitigate risks of fraud, corruption, cartels and too high costs of society.

Since EPR is, in many cases, creating new markets, it implies that the public authorities need to anticipate strategic behavior and positioning as to escape or minimize obligations, as well as to ensure there is no distortion of the market. If not, it can have negative effects in the short and long term and miss the achievement of a sustainable waste management solution and derived targets.

The most important challenge in the development and implementation of such an economic instrument has more to do with the governance, legal, economic, financial, accounting and tax impacts of EPR, than with the environmental challenges by themselves. The topic is an environmental and health issue (waste – raw materials) but the development of the solution requires other assessments and decisions. Hence it overrules by far the question of the truck to collect and the availability (or not) of recycling capacity and technologies in Chile. As stated before, since EPR is creating new markets, recycling businesses will emerge in this segment by itself or will be transported to other countries.

When it comes to the development of the law itself, the government will be faced with several options in terms of approach as well as in terms of content and structure, which are interacting with each other in a dynamic way.

The principles, developed in the report and validated during the project offer the basis for a sound and sustainable solution for Chile. One should observe that the proposal is the result of a balanced exercise. Modifying one item will impact the others and the overall outcome. Hence in the event and to the extent there would be changes to the scenarios and choices which have been developed in the report and the draft proposal of law, careful analysis is required of the impact it will generate and eventual mitigating stipulations will be required. In the next coming pages of this executive summary we will touch upon the different key dimensions of the developed proposal.

2. Structuring the governance principles for EPR in Chile

The adoption of aligned governance principles is key to avoid gaps in the application and structure of the Law and to avoid critical issues of its implementation and subsequent operations of the affected producers, the coordination schemes and other stakeholders. They mainly answer the following questions:

- 1) What are the key responsibilities of the respective key stakeholders under EPR
- 2) What is the role and how are the coordination schemes set up.
- 3) What are the operating principles and procedures and how should they be “controlled”

Key responsibilities of the producers

- They should be obliged to register in a national register, organised and managed by the MMA (p19).
- They are obliged to report on their “put on the market” either at the moment of report with a control report at the moment of sale (with the exclusion of professional end-users) (p.27)

As Chile is mainly an “importing country”, controls of compliance by the respective “producers” could happen at the borders when the interested products enter the market. Depending on the fraud elasticity it is crucial to foresee checks and controls at the level of customs and in some cases even require payment of the contribution in relation to the products has been settled prior to entering the market. This could be done in linking the registration, the data of the schemes with customs in different settings.

- They need to pay a contribution per product unit “put on the market” to finance the activities of the coordination scheme (see further under financing principles).

Key responsibilities of the waste management companies in EPR

Aside of the general rules and regulations which are applicable to waste management companies in terms of Environment, Health & Safety, they should be obliged to provide transparency and report on the collection and recycling activities (p.40) and follow the terms and references of the coordination schemes.

Key responsibilities of the end users in EPR

The end-users are in most cases the weak chain in the EPR scheme as in any waste management regulation. The reason for this is that they need to be convinced / motivated or obliged to change their behavior and adopt the one which will lead to the wanted result. In the case of EPR this implies that end users will be required to separate the “EPR” waste flows from other waste categories and act upon the new “rules” in disposal of the fractions (p.43)

Coordination schemes and the producers will only be able to reach the collection and recycling targets to the extent the end users are aware of the importance to deposit the waste products via the appropriate channels. In the vast majority of OECD countries regulations are implemented at country / regional or local level to organize and structure the separation and collection of waste at the level of the end-users and to implement penalties in the case of non-compliance.

Key responsibilities of the coordination schemes

The coordination schemes are required to execute what they promise in the accredited business plan (p.27), i.e.:

- Organise and finance the collection and recycling activities
- Develop and calculate the fee to be paid by the producers (p.24)
- Apply public tendering procedures for acquiring collection and recycling services to ensure an open competitive market and to ensure that the cost / unit collected and recycled is kept under control and is reduced over time (p.28)
- Ensure proper environmental treatment of the identified product fractions when they become end of life
- Communicate and educate the respective stakeholders in the reverse logistics scheme
- Report to the governmental bodies (p.27)
- Control and verify the EPR related activities executed by their suppliers
- Ensure sustainable financing of the activities mentioned above (p.31)

Key responsibilities of the public authorities

Public authorities are key players to ensure that EPR is properly implemented and enforced:

- Set up and managing the EPR registration office for producers
- Coordination and control at the moment of import (via customs)
- Development of SMART objectives and collection targets (p.37)
- Developing Accreditation standards for coordination schemes and ensure that they are applied
- Accreditation of the coordination schemes
- Monitoring and enforcing the Law
- Eventual provision of support (financial / operational / communication) to the schemes
- Fighting free riders actively together with the coordination schemes (p.29)
- Development of penalties and application of those which will trigger compliance by the producers
- Development of additional regulations to ensure a sustainable environment is created

3. Organizing the financing principles for EPR

As stated before the financial principles are a key corner stone for the success of EPR.

While producers may at first sight be willing to organise the financing of the collection and recycling activities individually, there are major risks involved with such approach which do not outweigh any possible drawback from joint financing.

The funds required for the waste management will be provided by the producers, who charge a financial contribution to the end-users at the time of the purchase of the product for the waste management services. This financial contribution is shown on a separate line of the invoice as a visible fee.

The following principles apply:

- The financial obligation of each producer is calculated against their market share of products put on the market during the measurement period that the activities are executed.
- The contributions from the producers consist of a fee per unit sold. The fee is preferably defined as a flat fee per unit sold for all waste management costs (collection, recycling, overheads, financing costs, etc.) for all waste collected and recycled.
- The financing happens at the moment the identified products are put on the market or imported (depending on the possibility of organizing proper import control for EPR reasons) but should avoid the development of negative cash flow impacts (p.35)
- All actors in the commercial supply chain properly inform the market in a transparent way of the costs involved in relation to the execution of the obligations. This is done at every moment of the sales process: promotions, invoicing (separate line for the financial contribution). It should be prohibited to include this contribution in the commercial negotiations.
- The reporting of the put on the market figures by the producers, used to calculate the share of each producer, is done in quantities and through a Black box system to keep the market-sensitive data confidential.
- The financial obligation ceases at the moment the producer leaves the market, as long as he has paid all its dues to the scheme until he leaves the market.
- The transparency of the cost has a major impact on the ability to change the behaviour of the households and other end users of the products (p.33)

The moment of reporting and the moment of payment are key in the development of a sustainable financing. It might have a negative impact on the cash flow of companies in the event this happens early in the supply chain and therefore be detrimental to the commercial and competitive position of several enterprises. At the other side will it avoid better the generation of free riders.

Important item to consider is the controls to be put in place at customs and the way how to link customs / moment of reporting and the moment of payment of the contribution.

In such, there is no clear cut answer to what is the best solution. It needs customization by product and market type.

4. The operational principles for EPR

The adoption of aligned operational principles is key to ensure proper functioning of the schemes. The key operational principles that need to be envisaged are listed.

Collection

The collection strategy that will be applied depends on the product waste flow (e.g. different solutions might be needed for the collection of tyres, medical equipment, lamps, etc.) and on cost and control aspects. Also country-specific elements such as population density, habits, culture and economic situation play an important role to determine the collection strategy.

Therefore, in a later phase an in depth analysis of different factors mentioned above is important to define a suitable and effective strategy.

Targets (p.37)

Collection (and recycling) targets should be established. It is an important tool to be able to enforce a predefined level of collection and recycling of end-of-life products. These targets obviously reinforce the positive impact of collection and recycling on the environment.

The calculation of the collection target can be based on different figures. It is crucial to have the calculation method to be clearly and well established in the regulations since this will determine the effective (physical) quantity that is being collected/treated. Firstly distinction needs to be made between the calculation of the collection target based on weight and based on units. This decision will have a substantial impact on the collection and recycling activities of the different product groups. The impact of the difference is analysed. (p.38)

At last we also provide an overview of the risks that may incur in case that no targets are established. The main objective of collection and recycling activities is to limit the impact of the use of affiliate products on the environment. The implementation of targets therefore plays an indispensable role to achieve this. The advantages and disadvantages of this possibility are shown in the report.

Penalties (p.40)

The installation of an adequate penalty system – in addition to efficient enforcement, as described before – is essential in creating an incentive for the producers to comply with the imposed EPR regulations. Only if all affiliates make the effort to collect and recycle as prescribed, the desired result can be achieved.

Governance principles for Waste Management Companies in EPR (p.41)

Next to obligatory accreditation, Waste Management Companies have to comply with different environmental rules and standards. These standards are captured by the EHS standards to which they need to adhere. To enable the authorities to supervise the operations of the Waste Management Companies and to enforce the applicable EHS prescriptions, these companies will need to be obliged to report on their activities and compliance.

Not only schemes but also Waste Management Companies have to comply with various rules and standards. Transparent reporting on the collection and recycling activities enables effective monitoring of the by the competent authorities. The advantages and disadvantages of (no) reporting on collection and/or recycling activities are listed. (p.42)

Governance principles for End Users (p.43)

The end-users are in most cases the weak chain in the EPR scheme as in any waste management regulation. The reason for this is that they need to convince to change their behaviour and adopt the one which will lead to the wanted result. In the case of EPR this implies that end users will separate the “EPR” waste flows from other waste categories and act upon the new “rules”.

It is a challenging task to make end-users conscious of the importance to separate and deposit waste in a compliant manner. This, however, is the heart of the collection system. Waste Management Companies will only be able to reach collection and recycling targets if the end users are aware of the importance to deposit the waste products via the appropriate channels. The obligation for end-users to separate and deposit waste in a well-defined manner is analysed.

In the vast majority of OECD countries regulations are implemented at country / regional or local level to organize and structure the separation and collection of waste at the level of the end-users.

A mixed strategy of motivation and command and control is therefore necessary to achieve the wanted outcome. Also the advantages of having an obligation to separate waste are discussed.

The specifics of the applied tools for such a “change process” are product specific. Hence further discussion and analysis is required once the list of products is identified.

5. Conclusions

The basic elements to be considered for a successful implementation of EPR are the following:

Related to the key governance principles in relation to producers:

1. Producer definition, including all parties mentioned
2. National register
3. Joint financing obligation for producers
4. Reporting of put on market figure per prioritized product type
5. Reporting in units

Related to the key governance principles in relation to the schemes:

1. One collective scheme
2. Not for profit
3. One scheme per product category
4. Accreditation of schemes
5. Reporting of business plan by schemes

6. Reporting by schemes of collection and recycling activities
7. Public tendering
8. Enforced free rider control

Related to the key financial principles on the legislative level:

1. Private financing method, with a fee per product type inside prioritized product group
2. One mandatory visible fee

Related to the key financial principles on the legislative level:

1. Cost allocation key on current put on the market
2. Financing basis at the moment of put on market of the product

Related to the targets:

1. Collection target
2. Recycling target
3. Collection target in units
4. Collection target based upon historic sales period (average lifetime)

Related to the penalties:

1. Consider penalties

Related to the governance principles for waste management companies in EPR:

1. Accreditation of waste management companies
2. Reporting by waste management companies on compliance to EHS standards
3. Reporting by waste management companies on collection and/or recycling activities

Related to the governance principles for end users:

1. Obligation to separate and deposit waste in specific manner

6. Next steps

As stated before, the generation of the baseline principles as they are reflected in the proposal are not enough to ensure proper implementation and operating EPR solutions.

Several other activities or topics are to be addressed and they depend on the products which are elected to fall under the application of the EPR law:

- 1) Development of stakeholder platforms to develop the product specific regulations
- 2) Calculations of SMART targets per identified product group
- 3) Design of detailed operational "obligations" by Decree
- 4) Development of the basic infrastructure that will serve as Registration office
- 5) Development and implementation of the accreditation procedures
- 6) Analysis of the best options to fight freeriding in Chile and irregular import.
- 7) Development of black box for the reporting of the put on the market data by the producers
- 8) Development of the formula for the financing per product group
- 9) Organization and deployment of the monitoring and enforcement team from the government
- 10) Alignment with the Ministry of Financing and Customs on the reporting and control of import to avoid fraud and corruption

Introduction to the report

In the framework of the Project: “DISEÑO DE LAS BASES DE UN SISTEMA DE COORDINACIÓN PÚBLICO-PRIVADA PARA LA GESTIÓN DE RESIDUOS” several meetings and conference calls were held between the MMA representatives and EY Belgium (former GT Belgium), as well as several interim reports and documents (Q&A) and draft proposals to law on EPR in Chile were developed.

This report reflects the outcome and conclusions of these activities as well as our analysis and advice which is reflected in the proposal of law annexed to the report.

The report provides the reader with an analysis of the missions and objectives; the different possibilities of operational and financial models or scenarios in relation to EPR for Chile. Moreover it creates the set of principles for a sustainable solution as well from the side of the government, the involved producers and society.

In the next pages below we summarize the relevant items which frame the EPR proposal as well as the setout of the next steps to create a sustainable solution for each of the future identified products.

It has to be said that several items are to be addressed at product level, for which at this stage it is not possible to anticipate on the respective items to be added in further Decrees or regulations.

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1. Introduction to EPR

EPR is a common definition used for regulations which create an obligation for producers to either organise, finance, or both, the collection and valorisation of the end-of-life products they or their peers put on the market (either in the past, today and in the future).

EPR is a highly complex challenge for the government and the producers which are involved and it highly depends on the way how the law(s) and product specific regulation(s) will be developed and implemented to harvest positive or negative results.

Unless there are closed loop supply chains¹, producers have no control over the products which are in the focus of the law at the moment the obligation originates, neither do they have any rights over them on the basis of private law.

It is important to know that “producers” under most EPR regulations are not limited to manufacturers (and brand owners) but include all (natural or legal) persons who sell for the first time a product in scope of the EPR regulation on the (national) market (see proposed definition of Producer). It is important to avoid that there are no gaps created at the level of “who” is responsible, given the major impact it can have on market distortion.

EPR regulations in most cases introduce financial obligations for products already on the market at the moment the EPR legislation enters in to force and for products put on the market as from that same moment.

EPR regulations regularly make a distinction between household and professional products and waste flows. For some products this is critical since in some cases it is unclear from the moment the product is put on the market by the producer where the product will end up, nor where it is being used. For another reason, specific product categories may require distinction in terms of organisation and financing due to their function (industrial/consumer). Hence it is important to clearly define what is a household product and what it is not, as far this has not been defined in other legislation.

EPR regulations in many cases create (necessary) reporting obligations for the producer as to measure the financial burden and to calculate the target the respective producer will have to meet.

¹ This means that products return to the producer when they are end of life/become waste.

2. EPR: a strategic issue for governments

EPR is a regulatory economic instrument to regulate the waste management of specific product categories that become end of life in a country.

EPR offers an optimal solution to several issues for countries dealing with a mix of challenges, if properly implemented.

In the case of Chile following conditions are present which create an optimal environment for which EPR is an eligible instrument:

- 1) A rapid growth of consumer product consumption;
- 2) Lack of financial resources at municipal level to finance the proper collection of waste;
- 3) Incremental awareness and pressure on “materials management”;
- 4) The lack of well developed public infrastructure across the country to accept and dispatch waste.

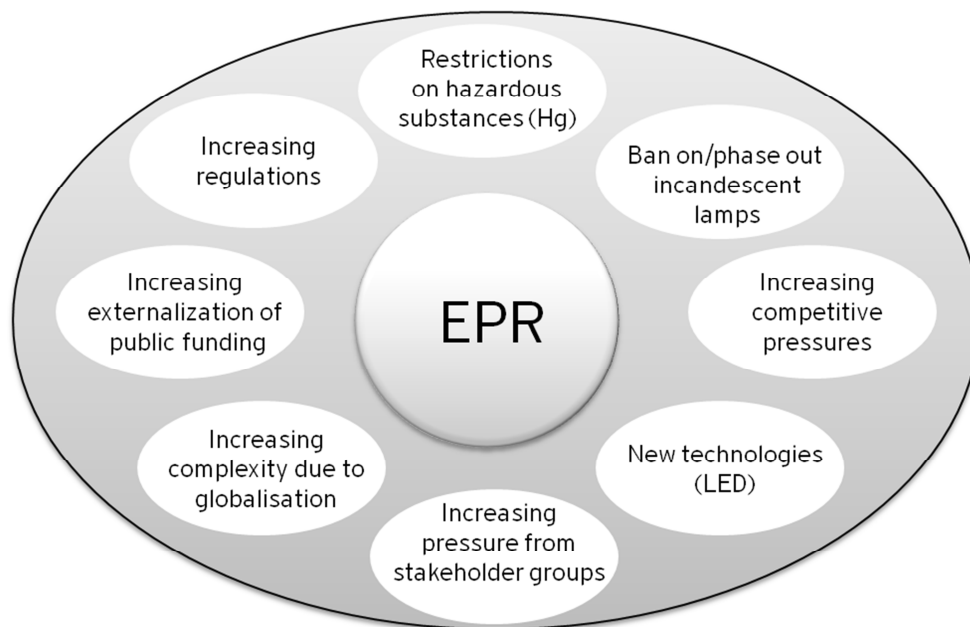


Figure 1: The figure above reflects the drivers for Energy Saving lamps (cost of energy is part of stakeholder group pressure).

When it comes to the development of the law, the government will be faced with several options in terms of approach as well as in terms of content and structure. Together they will form the basis which will ensure or destroy a sustainable management of the matter at hand.

2.1. Legislation – approach

There are different ways on how to get an EPR regulatory framework constructed (see fig. 2). Each way has its advantages and disadvantages, be it at the level of the development; the implementation; operating; monitoring and enforcement phase.

Nevertheless, the approach of “industry-government co-regulation”² provides for the best road to get a sustainable EPR solution as far as it is clear that:

- 1) Control in relation to key objectives, procedures and enforcement remains at the side of the government;
- 2) The role of the industry in terms of “who” is limited to the fraction which has the key obligations (“the producers”) to avoid conflict of

² Brazil (Feasibility studies / EDITAL / Grupo Technico de Trabalho); Belgium; South Africa; Colombia (Resolution on Mercury containing lamps)

interests (e.g. waste management companies have a direct conflict of interest to create the optimal solution of society in terms of cost);

3) The applied governance model is transparent.

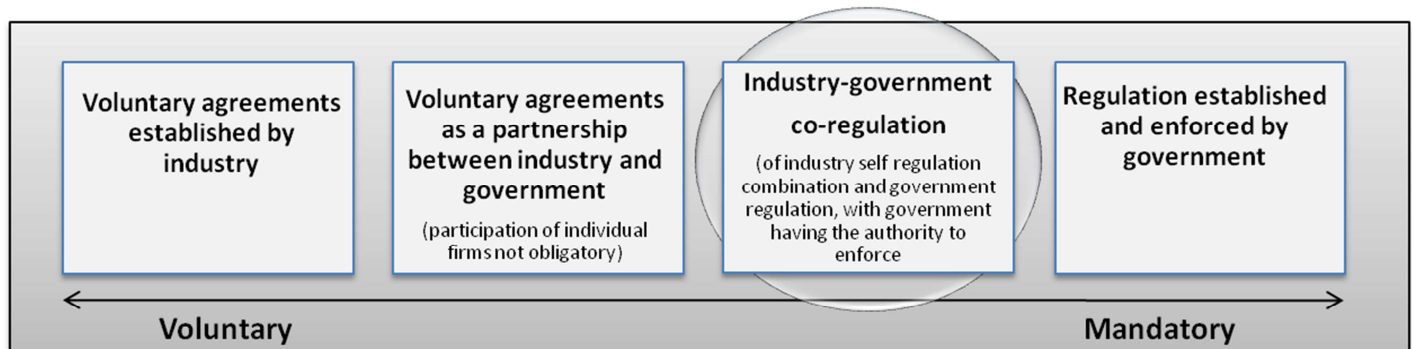


Figure 2: Voluntary vs. Mandatory EPR legislation development matrix.

The reason for this is obvious: the EPR regulation will impact several markets (the “product market”). Hence it is important that applying the principles of a general EPR law into product specific markets is done with the understanding of what this implies for the market players. At the other side it is relevant that the government keeps its objectives straight and the agenda tight to avoid delaying strategies from the producers.

2.2. Finance

An effective regulatory framework is the basis to enable the proper organization of EPR obligations. EPR legislation creates incentives in the market place and change through the whole supply chain. It needs to be properly balanced, clearly defined, structured and controlled; otherwise it creates uncertainty, nuisance and free riders, which leads to distortion in the market and an increase of illegal behavior, corruption and fraud.

EPR triggers change in the supply chain. In doing so, EPR needs to be integrated into the existing way of doing business and therefore needs to be aligned with the existing legal framework.

Depending on the legal, political, social, economic, demographic and geographic situation in a country, several models are conceivable to fulfill the financial side of EPR obligations. These are further developed in the report below and reflected in the suggested proposal of law.

2.3. Logistics, treatment, reporting, information and stakeholder involvement

In organizing the operational take back of end-of-life products, one will need to take into account various aspects:

- The available infrastructure to collect, transport and recycle waste and the public perception of hazardous waste management;
- The potential need for incentives to stimulate collection;
- The social and economic situation in the country and the power or alternative interests of specific stakeholders e.g. waste management companies, municipalities, etc;
- The available recycling capacity, the geographic/demographic situation, existing hazardous waste and other relevant regulations;
- The level of governmental interest, its active involvement in enforcing the law and possibilities for synergies.

2.4. Reporting and information

EPR regulations oblige producers to provide information to a given set of stakeholders on different items. For instance these might include reporting to public authorities on the amount of products put on the market, the amount of waste which has been collected and recycled and to engage with the public as part of their communication and education program. At this level, the government should be able monitor the

efforts of producers/collection and recycling systems to incentivize and encourage end-users (private and professional consumers) to engage in waste management by separating their waste and to dispose of them according to the plan.

3. EPR: a strategic issue for producers

EPR creates for producers a strategic business issue because of several reasons:

- 1) The **costs** of compliance with EPR **are relatively high**:
 - The direct costs for collection and recycling can be substantial in relation to the margin or the price itself of the product;
 - The indirect costs, including costs for reporting and standardization, internal communication and training (e.g. sales people), adaptation of IT, etc., lead to extensive costs depending on the impact of the regulations put in place.
- 2) EPR may **seriously impact** the (local, regional and/or global) **competition position** of the producers if the level playing field is not properly maintained.
- 3) There is a need to **avoid** that the **collection and recycling costs** are **marked up** through the chain and / or that they are part of the **commercial negotiations**. In the opposite case, this will erode the bottom line.
- 4) The collection and recycling costs have to be transparent through the supply chain.
- 5) Depending on the financial obligations imposed on producers, extended producer responsibility potentially has a **important impact on their financial reporting**, introducing the need for **provisions** and potentially **influencing their financial position**.
- 6) **Serious market disturbance** may occur **when different companies in the sector “comply at different compliance levels”**. Experience in Europe³ clearly shows that as long as there is no (legal) level playing field developed and implemented, producers that fully comply may run serious risks both at the commercial and the financial level. This might create a spiral downwards ultimately **pushing the market to non compliance**.
- 7) **Substantial amounts of money are involved** in the field of collection and recycling at any point in time, careful consideration for **the development of sound governance rules and internal control systems is crucial** to success regardless of the operational solution implemented.

On top it is important to ensure that the charging basis for the financial obligation of the producer is clearly articulated as to avoid escape behaviour and deviating interpretations.

³ Netherlands in case of lamps in 2006 – 2008 (Spaarlicht – LightRec NL); Spain (ongoing); In France three schemes on WEEE have identified the issue and developed a joint platform to overcome the issue of unlevel playing field (www.ecosystemes.fr)

4. Key objectives for EPR regulations

The basis for a sustainable EPR solution for producers and government lies with the development of a sound regulatory framework. It is key to aim for the creation and implementation of a regulatory framework on EPR in Chile that will allow to:

- 1) Ensure effective collection and recycling of the end-of-life products;
- 2) Optimise the cost of compliance;
- 3) Create a level playing field for all involved market players;
- 4) Ensure effective enforcement of the law.

It is clear that an EPR regulation doesn't stand alone, also other rules and regulations apply as summarised in Figure 3.

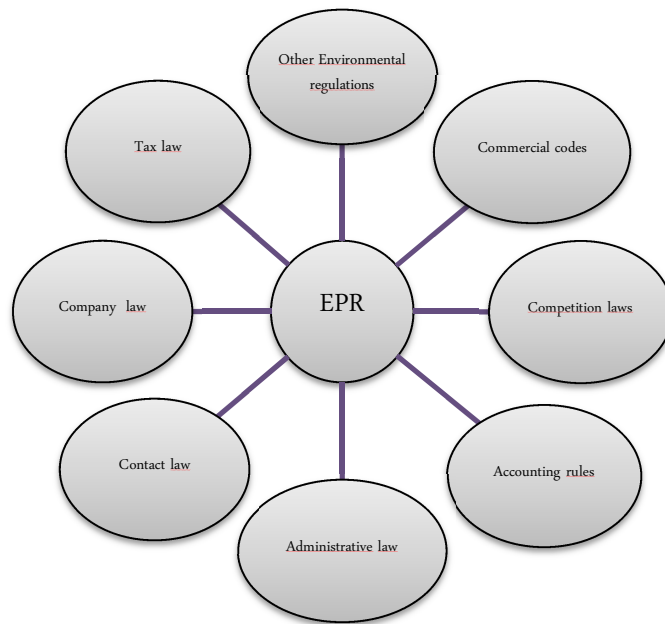


Figure 3: Influence of other rules and regulations on EPR regulation.

When looking to the inside of EPR regulations we observe that several scenarios are possible for each of the key dimensions. It is however such that only few combinations will generate the expected benefits of an optimal solution. The outcome of the EPR regulation exercise is the result of the mixture of different dimensions as depicted below in Figure 4.

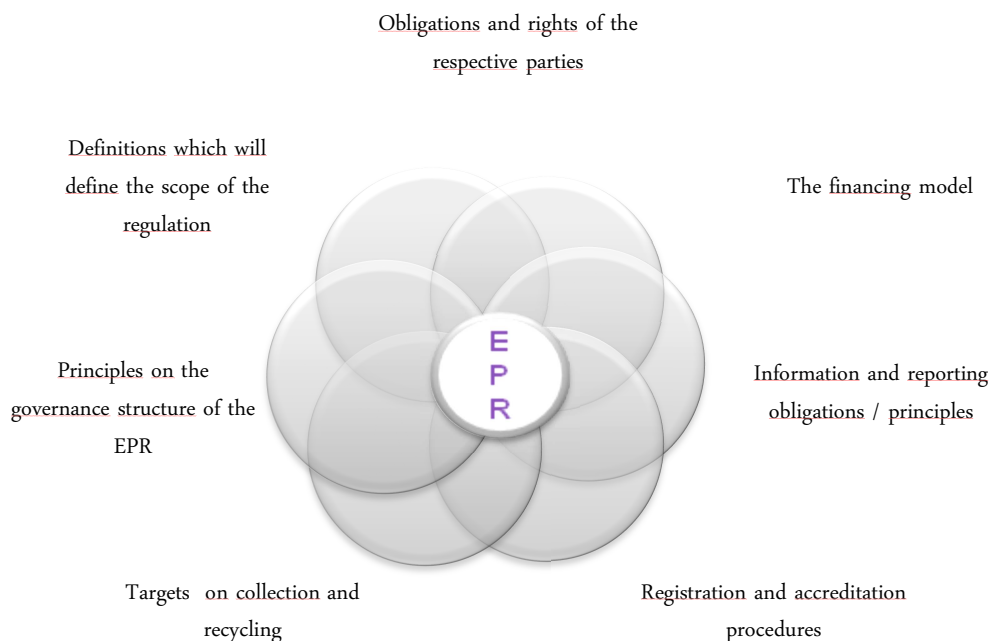


Figure 4: Dimensions of EPR regulation.

When discussing the possibility of having one law including a set of “prioritised” products of diverse nature, one should observe that some dimensions as mentioned above require product specific regulations (e.g. calculation methods, target collection point strategy). It is nevertheless such that other items are more or less “generic”: definitions, information and reporting obligations, registration and accreditation procedures for “manufacturers” and “importers” (both “producers”) and product take back schemes. Below we further discuss the ins and outs of the respective scenarios for each of those dimensions.

In the following section the key principles of EPR legislation are discussed. A distinction is made between governance, financing and operational principles.

5. Governance principles

The adoption of aligned governance principles is key to avoid gaps in the application, the structure of the Law and to avoid critical issues of its implementation and subsequent operations of the affected producers and schemes. Distinction is to be made between governance principles which apply to the producers and governance principles which apply to the schemes who execute the obligations of the producers. For reasons of uniformity and sake of clarity, we call this the governance principles of the EPR law.

5.1. Key governance principles in relation to the producers

5.1.1. Definition of the producers

An exhaustive producer definition is crucial to protect the competitive position of the affiliated producers given the eventual surcharge for collection and recycling. The scoping of the **producer definition** is based on the following activities that are to be considered as 'producing activities' in order to be able to capture all relevant parties that have to comply with the Law:

- 1) Selling or reselling under own brand;
- 2) Offering for free;
- 3) Reselling upon acquisition from free rider;
- 4) Importing from professional end user;
- 5) Professional end user upon acquisition from free rider.

The impact and risks of (not) including the parties mentioned above is analysed below.

Producer definition - including all parties mentioned

Advantages

- Level playing field as a complete producer definition decreases the opportunities for free rider behaviour and hence the competitive advantage certain persons putting prioritized products on the market may have;
- No adverse environmental effect as waste from prioritized products put on market by all kinds of producers is taken care of;
- All involved parties are captured by the law;
- Fair allocation of financing obligation: all parties putting prioritized products on the market are carrying the cost of collection and recycling;
- Enhanced public awareness and transparency as the entirety of persons putting prioritized products on the market is held accountable for managing waste of prioritized products and can support the initiatives undertaken.

Critical success factors

- Control and inspection of free rider suspects and proper prosecution by government.

Producer definition - excluding one of the parties mentioned

Disadvantages

- Legislative gap since different players "producers" in the market are not captured by the law, this leads to compliant free riding behaviour;
- Not all prioritized products in the market are covered;
- Creation of a structural competitive disadvantage since some producers are able to escape from their financial obligations, this may lead to distortion of the market.

5.1.2. Registration of the producers

In order to be able to capture all parties listed under the producer definition one has to establish a national 'producer' register. This will provide the supervising authorities with an overview of all the envisaged entities and will enable them to measure compliance and enforce the applicable obligations.

Registration - national register⁴

Advantages

- Transparency:
 - 1 register needs to be addressed with 1 set of administrative requirements to comply with;
 - identification of competitor market;
- Enhanced monitoring and control on compliance of producers through 1 national register;
- Cost-efficiency: lower cost and effort needed to establish and register in 1 national register according to 1 set of procedures/requirements;
- Level playing field: proper, transparent free rider follow-up reduces number of free riders not complying and hence their potential competitive advantage;
- Low risk of under-financing (cfr. above);
- Large potential for public awareness creation;
- Enhanced potential for identifying and prosecuting free-riders;
- Clear link between environmental obligations and commercial interest (of being on the market).

Critical success factors

- Support by government is crucial to create and enforce 1 national register.

Registration - no register

Disadvantages

- No possibility for monitoring and controlling producer compliance;
- Weak enforcement possibilities;
- High risk of unlevelled playing field: lack of means to perform a proper, transparent free rider follow-up → an increase in number of free riders not complying and gaining competitive advantage;
- No transparency of the market (competitors).

5.1.3. Financial obligations of the producers

An indispensable prerequisite to establish an effective governance structure is the organisation of the financing obligation of producers. While producers may at first sight be willing to organise the financing of the collection and recycling activities individually, there are major risks involved with such approach. A detailed overview of the implications is listed below as well as the argumentation to opt for a system of joint financing.

⁴ Brazil, Mexico; South Africa; Colombia; all European countries have adopted this principle in the laws implementing the WEEE Directive

Financing obligation – joint

Advantages

- Easy to inspect, monitor and control compliance of producers as only 1 collective financing scheme need to be addressed and 1 aligned reporting streams need to be analyzed;
- Level playing field between producers:
 - same financing basis for all (several) producers;
 - decreased number of free-riders having a competitive advantage (cfr. 'easy monitoring');
- Orphan waste is covered;
- Lower operational cost as there is no need to track prioritized products through the supply chain (separate collection) or perform piece by piece checking of waste collected and separation per producer: the whole of the waste collected is financed through a certain allocation key (financing basis);
- Strong negotiation power towards waste collectors and recyclers;
- Larger geographical coverage;
- Potential for economies of scale.

Disadvantages

- Producers do not only pay for waste of own products put on the market, but also for a portion of orphan waste arising.

Critical success factors

- Monitoring and enforcement of eventual competition law requirements.

Financing obligation – individual – more than one scheme

Advantages

- Only collection and recycling of waste derived.

Disadvantages

- Impossible to individualize sales with products of "producer" since brands can be imported by anyone;
- Incentive to minimise collection as only waste collected of own products put on the market needs to be financed;
- Extremely complex to monitor compliance of producers as each single producer needs to be addressed and multiple, unaligned reporting streams need to be analysed;
- Increased number of free-riders having a competitive advantage (cfr. above);
- No coverage of orphan waste;
- Extremely high operational cost for either:
 - Tracking prioritized products through the supply chain;
 - Piece by piece checking of waste collected and separation per producer.

Critical success factors

- Government to monitor compliance of individual producers;
- Clearing scheme needed as to receive reimbursements for collected waste from other producers.

5.1.4. Reporting obligations of the producers

In order for the collection and recycling scheme and the authorities to be able to invoice and monitor the compliance of the producers with the EPR obligations as well as to ensure fair allocation of the costs of the activities, it is crucial that producers report on what and how much they put on the market in Chile. The put on the market definition can take several forms and content depending on various items connected to the commercial dynamics of the product.

As to the content of the reporting as well as the format, this should depend on the intended monitoring activities of the scheme(s) and

competent authorities. Different ways of reporting are possible.

Irrespective of the product specific dimensions, a black box⁵ environment should be developed to avoid issues and infringement of competition regulations and the access to commercial sensitive data.

It is crucial to decide when reporting and payment will occur.

As Chile is mainly an “importing country”, controls of compliance by the respective “producers” could happen at the borders when the interested products enter the market. Depending on the fraud elasticity it might be good to develop checks and controls at the level of customs and in some cases even require that payment of the contribution in relation to the products has been settled prior to entering the market. This could be done in linking the registration, the data of the schemes with customs in different settings.

Further investigation and elaboration however is necessary on these items because:

- 1) they require consultation and discussions with customs to see how they can cooperate / link with the coordination schemes;
- 2) it needs to be organised in such a way that the cash flow of the involved producers is not creating major issues;
- 3) it requires a proper audit and set of definitions on the use of the import product codes that are completed by the importers.

Aside of this decision needs to be taken to include an additional report when the goods are sold into the market (except in the case they are imported for proper professional use). This to create “a four eyes principle⁶”.

Reporting - 1 aggregate put on market figure

Advantages

- Low burden and cost due to easy reporting and monitoring of these uniform reporting: only 1 aggregate put on market figure per producer;
- Easy to determine financing obligation based upon 1 aggregate put on market figure;
- Lower cost to society due to reduced complexity in administration, control and audit;
- Less confusion on the fee level: 1 cost (fee) for each product type.

Critical success factors

- Reporting and monitoring system to be developed.

Reporting - put on market figure per prioritized product type

Advantages

- Possibility to differentiate collection and recycling costs amongst producers according to the treatment requirements or related environmental risks of their specific product types.

Disadvantages

- No efficient or proper control possible due to number of product types in the market;
- No relation between collection cost and different product types;
- Leads to wrong reporting;

⁵ To be able to calculate each producer its financial obligation, the latter will have to report his sales figures. Monthly sales figures are commercial sensitive data and cannot be shared (competitive data) under competition regulations. Hence, it is important that the reporting of these happen in a secure, confidential environment (a Blackbox). This Black box is an Web enabled IT system.

⁶ As advised in this Guidance Report, financing of the collection and recycling of a product should in most cases happen at the moment that the product is put on the market in Chile (sold). However, as to be able to track imported products, one should report on the number of products imported at customs and also on the number of (imported) products effectively put on the market. As such there will be a double control (four eyes) and free riders - put on the market of non-financed products - will be hampered.

⁷ With “one aggregate” is meant that it is not necessary to detail in the reporting the specific kind of product within a product category (eg type of TV, type of laptop), since this will not generate any advantage and will only increase freeriding, without almost no possibility to control.

- Higher cost due to increased complexity in administration, reporting and monitoring;
- Potential for nuisance on the market;
- Risk for underfinancing;
- No additional advantage realized in view of reaching collection and recycling targets;
- Possibility for fraud in reporting.

Critical success factors

- Need for uniform categorization of different product types by producers;
- Strong and efficient audit and control procedures;
- Increase of specialized inspection staff at public authority level (costly);
- High public investment for organizing control infrastructure.

Reporting can be related to weight or to units. Detailed implications are depicted below. On the basis of our knowledge and experience, reporting in units is the only viable option to ensure proper compliance by the producers and control from the government. As far as the governments opt for reporting in weight, they need to develop a calculation method (conversion rate between units and weight) for their purpose. Hence they will need to develop a detailed reference list with average weights.

Reporting - in weight

Disadvantages

- Risk of incorrect allocation or calculation of financing obligation:
 - If fee/tax per unit: more complex calculation to determine financing obligation as weight put on the market needs to be translated into units put on the market (with various weights of various prioritized product types/producers) and is then to be multiplied with fee/tax;
 - If fee/weight: incorrect allocation of costs as the weight of a prioritized product is not directly linked to cost of collection and recycling.
- Low transparency:
 - towards public if fee/weight: different fee per product type;
 - in weight reporting: not transparent and impossible to control.
- Weight of prioritized products is not related to their environmental impact;
- No possibility to properly link weight with units.

Critical success factors

- Development by government of average weight per product type to create comparable standard to allocate financial obligations.

Reporting - in units

Advantages

- Easy to report as put on market figures in units are readily available (no need for additional calculations);
- Easy to monitor reporting and compliance of producers who are used to provide data in units (since this is connected to sales);
- Communication to the market and to households is aligned with sales;
- Lower risk for free-riders abuse;
- Correct allocation and calculation of financing obligation: the number of prioritized products sold is directly linked to the cost of collection and recycling;
- Easier fee setting on unit level;
- Lower cost to society due to easier administration.

Critical success factors

- 1 fee for all types of a prioritized product reduces administration and complexity further and enhances transparency towards / awareness of the public.

5.2. Key governance principles in relation to the schemes

5.2.1. Governance structure

In first instance the structure of the collection and recycling schemes has to be determined, different scenarios are possible:

- Public structure
- Private structure
- Combination public/private structure

Besides, the number of schemes within one product category has an important impact on the adequacy of their governance and the effectiveness of their operations. Detailed implications are depicted below.

Governance - 1 scheme / collective

Advantages

- Easy and efficient monitoring and control on compliance per product category, reporting per scheme and operations for government: 1 party to address, 1 contract to be signed, 1 national reporting and 1 national accreditation;
- Lower risk on free-riders as 1 scheme has the complete overview of non-compliant producers;
- Enhanced transparency: national scheme provides broad coverage;
- Level playing field: one scheme properly takes care of producer obligations;
- Cost-efficiency due to economies of scale → lower cost to society;
- Fair competition between waste management companies through public markets (if tendering);
- Efficient communication on practical arrangements → 1 party to address;
- Only one accreditation needed;
- No infringement of the competition law since competition remains between the companies on the waste management market;
- Orphan waste is financed;
- Geographical coverage is guaranteed;
- Better negotiation power (lowering costs for end-users).

Disadvantages

- None⁸

Critical success factors

- Public tendering obligation for collection and recycling services to guarantee competition and free market.
- Not for profit

⁸ The assumed issue of the creation of "product monopolies" and having a negative impact on the market is wrong.

The normal expected results of monopolies or oligopolies are applicable to organisations that sell products or services in their market. In the case at hand, the schemes, represented by the "producers" are buying services on another market (waste management market) with the aim of reducing the cost for society (development of a buyer market). There is no incentive at the level of the schemes to increase cost above the level which is necessary to execute and sustain their activities. You can compare a scheme with a "purchasing center". Aside of this, these schemes will tender publicly for the collection and recycling services with the aim to get the best price in the market for the best quality available and they are to be not for profit.

Governance - individual / more than 1 scheme⁹

Advantages

- Possibility for "producers" to register with scheme of their choice or to execute alone.

Disadvantages

- Absence of level playing field:
 - competitive disadvantages (disturbance of market);
 - unfair cost allocation;
 - different fee levels;
 - different collection efforts.
- Complex monitoring and control on compliance and operations due to:
 - many contracts between collective schemes and service providers;
 - more complex, different reporting lines towards government.
- Different accreditations to be awarded;
- More difficult to enforce compliance on free-riders due to lack of transparency;
- Less opportunity for economies of scale or cost efficiency (administrative, collection, marketing & communication, etc.);
- Competition between collective schemes, instead of on waste market;
- Difficult to create public awareness;
- Financial and economic distortion;
- Low negotiation power towards service providers;
- No transparency: no linkage possible between prioritized product waste and producer.

Critical success factors

- Clearing system¹⁰ to be set up between producers and schemes to ensure equal treatment;
- Strong enforcement and control infrastructure to be set up.

Stakeholder-specific consequences

- Distributor/ Retail:
 - Potential loss of more floor space as each scheme need floor space.

Any EPR scheme should at all-time strive for a sustainable financing basis to cover future collection and recycling obligations while optimizing the cost (fee) that it charges to its affiliated producers. Also from a policy perspective it is crucial that the focus of EPR activities lies with the environmental purpose they are serving and not with generating profit for the affiliated members that would be overcharged in first instance. As mentioned, the fee that is levied should be optimal to cover the liability of the scheme.

⁹ In case of Germany, DSD was forced to break up its single system due to irregularities and price levels. As a consequence, 9 Duale Systeme (with profit aim) have been developed. The issues which are mentioned above and further down in the report are present: freeriding producers; risk of underfinancing; difficulties and control issues in terms of cost distribution and level playing field management / clearing issues etc. As an example, highlighting the issue following article: http://www.focus.de/panorama/welt/abfall-duale-systeme-gelbe-tonne-und-gelber-sack-in-gefahr_aid_470984.html Vor einem Aus für den gelben Sack und gelbe Tonnen warnen Betreiber der dualen Systeme angesichts dramatisch sinkender Gebühreneinnahmen. Die neun dualen Systeme in Deutschland, die das Recycling von Verpackungsmüll organisieren, sehen eine bedrohliche Unterfinanzierung, die das gesamte System zusammenbrechen lassen könnte. Das sagte Mirko Sickinger, Geschäftsführer der „Gemeinsamen Stelle dualer Systeme“ (GSDS), am Freitag nach entsprechenden Medienberichten. Verbraucherschützer bezweifelt dagegen, dass eine akute Kollaps-Gefahr besteht. Grund der Misere aus Sicht der Betreiber: Viele Unternehmen, die Verpackungsmüll in den Handel bringen, hätten noch keine Verträge über dessen Entsorgung abgeschlossen, erklärte Sickinger. Die Unternehmen müssen die erwartete Verpackungsmenge bei den dualen Systemen lizenzieren lassen und dafür bezahlen. Die dualen Systeme leben von diesen Lizenzentgelten (Gebühren) und sorgen dafür, dass die vereinbarten Müllmengen aus dem Verkehr gezogen werden. In France the three WEEE schemes (with the exception of Recylum, which takes care of lamps (one scheme for lamps)) are coordinating and working together without difference, due to the fact that the disadvantages of working separately are much higher and the risks in the market (as referred to in this report) too high.

¹⁰ In the case there is more than one scheme per prioritized product accredited for, the government has to ensure there is a proper clearing system developed to ensure all producers and schemes within the same category execute their share of the obligations and pay their share of the costs in relation to their market share. If not, perverse effects will happen in the way that producers will leave active schemes (which incur more costs due to activity level) for cheap schemes which do not undertake the necessary efforts. At the moment of fines, they will leave those schemes and either set-up a new one or move to the next one. Instead of chasing and running behind, government should anticipate this and should install a clearing system (cfr. Inter banking financial clearing) so that costs are redistributed amongst schemes and "producers". This will particularly be necessary in case of compensation between producers/schemes that overshoot the collection target and others who do not reach the target.

Governance – profit

Disadvantages

- Environmental objective not first priority of schemes:
 - Focus can be diverted from as high as possible collection towards optimal collection amounts to maximize profits;
 - Environmental risk of improper treatment due low cost aim of schemes.
- Risk on higher fee levels than needed to cover EPR obligations;
- Discriminatory treatment of producers who are not "shareholders";
- Focus on economic short-term interest rather than on developing and maintaining a sustainable solution for reaching the environmental goals.

Critical success factors

- Collection and recycling targets to be clearly defined to ensure environmental aspect is taken care of and not only profit optimization;
- Special auditory control from government on systems to avoid discrimination amongst producers.

Governance - not for profit

Advantages

- Focus on environmental objectives and sound collection and recycling, rather than on making profit, reducing the risk of improper treatment by schemes to lower their cost;
- Lower adverse environmental impact due to the above;
- No economic/financial discrimination amongst producers.

Critical success factors

- Sustainable financing obligation and proper measurement is necessary;
- Control from government body.

Depending on the chosen governance structure (public/private/combination) and efficiencies that may be reached, EPR policy should assess different possibilities for the organization of the scheme's overhead structure. Collection and recycling schemes can be organized in such way that different types of products share one central administration and possibly also shared services (umbrella). Alternatively they can be implemented at product level. Implications of these scenarios are elaborated below.

Governance – umbrella¹¹

Advantages

- For some prioritized products, an umbrella may generate cost savings but this can also be organized through contracts between schemes.

Disadvantages

- "Low weight" prioritized products may not be taken care of properly should there be an overall target for all prioritized products together → environmental impact not first priority over reaching targets;
- Risk of cross-financing: collection and recycling of other prioritized products financed with prioritized product fees/taxes;
- Higher overhead cost: European experience displayed higher costs in umbrella structure;
- Complex governance issues: a lot of producers of different prioritized products are involved and claim influence → decisions taken by the majority of producers (all categories) can be negative for other ones and putting them into non-compliance;

¹¹ Appliances Recycling sa (Greece); AMB3E (Portugal); WEEE Ireland (Ireland)

- No rationale for similar logistics flow for different products as specifics of the prioritized products are different;
- No transparent financial management.

Critical success factors

- Well-balanced governance structure;
- Category specific target setting to avoid prioritisation and cross-financing.

Stakeholder-specific consequences

- Waste management companies:
 - Possibility to close contracts for multiple prioritized products.

Governance - one scheme per product category

Advantages

- No cross-financing between different product category;
- Lower overhead cost: European experience displayed higher costs in umbrella structure;
- Less complex governance structure;
- Easy control for government;
- Focus on one flow allows for specific cooperation, leading to cost reduction.

5.2.2. Accreditation procedure for schemes

To enable the authorities to have an overview of the different schemes that are installed and to install monitoring activities in respect to the collection and recycling schemes, it is crucial to have an accreditation procedure and accreditation conditions included in the EPR legislation. The accreditation and eventual periodical renewal will also serve as an incentive for schemes to strive for compliance both with the applicable EPR legislation and particular accreditation conditions at scheme level.

Accreditation of schemes – yes

Advantages

- Possibility for governmental monitoring and control;
- Reduction of cost of control at government level due to use of accreditation framework;
- "Contractual" relationship which creates obligations at the side of the scheme and its participants;
- Better focus on environmental impact and conservation of hazardous substances due to proper collection, transport and treatment of prioritized product waste (quality standards);
- Possibility to stimulate innovation in applied collection and recycling techniques;
- Level playing field: waste management companies and schemes should be required to apply the same requirements developed in the regulations.
- Increase of potential for a quality waste management company/scheme to operate in case of proper enforcement;
- Enhanced transparency of accredited waste management companies and the set of requirements they need to comply with;
- Potential for green image due to use of accredited service suppliers;
- Possibility to review plan over period of time (reporting/engagement structure).
- Possibilities for benchmarking.

Critical success factors

- Proper monitoring and enforcement by government;
- Clear definition of accreditation requirements to be set and applied.

Stakeholder-specific consequences

- Waste Management Companies:
 - No possibility for non-accredited providers to provide services to collection and recycling schemes.

Accreditation of schemes – no

Disadvantages

- No possibility for monitoring and control on the performance of the scheme;
- No guarantee of high quality collection, transport and treatment of prioritized product waste;
- Risk of negative environmental impact due to improper collection, transport and treatment of prioritized product waste;
- Uneven playing field as:
 - other schemes can be compliant even when choosing for cheap service providers not adhering to high quality standards, thereby gaining competitive advantage;
 - other waste management companies can offer cheap prices but low quality and gain competitive advantage ;
- No green image incentive;
- No incentive for innovation;
- Incentive to go for the easiest way;
- Lack of legal basis to "negotiate"/discuss/withdraw license to operate;
- No transparency of accredited waste management companies, no possibilities for benchmarking.

5.2.3. Reporting procedure for schemes

Another important prerequisite to enable effective monitoring by the competent authorities relates to the business and performance reporting by the scheme(s). EPR legislation should foresee an indication of the information that needs to be shared and a related timing. Not only financial/business plan reporting needs to be foreseen but also transparency on the collection and recycling activities that are performed via website (key figures for general public) / or real-time direct access for government on specific data of the schemes (eg collection points / transparency on the waste movement and transportation; monthly reporting).

Reporting of business plan by schemes – yes

Advantages

- Enhanced possibilities for inspection and control in view of safeguarding a sound, long-term solution for the end-of-life management of prioritized products:
 - more certainty on compliance on the long term;
 - certainty that marketing, compliance, operations, budgeting, etc. have been considered.
- Availability of a clear-cut strategy and possibility to request for an agreement on the way forward.

Critical success factors

- Enforcement by government.

Reporting of business plan by schemes – no

Disadvantages

- Limited possibilities for inspection and control in view of safeguarding a sound, long-term solution for the end-of-life management of prioritized products:
 - risk of compliance on the long term;
 - risk of low quality management of the scheme (no consideration of marketing, compliance, operations, budgeting, etc.).
- No clear-cut strategy and hence no possibility to request for an agreement on the way forward;

- Risk of legal prosecutions in case of non-compliance;
- Sustainability of scheme is not monitored.

Reporting by schemes – collection and recycling activities – yes

Advantages

- Enhanced possibilities for inspection and control on the short-term activities in the field of managing end-of-life prioritized products:
 - more certainty on compliance on the short term;
 - certainty that marketing, compliance, operations, budgeting, etc. strategies/goals have been executed/reached.
- Possibility to request for an agreement on the status of short-term strategy execution and to receive rewards;
- Green image towards society;
- Enhanced transparency for all stakeholders (if properly inspected and verified).

Critical success factors

- Enforcement by government.

Reporting by schemes - collection and recycling activities – no

Disadvantages

- Limited possibilities for inspection and control on the short-term activities in the field of managing end-of-life prioritized products:
 - risk of non-compliance on the short term;
 - risk that marketing, compliance, operations, budgeting, etc. strategies/goals have not been executed/reached.
- No transparency in the market (producers, government, society, NGO's, etc.).

5.2.4. Tendering rules for collection & recycling

The tendering process is important for the scheme in order to provide excellent collecting and recycling services. However, public tendering has also important implications from a competition (law) perspective and in that respect also relates to EPR policy. The Chilean authorities should take into account the possibly negative implications depicted below when establishing conditions and requirements for tendering by the scheme(s).

Tendering - public tendering

Advantages

- Free competition on the waste management market, allowing for cost-efficiency in selecting collection and recycling service providers;
- Increased level of quality with regard to the environment, health and safety;
- Lower cost to society;
- Enhanced control and transparency on compliance with legislation and quality standards;
- Incentive for innovation in collection and recycling for waste management companies;
- Avoidance of cartel and corruption.

Disadvantages

- Higher administrative burden for contracting collection and recycling operations and administration.

Critical success factors

- Need for an approved public tendering procedure to ensure objective selection.

Stakeholder-specific consequences

- Waste management companies:
 - Potential for long-term exclusive alliances/ contracts;
 - Potential for efficiency rewards.

Tendering - no public tendering

Disadvantages

- Disables free competition on the waste management which:
 - Compromises cost-efficiency in selecting collection and recycling service providers;
 - Incentive for fraud and corruption.
- Risk of higher cost to society;
- Lower incentive for innovation in collection and recycling;
- Lower incentive for improving the quality of environment, health and safety for waste management companies;
- Incentive for corruption and cartel.

Critical success factors

- Strong economic inspection on developed commercial practices (allocation collection and recycling contracts).

Stakeholder-specific consequences

- Waste Management Companies:
 - Increasing profit.

5.2.5. Free rider control

Free rider control and enforcement is crucial to build a successful EPR system. The implementation of such control activities is important for the producers to maintain their competitive position. If the authorities are not able to effectively enforce the EPR legislation there will be an incentive for free-rider behaviour. The benefits of having effective free rider control and the drawbacks of not enforcing free rider behaviour are presented below.

Free rider control - enforced

Advantages

- Enhanced inspection and control on compliance of producers;
- Lower risk that waste of non-compliant producers is not properly collected and recycled;
- Level playing field:
 - no competitive advantage for certain producers not-complying;
 - fair allocation of costs: each producer carries a fair part of the financial obligation without having to pay for the cost of collecting and treating free-rider prioritized products.
- Increased participation of producers in schemes organising sustainable end-of-life management of prioritized products.
- Government support in fighting free riders;
- Enhanced awareness, incentive to comply with regulations (retail, etc.);
- Improved level playing field;
- Fair distribution of costs due to free rider control enforcement

Critical success factors

- Government involvement and enforcement is required;
- Free rider detection framework to be developed.

<i>Free rider control - not enforced</i>

Disadvantages

- Limited inspection and control on compliance of producers;
- Unlevel playing field:
 - competitive advantage for producers not-complying;
 - unfair allocation of costs: each producer carries its own part of the financial obligation and a part of the cost of collecting and treating free-rider prioritized products.
- Decreased participation of producers in schemes organising end-of-life management of prioritized products, further increasing an unfair allocation of costs to compliant producers;
- Increased cost to society due to the increase in free-riders and orphan waste;
- Creation of an environment in which the regulation is not complied with (downward spiral);
- Lack of government support in fighting free-riders;
- Limited awareness and less incentives to comply with regulations (retail, etc.);
- Unlevel playing field as different rules apply for different producers; competitive advantage for free riders (levying no fee and not performing collection and recycling);
- Risk of unfair distribution of costs due to absence of free rider control enforcement;
- Lack of transparency.

6. Financing principles

The adoption of aligned financing principles is key to ensure sustainable financing over time. This is important to be (financially) able to meet the targets for collection and recycling of end-of-life products. There is a distinction between financing principles on the legislative and the scheme level.

6.1. Key financing principles on the legislative level

6.1.1. Financing method¹²

The financing method depends on the legal, political, social, economic, demographic and geographic situation. Several methods are conceivable to finance the EPR obligations.

Three **financing methods** can be distinguished:

- Private financing
- Public financing
- Combination of public and private financing

None of the methods described is optimal in sé. The most suitable option for Chile will entirely depend on the nature of the model(s) opted for, the impact on the market, the enforcement of the law, etc.

The three tables below give an overview of the responsibilities of the various parties involved for the three financing methods.

Scope - financing method <i>private financing</i>					
	Central government	Municipalities	An accredited organisation	Producers	Waste management companies
Who defines the contribution?			x		
Who decides on the level of the contribution?			x		
On which level the contribution is levied (national/municipal)?			x		
Who collects the contribution?			x		
Who inspects and enforces the contribution?	x		x		
Who is the direct beneficiary of the contribution?			x		
Who carries the residual risk of underfinancing?			x		
if certificate exchange					

x = possibility

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¹² Schemes which do not develop a proper financing strategy (eg no or little reserves) due to any kind of reason are faced at a given moment of time with financial problems as it is the case for any commercial company which do not build up equity. Examples of countries where this happened are the Netherlands; Finland. In some cases, public authorities have instructed schemes that reserves (and fees) should be kept low for political reasons which do not relate with a proper environmental strategy (Hungary; Ireland, Poland). All these situations are / will undermine the financial sustainability and stability of the schemes and the competitive position of the producers when they will have to meet higher collection rates.

Scope - financing method - public financing

	Central government	Municipalities	An accredited organisation	Producers	Waste management companies
Who defines the contribution?	x				
Who decides on the level of the contribution?	x				
On which level the contribution is levied (national/municipal)?	x	x			
Who collects the contribution?	x	x	x		
Who inspects and enforces the contribution?	x	x	x		
Who is the direct beneficiary of the contribution?			x		
Who carries the residual risk of underfinancing?	x				

x = possibility

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Scope - financing method - combination public/private financing

	Central government	Municipalities	An accredited organisation	Producers	Waste management companies
Who defines the contribution?	x				
Who decides on the level of the contribution?	x	← proposal			
On which level the contribution is levied (national/municipal)?	x				
Who collects the contribution?			x		
Who inspects and enforces the contribution?			x		
Who is the direct beneficiary of the contribution?			x		
Who carries the residual risk of underfinancing?	x		x		

x = possibility

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In case of joint financing, the residual risk of underfinancing should lay with both the public and the private structure, because they are both involved at the setting of the height of the fee.

In case of private financing, a distinction can be made between a fee per prioritized product group and a fee per product type inside a prioritized product group. The consequent issue arises from and depends on the differences between products within one product group.

Therefore a thorough analysis for the different product groups is important in order to not impair producers of certain product types. The advantages and disadvantages of the two different fee systems are listed below.

Financing method - private - one fee per prioritized productAdvantages

- No complexity for all stakeholders;
- Easy control and inspection for government to ensure that all producers pay their share in the cost of collection and recycling of prioritized products;
- Low cost as a result of a low administrative and operational burden;
- Transparency towards the public: the same fee for each prioritized product.

Disadvantages

- Possible discussion between producers on quality of products as there is no room to differentiate the fee according to the cost of collection & recycling.

Critical success factors

- Visible and stable fee level.

Financing method - private - fee per product type inside prioritized product group

Advantages

- Potential for a differentiated cost per product type.

Disadvantages

- High control cost and burden for the government to inspect the accuracy of each producer's contribution;
- Higher cost as a result of an additional administrative and operational burden (supply chain, reporting, cash flow management, etc. separate for each prioritized product type/fee);
- Increased risk on free-riders;
- Risk for competitive disadvantage;
- Nuisance towards the public: confusion as different fees are used depending on the prioritized product group.

Critical success factors

- Visible and stable fee level.

6.1.2. Transparency of the cost

The transparency of the cost has a major impact on the marketing approach of the scheme since the visible fee is an important tool to create public awareness. The visible fee represents the amount that a buyer of a product pays for the collection and recycling of the product when it becomes waste. There are different options to deal with the **transparency of the cost** under EPR legislation:

- Mandatory visible fee
- Voluntary visible fee
- No visible fee

The impact of the different scenarios cited above are shown in the tables below.

Transparency of the cost - one mandatory visible fee¹³

Advantages

- Potential for better free rider identification and prosecution: no visible fee = free-rider behaviour;
- Transparency of cost throughout the supply chain and towards the public, avoiding potential for mark-ups¹⁴;
- Provides for an easy reimbursement of fee in case of export;
- Standardisation of the fee;
- Lower risk of fraud.

Critical success factors

- Control and inspection by government on visibility of the fee.

Stakeholder-specific consequences

- Distribution/retail: No potential to transfer additional costs through mark-ups.

¹³ www.bebat.be; www.reculum.fr; www.fostplus.be; www.ecolamp.it; www.recytyre.be; www.elkretsen.se; www.val-i-pac.be; www.recupel.be; www.lightcycle.de; article on analysis by global product stewardship council: http://www.globalpsc.net/downloads/Hastie_Harvey_Bury_Eco_Fees_Critique_0211.pdf;

¹⁴ Mark-ups are price increases of a product through the chain until it reaches the consumer, because each chain in the supply chain will add a profit margin on top of the price it has paid. In the case of mark-ups on the eco-contribution this will increase the prices of the products beyond what is intended for. In the event the fee is hidden, this will happen. In the event it is transparent (below or above the line on the invoice, this will not happen, since the fee can be put aside of the commercial negotiation.

Transparency of the cost - voluntary visible fee

Disadvantages

- More difficult to reimburse fee in case of export since there is no secure audit trail for prioritized products;
- Risk for fraud.

Transparency of the cost - no visible fee

Disadvantages

- No transparency of the cost throughout the supply chain towards the public;
- Risk of mark-ups throughout the supply chain and hence high increase of the prices for households/consumers;
- No public awareness creation, leading to high collection efforts needed;
- Impossible to properly reimburse fee in case of export.

Stakeholder-specific consequences

- Distribution/retail:
 - Potential to transfer additional costs made through mark-ups;
- Producers:
 - Mark-ups increase price and possibly lower sales.

6.2. Key financing principles on the level of the scheme

6.2.1. Financing basis

For the financing of the collection and recycling activities different parameters need to be assessed: the cost allocation key, the total cost calculation and the moment of financing.

The cost allocation key (nominator) relates to the reference figure that is used to calculate the cost share of the producers. The challenge is to provide a fair allocation of the costs and avoid under-financing of the collection and recycling activities. Different options are possible and the pros and cons are listed below: historic put on market, current put on market and return share.

Cost allocation key? - historic put on market (nominator)

Advantages

- Distribution of cost (at the moment of return) according to the respective share of each producer at the time prioritized products were put on market: historic market share will most likely be representative for the share of a producer in the waste returning.

Disadvantages

- Orphan waste is not financed;
- There is no financial guarantee of those who left the market;
- New entrants in the market do not have to finance (they have no historic sales).

Critical success factors

- Average lifetime serves as a basis for calculating historic put on market;
- Historic data needs to be available.

Cost allocation key? - current put on market (nominator)

Advantages

- No risk of under-financing as orphan waste of producers who have left the market is also financed by current producers;
- All participants currently on the market contribute to the cost of collection and recycling: no competitive advantage for new entrants;
- More easy to determine financing obligation as only recent data is needed and there is no need to start calculating aggregate/different average lifetime(s).

Disadvantages

- Current producer's obligation can be different from their historic market share.

Critical success factors

- Processing and control of current put on market figures.

Cost allocation key? - return share (nominator)

Advantages

- Fair distribution of cost (at the moment of return) according to the respective share of each producer in the waste prioritized products collected.

Disadvantages

- Incentive to minimise collection as only share collected waste needs to be financed;
- Increase of orphan waste;
- Adverse environmental impact;
- No fulfillment of a producer's responsibility.

Critical success factors

- Possibility to allocate waste returned: track and trace or piece by piece checking system;
- Enforcement and monitoring on product marking.

Payment by the producers for the collection and recycling activities that are performed can be executed at different moments and depends on the determination of the cost allocation key. The moment of payment is important because all producers will need to pay for the waste they create. Moreover it also has important implications for the cash flow management of the producers¹⁵. There are different implications that relate to the moment of payment. The scenarios that are presented below are: payment at the moment that the product is put on the market, at moment of expected return (based on average lifetime) and at the moment of effective return of the waste.

The moment of reporting and the moment of payment are key in the development of a sustainable financing. It might have a negative impact on the cash flow of companies in the event this happens early in the supply chain and therefore be detrimental to the commercial and competitive position of several enterprises.

At the other side will it avoid better the generation of free riders.

Important item to consider is the controls to be put in place at customs and the way how to link customs / moment of reporting and the moment of payment of the contribution. In such there is no clear cut answer to what is the best solution. It needs customization by product and market type.

¹⁵ The impact on the cash flow can be explained as follows: depending on the date producers have to pay their contribution to the scheme (e.g. at the moment of sale / at the moment of import / at the moment they will be paid by their customers), this will have a neutral or negative impact on the cash flow position of the producers, resulting in eventual losses (which is lost forever) of financial strength of a company.

Financing basis - when? - moment of put on market

Advantages

- Best connection between the cost (fee) of collection and recycling on the one hand and the sales per producer on the other hand;
- Fair allocation of the cost of collection and recycling to producers in the market on a yearly basis;
- No potential for producers to escape from financing their share (in case the law is effectively enforced);

Disadvantages

- Risk if there is more than one financing scheme since this will still lead to incentives for underfinancing.

Critical success factors

- Estimations needed for average lifetime and future costs;
- Effective enforcement of the law.

Financing basis - when? - moment of expected return (taking into account average lifetime)

Disadvantages

- Difficult to determine and calculate the expected return rate as an average lifetime needs to be set:
 - 1 lifetime for all prioritized product producers: risk of wrong financing basis;
 - lifetime depending on the product portfolio: difficult to monitor and control.
- Risk on an increase of free-riders and strategic behaviour;
- Creation of orphan waste;
- No sustainable financing;
- Incentive to underestimate expected return.

Critical success factors

- Collective financing obligation is needed as to avoid that orphan waste is not accounted for (through one or more (if necessary) jointly liable schemes).

Financing basis - when? - moment of return as waste

Disadvantages

- Difficult to determine and calculate the return share;
- Risk on an increase of free-riders and strategic behaviour;
- Creation of orphan waste;
- Incentive to minimise collection as waste only needs to be financed when (if) it returns;
- No sustainable financing;
- Adverse environmental impact (cfr. above).

7. Operational principles

The adoption of aligned operational principles is crucial to ensure proper functioning of the schemes. The key operational principles that need to be envisaged are listed below.

7.1. Collection

The collection strategy that will be applied depends on the product waste flow (e.g. different solutions might be needed for the collection of tyres, medical equipment, lamps, etc.) and on cost and control aspects. Also country-specific elements such as population density, habits, culture and economic situation play an important role to determine the collection strategy.

For example, in the case of household packaging (primary and secondary) door-to-door collection is an effective way to collect, added with collection centers and street corner containers for glass bottles (mixed); tyres can be collected at tyre service centers; lamps and white goods can be collected with big retailers. Small medium enterprises (depending on the waste involved) can be handled as if they are households.

As to big professional end-users, collection is mostly organized at the site of the plants themselves. In this case they contract directly the collective schemes who will organize and finance the pick-up of the end of life products.

This implies that it is necessary from a legal point of view to distinguish what is household and what is professional.

Therefore, in a later phase an in depth analysis of different factors mentioned above is important to define a suitable and effective strategy.

7.2. Targets

Collection and recycling targets should be established. It is an important tool to be able to enforce a predefined level of collection and recycling of end-of-life products. These targets obviously reinforce the positive impact of collection and recycling on the environment. The advantages and disadvantages of installing such targets are listed below.

Collection target

Advantages

- Objective to collect a certain amount of waste;
- Positive environmental impact;
- Real implementation of EPR obligations at level of producers;
- All waste becomes target for collection (also "less" economically relevant fractions).

Disadvantages

- Higher financial cost to society as there are 'expensive' quality requirements to comply with (risk of a higher fee/tax).

Critical success factors

- Government involvement is needed through active monitoring and enforcement of ao targets and by installing such high fines that the interested parties do not have an economic interest not to comply;
- Environmental awareness to be created with end-users in order to stimulate waste prioritized product deposits.

Stakeholder-specific consequences

- Distribution/Retail:
 - Additional possibility for sales if serving as collection point for household waste;
 - Channel will be used so loss of floor space and extra burden/cost.
- Waste Management companies:
 - Increased potential for business.

Recycling target

Advantages

- Incentive to reach a recycling objective;
- Incentive for innovation in recycling technologies;
- Positive environmental impact;
- Real implementation of EPR obligations at level of producers;
- All waste becomes target for collection (also "less" economically relevant fractions).

Disadvantages

- Higher financial cost to society as there are 'more expensive' quality requirements to comply with (risk of a higher fee/tax).

Critical success factors

- Government involvement is needed through active monitoring and enforcement of targets and by installing such high fines that the interested parties do not have an economic interest not to comply;

The calculation of the collection target can be based on different figures. It is crucial to have the calculation method to be clearly and well established in the regulations since this will determine the effective (physical) quantity that is being collected/treated. Firstly distinction needs to be made between the calculation of the collection target based on weight and based on units. This decision will have a substantial impact on the collection and recycling activities of the different product groups. The impact of the difference is analysed in the tables below.

Collection target - calculation basis - in weight

Advantages

- Easy to measure the quantities collected.

Disadvantages

- Push for focus on heavy products only (for example in the case of e-waste: refrigerators vs lamps);
- There is no relationship between the environmental risk and the weight of a product: possible negative environmental impact;
- No link between financial cost or financial obligation and weight.

Critical success factors

- Intermediate calculation required from units put on the market to weight to monitor compliance and calculate collection rates;
- Government needs to provide average conversion rate between weight and units which can be used for measurement performance.

Collection target - calculation basis - in units

Advantages

- Easy to monitor compliance and calculate collection rates;
- Correct link between the cost of collection and recycling and the amount of units collected;
- Transparency on performance of the scheme.

Secondly, the calculation of the collection/recycling target can be based – or not - on historic sales. This is an important decision since, for example, the introduction of substitute products may provide a biased image. This leads to a change of the reference on which the target is calculated. The advantages and disadvantages of the two calculation methods are described below.

Collection target - calculation basis - based upon historic sales period (average lifetime)

Advantages

- Rational and correct basis for calculating collection rates, taking into account historic market figures: which share of prioritized products put on market in current - average lifetime (i.e. products expected to return) has been collected;
- Realistic target setting allowing cost-efficiencies in collection and recycling;
- Efficient way to calculate the financial burden in a given year.

Disadvantages

- In some cases lack of historic data available.

Critical success factors

- Availability of historic data to calculate average lifetime;
- Correct estimation of "real" life time (depends on product).

Collection target - calculation basis - actual sales

Disadvantages

- Potential incorrect basis for calculating collection rates (and financial burden), taking into account wrong market figures: to serve as denominator for calculation of targets average lifetime needs to be considered instead of recent market figures are used as a basis. Actual sales numbers (ie sales corresponding to the year in which the waste arises) which is only suitable for Fast Moving Consumer Goods (primary and secondary consumer packaging), not for durables (such as other prioritized products (e.g. lamps, cars, laundry machines, refrigerators);
- Risk that, as to reach the target, prioritized products are collected before their end-of-life (depending on penalty);
- Risk of an unrealistic target which does not allow cost-efficiencies in collection and recycling or is even impossible (more than 100% to be collected) to achieve, e.g. when the market has grown and high sales figures are used as a basis to calculate collection rates;
- Increased risk of free-riders;
- Risk for illegal import of waste.

Critical success factors

- Taking into consideration realistic return rates based on past experience and society awareness.

At last we also provide an overview of the risks that may incur in case that no targets are established. The main objective of collection and recycling activities is to limit the impact of the use of affiliate products on the environment. The implementation of targets therefore plays an indispensable role to achieve this. The advantages and disadvantages of this possibility are shown below.

No targets neither lead nor lag indicators¹⁶

Advantages

- No pressure to collect or recycle;
- Low cost;
- No real obligation or performance measurement possible.

Disadvantages

- No incentive to properly execute "obligations";

¹⁶ Lead performance indicators are prospective in nature and indicate the (performance of) the conditions/measures that are believed to control unwanted behavior (e.g. no or not sufficient collection). They are looking at activities performed and how they are performed

Lag performance indicators are retrospective measures determined as unwanted behavior (e.g. measure the amount of collection). They are looking at quantitative and qualitative results.

- No possibility for monitoring and enforcement of a minimum level of collection and recovery (no benchmark);
- Adverse environmental impact ;
 - Only collection of waste having a positive value in case that costs of collection and recycling are lower than procurement of primary materials;
 - Uneven playing field: competitive advantage for producers/schemes/waste management companies not adhering to certain minimum collection and recovery objectives (low quality collection and recycling is the cheaper option).

Critical success factors

- Distribution/retail:
 - Channel will not be used so no loss of floor space, no extra burden/cost;
 - No additional sales if not serving as collection point for household waste.
- Waste Management Companies:
 - Loss of business if no collection target.

7.3. Penalties

The installation of an adequate penalty system – in addition to efficient enforcement, as described before – is essential in creating an incentive for the producers to comply with the imposed EPR regulations. Only if all affiliates make the effort to collect and recycle as prescribed, the desired result can be achieved. The advantages and disadvantages of a penalty system are shown below.

Penalties

Advantages

- Instrument for enhanced enforcement on compliance with legislation;
- Level playing field for collection and recycling scheme and producers (and guarantee of complete, correct and fair allocation of finance obligation)
- Incentive to comply (if penalties are material);
- Positive environmental impact;
- Potential for public awareness creation.

Disadvantages

- Administrative burden for enforcement authority: follow-up on non-compliance cases, accounts receivable management, etc.

Critical success factors

- Compliance and reporting framework to be developed;
- Height of penalties in case of non-compliance with targets or other obligations (as well for schemes as producers) should be material to discourage free-riding behaviour.

7.4. Governance principles for Waste Management Companies in EPR

Waste Management Companies are the operations service providers contracted by a scheme. It is important that they act in a safe and controlled environment in order to be able to guarantee proper service to the scheme. Equal and transparent accreditation and licensing rules for service providers dealing with (hazardous) waste can help to achieve this. Although regulations on Waste Management Companies exist and are enforced in Chile, it is important to remind the advantages and disadvantages of (no) accreditation requirements for waste management service providers are stated below and that specific requirements are relevant in case of different fractions. In several European countries the registration of each step of the reverse logistics chain (collection / transportation from collection point to consolidation point / warehousing / etc..) requires registration and certification and public registers are held transparent for the public (eg: www.ovam.be ; www.ademe.fr).

Accreditation of waste management companies - Yes

Advantages

- Possibility for monitoring and control on the quality of services provided;
- Guarantee of high quality collection, transport and treatment of prioritized product waste;
- Reduced environmental impact and conservation of hazardous substances due to proper collection, transport and treatment of prioritized product waste;
- Incentive for innovation as accreditation stimulates innovation in applied recycling techniques;
- Level playing field: waste management companies and schemes are required to apply the same quality requirements and hence, there is no potential for a competitive advantage of low quality waste management companies/schemes;
- Enhanced transparency of accredited waste management companies and the set of requirements they need to comply with:
 - Potential for green image due to use of accredited service suppliers.

Critical success factors

- Proper monitoring and enforcement by government;
- Clear definition of accreditation requirements to be set.

Stakeholder-specific consequences

- Waste Management Companies: No possibility for non-accredited providers to provide services to collection and recycling schemes.

Accreditation of waste management companies - No

Disadvantages

- No possibility for monitoring and control on the quality of services provided;
- No guarantee of high quality collection, transport and treatment of prioritized product waste;
- Risk of negative environmental impact due to improper collection, transport and treatment of prioritized product waste;
- Less transparency on quality of service providers to be contracted;
- Uneven playing field as:
 - other schemes can be compliant even when choosing for cheap service providers not adhering to high quality standards, thereby gaining competitive advantage;
 - other waste management companies can offer cheap prices but low quality and gain competitive advantage.
- No green image incentive;
- No incentive for innovation.

Waste Management Companies have to comply with different environmental rules and standards. These standards are captured by the Environment, Health & Safety (EHS) standards to which they need to adhere. To enable the authorities to supervise the operations of the Waste Management Companies and to enforce the applicable EHS prescriptions, these companies will need to be obliged to report on their activities and compliance.

Reporting by waste management companies - Compliance to EHS standards - Yes

Advantages

- Enhanced inspection and control on collection and recycling supplier compliance with EHS standards;
- Potential for confirmation of compliance with EHS standards;
- Guarantee that collection and recycling is performed by companies complying with EHS standards ;
- Increased transparency on EHS requirements and compliant waste management companies;
- Standard for quality improvement and environmental impact reduction;
- Benchmarking of several waste management providers;
- Potential for rewards.

Critical success factors

- Reporting framework to be developed on compliance with EHS standards;
- Proper monitoring by government;
- Obligation set by regulations.

Reporting by waste management companies - Compliance to EHS standards - No

Disadvantages

- Lack of inspection and control on collection and recycling supplier compliance with EHS standards;
- No potential for confirmation of compliance with EHS standards;
- No guarantee that collection and recycling is performed by companies complying with EHS standards
- Reduced transparency on EHS requirements and compliant waste management companies;
- No potential for benchmarking of several waste management providers;
- Lack of a standard for quality improvement and environmental impact reduction.

Critical success factors

- Increased cost for enforcement/inspection at the side of public authorities.

Not only schemes but also Waste Management Companies have to comply with various rules and standards. Transparent reporting on the collection and recycling activities enables effective monitoring of the by the competent authorities. The advantages and disadvantages of (no) reporting on collection and/or recycling activities are listed in the tables below.

Reporting by waste management companies - Collection and/or recycling activities - Yes

Advantages

- Possibility for inspection and control on compliance of collection and proper treatment of prioritized product waste (e.g. recovery targets);
- Enhanced transparency on short term collection and recycling activities for prioritized products;
- Potential for receiving a confirmation on the appropriateness of activities, legitimating or enhanced control on invoices;
- Potential for benchmarking (e.g. of costs) of several waste management providers.

Critical success factors

- Reporting framework to be set up on collection and/or recycling activities;
- Proper monitoring by government;
- Obligations set by regulations.

Reporting by waste management companies - Collection and/or recycling activities - No

Disadvantages

- No inspection and control on compliance and proper treatment of prioritized product waste;
- Lack of transparency on short term collection and recycling activities for prioritized products;
- No potential for confirmation of appropriateness of activities, no legitimization of invoices;
- No potential for rewards;
- Less possibility for benchmarking of several waste management providers.

Critical success factors

- Increased cost for public authorities to inspect and control the waste management companies.

7.5. Governance principles for End Users¹⁷

The end-users are in most cases the weak chain in the EPR scheme as in any waste management regulation. The reason for this is that they need to be convinced to change their behaviour and adopt the one which will lead to the wanted result. In the case of EPR this implies that end users will separate the "EPR" waste flows from other waste categories and act upon the new "rules".

It is a challenging task to make end-users conscious of the importance to separate and deposit waste in a compliant manner.

This, however, is the heart of the collection system. Waste Management Companies will only be able to reach collection and recycling targets if the end users are aware of the importance to deposit the waste products via the appropriate channels. The obligation for end-users to separate and deposit waste in a well-defined manner is analysed below.

In the vast majority of OECD countries regulations are implemented at country / regional or local level to organize and structure the separation and collection of waste at the level of the end-users.

A mixed strategy of motivation and command and control is therefore necessary to achieve the wanted outcome.

Below the advantages of having an obligation to separate waste is discussed.

The specifics of the applied tools for such a "change process" are product specific. Hence further discussion and analysis is required once the list of products is identified.

Obligation to separate and deposit waste in specific manner - Yes

Advantages

- Enhanced control on amounts collected;
- Incentive to return to avoid potential penalties;
- Potential for increased collection;
- Limited potential for end-user exposure to hazardous emissions
- Potential for lower collection cost as part of the burden is carried by end-users, decreasing the cost (fee/tax) for collection and recycling and cost to society.

Disadvantages

- Difficult to enforce (how to penalize? control?) in case of non door-to-door collection (depending on product);
- Possible negative impact on carbon footprint: end-users need to go and deposit, no bulk collection;
- Marketing and communication cost to inform end-users;
- Risk for additional littering.

Critical success factors

- Need for municipal / distributor / retail cooperation;
- Need for regulation to control and monitor the change of behaviour¹⁸;
- Strong enforcement cost to avoid littering.

Stakeholder-specific consequences

¹⁷ Most European countries (eg Belgium, Netherlands, Luxembourg, France, Germany, Sweden) have either national and regional decrees and regulations, with additional municipal regulations and procedures which stipulate the (detailed) obligations of the private and professional end-users on how to separate and dispose of their waste fractions. This is combined with fines in the event of non-compliance. OVAM (www.OVAM.be) (the Flemish Ministry for waste management) is referring on its website and in its communication and information campaigns (which are in some cases jointly organized) to the Collective Schemes (there is only one scheme per product flow). The same accounts for ADEME, the French Ministry of Environment (www.ademe.fr) and other public organisations (eg websites of cities and municipalities).

¹⁸ Although both systems have a different collection model (Bebat (bring systems) (www.Bebat.be) / FOST Plus (door-to-door with auxiliary bring system) (www.fostplus.be)) The Belgian Battery Scheme Bebat and the Belgian Household Packaging Scheme Fost Plus have the highest collection rates in Europe /(world) because they continuously communicate in the market via different channels.

- Distribution/retail:
 - Sales potential: end-users are obliged to go to a shop to deposit;
 - loss of floor space.

<i>Obligation to separate and deposit waste in specific manner - No</i>

Disadvantages

- Less management control on amount collected as this depends largely on end-user motivation;
- No incentive to return prioritized product waste;
- Risk of lower collection due to the above;
- Lower end-user awareness creation;
- Risk of littering;
- Non properly organised waste management;
- No aligned strategy to collect prioritized products at municipalities;
- Uncertainty on reaching targets (depending on end-user motivation): if ambitious targets are set, very expensive door-to-door collection seems to be the only alternative;
- Increased marketing and communication cost (both for the collection and recycling scheme as for municipalities) as to motivate end-users to return prioritized products.

Critical success factors

- Need for other collection channels to be set up.

Stakeholder-specific consequences

- Distribution/retail:
 - No extra sales potential: no obligation to go to shop and deposit.

Annex : Ley de gestión de residuos y responsabilidad extendida del productor

Ley de gestión de residuos y responsabilidad extendida del productor

Artículo 1.-

Los Productores establecidos en la presente ley, se encuentran sujetos a la obligaciones por esta establecidas, para gestionar y financiar los residuos de los productos que ponen en el mercado, al final de su vida útil.

Los Productores deberán inscribirse en el Registro Nacional de Productores.

El Reglamento referido en el artículo <XXX> , establecerá la organización y funcionamiento del Registro. También fijará los demás requisitos para inscribirse en el mismo, las obligaciones de reporte de información.

Los Productores podrán agruparse en organizaciones de derecho privado sin fines de lucro para la ejecución de las obligaciones por esta establecidas, denominadas Organizaciones de Productores para la Logística Reversa.

Un Reglamento establecerá las requisitos de entrada en funcionamiento, procedimientos y reglas conforme a las cuales operaran las Organizaciones de productores para la logística reversa. También fijará los demás requisitos relativos a las obligaciones de financiamiento, reporte, información y las metas que deberán ser cumplidas. Las mismas, serán aplicables como mínimo nivel de desempeño a los productores que no integren dichas organizaciones.

Los distribuidores de productos prioritarios, de acuerdo a la forma establecida en el reglamento, estarán obligados a:

- 1) accept and store free of charge the waste of aforementioned products that is presented to the Collection Point(s) in compliance with this law, the reglamento and the applicable accredited waste management plans;
- 2) entregar los residuos recibidos a título gratuito to the waste management companies which have been contracted by the Organizaciones de productores para la logística reversa organizaciones de productores para la logística reversa referidas en el inciso anterior y disponer de información al consumidor referida a la prevención y gestión de residuos.

Deberá informar a sus clientes, quienes participen en la cadena de suministro y los usuarios finales, por separado, en la factura o boleta correspondiente, cada vez que se venda alguno de los productos regulados en esta ley, los costos **por unidad¹⁹** de producto que son utilizados para dar cumplimiento de las obligaciones establecidas en la presente ley.

Un Reglamento dictado por los Ministros de Medio Ambiente y de Hacienda en lo que a cada uno corresponda regulará las materias que esta ley entrega a su competencia, y en general todas aquellas necesarias para su correcto funcionamiento For me OK. In this way we create a link to Hacienda for customs control.

Artículo 2.- Los Productos Prioritarios, para efectos de la presente ley corresponden a neumáticos, aceites y lubricantes, baterías y pilas, ampolletas, aparatos eléctricos y electrónicos (quid household and industrial packaging /pharmaceuticals?) y todos aquellos que, sobre la base de los criterios de volumen, peligrosidad o presencia de recursos aprovechables presentes en ellos se establezcan mediante decreto supremo del Ministerio del Medio Ambiente.

Esto no exime a los productores de responsabilidad sobre los productos listados en el inciso anterior.

Artículo 3.- Para todos los efectos legales, se entenderá por:

¹⁹ Corrección: se debe aclarar que este costo deberá mantenerse igual durante la cadena comercial. Este costo no podría resultar en un objeto de competencia en el mercado. (Explicación: el costo será distinto para distintos productores o asociaciones)

Producto prioritario: Sustancia u objeto que una vez transformado en residuo, por su volumen, peligrosidad o presencia de recursos aprovechables, queda sujeto a las obligaciones de la Responsabilidad Extendida del Productor.

'Productor' significa cualquier persona física o jurídica que, independientemente de la técnica de venta utilizada, incluso por medios de comunicación a distancia:

(i) Vende u ofrece a la venta o sin costo por primera vez Productos prioritarios en Chile, excepto en el caso de un Productor que vende Productos prioritarios al propietario de una marca propia;

(ii) Revende u ofrece sin costo en Chile bajo su propia marca Productos prioritarios suministradas por otros Productores, no se considera como Distribuidor a un revendedor;

(iii) Revende u ofrece sin costo en Chile, en donde tiene un establecimiento, Productos prioritarios una vez adquiridas de un Productor que no ha cumplido con sus obligaciones legales en Chile según lo previsto en este Plan de Gestión de Residuos;

(iv) Adquiere Productos prioritarios para su propio uso como usuario final profesional de un proveedor fuera de Chile;

(v) Adquiere Productos prioritarios para su propio uso como usuario final profesional de un Productor o Distribuidor que no ha cumplido con sus obligaciones legales en Chile, según lo previsto en el presente Plan de Gestión de Residuos.

'Puesta en el mercado' significa que una Producto prioritario es puesta en el mercado chileno en el momento la Producto prioritario se transfiere de una persona o entidad jurídica a otra, ya sea como un producto final o para servir como un componente de otro producto, con el propósito de transferir su propiedad, permitiendo su uso a cambio de pago (o no) o vendiéndolo. Es irrelevante que esta transferencia se realice ya sea contra pago o no.

'Reciclaje' significa cualquier operación de recuperación por medio de la cual se reprocesen materiales de desecho para convertirlos en productos, materiales o sustancias - ya sea para el propósito original o para otros fines. Incluye el reprocesamiento de material orgánico pero no incluye la recuperación de energía y el reprocesamiento para convertirlos en materiales que vayan a ser utilizados como combustibles o para operaciones de relleno. Este proceso se lleva a cabo en una Instalación de Reciclaje.

'Recolección' significa cualquier acción tomada por el Punto de Recolección para recoger las Lámparas al final de su vida útil de los usuarios finales para su gestión integral.

'Centro de Recolección/Punto de Consolidación' significa cualquier entidad pública o privada donde se almacenan temporalmente los Residuos de los Productos prioritarios después de la Recolección de un Punto de Recolección y antes de ser enviados a las Instalaciones de Reciclaje por la Empresa de Gestión de Residuos, todos contratados por el "Take back scheme" o los Productores.

'Punto de Recolección' significa cualquier entidad pública o privada con la que el "take back scheme" tiene un contrato para aceptar y almacenar temporalmente residuos que se encuentran al final de su vida útil de los usuarios finales hasta su remoción por parte de la Empresa de Gestión de Residuos para su envío a un Centro de Recolección o una Instalación de Reciclaje, todos contratados por el "Take Back scheme" o los Productores

'Empresa de Gestión de Residuos' significa cualquier empresa que esté involucrada en la Recolección, el Reciclaje o transporte de Residuos de Productos Prioritarios.

Distribuidor: Persona domiciliada en Chile que, independiente del mecanismo utilizado, comercializa Productos prioritarios bajo la marca do Productor .

Registro Nacional: El registro nacional que sera establecido por el MMA para contener la individualizacion y catastro de los Productores obligados a cumplir las obligaciones establecidas en la presente ley y sus reglamentos.

- a) **Eliminación:** Acciones llevadas a cabo para disponer de forma definitiva los residuos que no han sido objeto de valorización o su remanente, la cual tiene lugar en instalaciones autorizadas para ello en conformidad a la normativa vigente.
- b) **Residuo:** Sustancia u objeto que se desecha, o tenga la intención u obligación de desechar.
- c) **Gestión de Residuo:** Acciones destinadas a organizar, financiar; recolectar, transportar, acopiar y tratar lo residuo de las productos prioritarios The regulation and other laws stipulate the how. So exit from the ley.
- d) **Prevención:** Conjunto de medidas adoptadas en la fase de diseño, producción, distribución y consumo de una sustancia u objeto para reducir la cantidad de residuos generados, facilitar su valorización, buen manejo y reducir los impactos adversos sobre el medio

ambiente y la salud de la población, incluyendo el ahorro en el uso de materiales, energía y disminución de presencia de sustancias nocivas.

- e) **Tratamiento:** Procesos mediante los cuales residuos son valorizados o eliminados.
- f) **Valorización:** Acciones destinadas a reutilizar, reciclar u obtener energía a partir de un residuo.
- g) **Envases y embalajes:** Los productos que se utilicen para contener, proteger, manipular, distribuir y presentar mercancías, en cualquier fase de la cadena de fabricación, distribución y consumo.
- h) **You need to define the other products as well to avoid discussions afterwards.**

Artículo 4.- De acuerdo a la disposición del artículo 1 de la presente, los productores deberán hacerse cargo de la prevención,

la gestión, de todas las acciones de organización, comunicación, coordinación y su respectivo financiamiento, de los residuos de los productos prioritarios generados en todo el territorio nacional. **The financial contribution for each Producto will be in proportion to what the latter has put on the market against the total amounts of productos prioritarios put on the market in the applicable calendar year, irrespective of the specific location where they put aforesaid productos prioritarios on the market. ("Please, translate this sentence").**

El servicio aplicable de recolección, de acopio, de transportación, de tratamiento, de valorización y de reciclaje deberá realizarse respectivamente y por separado? mediante licitación pública;

La obligación establecida en el inciso anterior, se dará por cumplida al:

- a) Alcanzarse las metas y los plazos de tratamiento establecidos por decreto supremo del Ministerio del Medio Ambiente para cada uno de los productos regulados por la presente ley, en conformidad con las etapas y procedimientos establecidos en el artículo 32 de la Ley 19.300, los que podrán ser revisados al menos²⁰ cada cinco años. Las metas y plazos referidos deberán considerar criterios de gradualidad para pequeñas empresas y microempresas definidas en el artículo 2 de la Ley 20.416, que Fija Normas Especiales Para las Empresas de Menor Tamaño.²¹
- b) Disponer con planes de prevención y gestión validados por el Ministerio del Medio Ambiente según lo establecido en el artículo 5 y cumplir a cabalidad con las acciones incluidas en éstos

.CVS: To have an approved plan is not sufficient at all. It is the fulfilment of the plan (which needs to be approved) leads to compliance. This text is not properly drafted as to enable proper measurement.

It is better to state that "producers" are compliant in the event they:

- 1) Register themselves with the EPR Producers Register.
- 2) Fullfill all legal and regulatory requirements in relation to the obligation referred to in Article 1.
- 3) Meet the targets within the timelines, which are developed by regulation

Si las organizaciones de productores para la logística reversa referidas en el artículo 1 incluyen a pequeñas empresas y

microempresas definidas en el artículo 2 de la Ley 20.416, les serán aplicables los criterios de gradualidad para las metas y los plazos de tratamiento referidos en el inciso anterior.

²⁰ Propuesta: deberán ser revisados cada cinco años

²¹ Duda: deberemos evaluar la aplicabilidad. En general los PYMEs participarán en asociaciones. Éstas deberán cumplir las metas y plazos. Cómo traspasan los 'beneficios' de la gradualidad

Artículo 5.- Cada productor y las organizaciones de productores para la logística reversa referidos en el artículo 1 de la presente ley deberán presentar al Ministerio del Medio Ambiente un plan de prevención y gestión de residuos de productos prioritarios en la forma y plazos que establezca. Este plan ²²deberá contener las medidas y fuentes de financiamiento para asegurar la continuidad financiera y operacional de las actividades en el contenidas para, a lo menos, el plazo de 5 años, en conformidad con los requisitos mínimos establecidos en el reglamento referido en el artículo 1 y 9

El Ministerio del Medio Ambiente deberá evaluar y comprobar que los planes se encuentren en conformidad con los requisitos requeridos y deberán ser validados mediante resolución exenta según los procedimientos y plazos que establezca el reglamento referido en el artículo 1.

Todos los planes de prevención y gestión de residuos deberán ser auditados externamente una vez al año para comprobar e al menos el estado de cumplimiento de las metas y plazos referidos en el artículo anterior. Los resultados de la auditoría deberán ser presentados a la Superintendencia del Medio Ambiente en la forma y plazos que esta disponga.

Artículo 6.- In the event there is already existing legislation concerning EH&S and other technical requirements / regulations for waste management activities available this ARTICLE can be deleted. In the event this is not the case, than it can stay.

Se faculta al Ministerio del Medio Ambiente a establecer a través de un reglamento, sin perjuicio de las obligaciones legales vigentes, las especificaciones técnicas, condiciones y requisitos de toda actividad de gestión de residuos. Éstas deberán estar diseñadas, construidas, operadas y cerradas al término de su vida útil cuando corresponda, de modo que cumplan su función con plena seguridad, considerando una adecuada gestión de riesgos para la salud de la población y el medio ambiente y que faciliten la gestión de residuos en general para velar por la adecuada aplicación de todas las disposiciones de la presente ley.

Artículo 7.- Normally this affects product regulations. I donot know to which extent there is separate law available concerning product stewardship and product regulations (in terms of information etc...). In the event there is, we need to assess first how to link or integrate these requirements into those.

En materia de prevención, según lo definido en el artículo 3, y sin perjuicio de las atribuciones de otros organismos del Estado,

se faculta al Ministerio del Medio Ambiente para administrar un Sistema Nacional de Etiquetado Ambiental que permita poner a disposición de la comunidad información sobre la calidad ambiental de cualquier producto comercializado en el mercado nacional y establecer criterios ambientales, con respecto a su vida útil, tiempo de degradación²³, peligrosidad, potencial de valorización, producción mediante materiales valorizados y otros que indiquen su impacto sobre el medio ambiente y la salud de la población. La persona responsable de la primera venta de los productos en que se establezca dichos criterios ambientales mediante decreto supremo del Ministerio del Medio Ambiente, deberá realizar una evaluación al respecto y tendrán derecho a un certificado conforme a las normas que establezca un reglamento redactado para tal efecto.

Artículo 8.- (why the associations as well??? This register should have the purpose to control “the producers” in their day to day business ((as defined) not the associations (schemes) since they will receive an accreditation from the MMA))²⁴

Las organizaciones de productores para la logística reversa y los productores individualmente en el caso que no hubieren adherido a una de dichas organizaciones, referidas en el artículo 1 deberán cumplir los requisitos y condiciones establecidos en el reglamentos mencionados, incluyendo porcentaje mínimo de recolección y tratamiento.

El Ministerio del Medio Ambiente podrá retirar, temporalmente o de manera permanente, a los inscritos en el registro al incumplirse

²² Adicional: Una estimación de las cantidades de los productos prioritarios que serán puestos en el mercado, y el promedio de su vida útil + La fórmula para calcular las cuotas a pagar por los productores asociados
Explicación: deberá ser la misma cuota para todos los productores miembros.

²³ Propuesta: eliminar. Porque depende de las condiciones// Propuesta: cambiar por ‘presencia de sustancias nocivas’// Duda: entiendo que se refiere al uso de material y energía valorizado en el proceso de producción?

²⁴ Propuesta: separar registro de productores y asociaciones de los destinatarios. Son 2 actores con función completamente distinto.

cualquiera de los requerimientos de la presente ley²⁵.

Artículo 9.- Créase el Fondo Nacional de Gestión de Residuos, administrado por el Ministerio del Medio Ambiente, destinado a financiar proyectos, programas, estudios y acciones de fomento y promoción orientados a la gestión de residuos, y cuyo patrimonio estará integrado por:

- a) Los recursos que para este objeto deberán consultarse anualmente en la Ley de Presupuestos de la Nación;
- b) Los recursos que el Gobierno reciba por concepto de asistencia técnica o cooperación internacional;
- c) Las donaciones, herencias y legados que reciba, las que estarán exentas del trámite de insinuación a que se refiere el artículo 1.401 del Código Civil y de toda contribución o impuesto;
- d) Los recursos que le asignen otras leyes;
- e) En general, cualquier otro aporte proveniente de entidades públicas o privadas, nacionales o extranjeras, a cualquier título.

El reglamento referido en el artículo 1 establecerá los criterios para la asignación de recursos y los proyectos que califiquen para financiamiento²⁶.

Artículo 10.- La fiscalización y sanción de las obligaciones contenidas en esta ley corresponderá a la Superintendencia del Medio Ambiente. A su vez, le corresponderá sancionar a los infractores de la presente de ley en los casos que sea necesario. También le corresponderá a la Superintendencia del Medio Ambiente certificar los criterios ambientales referidos en el artículo 7.

La Superintendencia del Medio Ambiente podrá contratar para sus labores a terceros idóneos debidamente acreditados en la forma establecida en el artículo 3 letra c) de su Ley Orgánica.

Los requisitos y procedimientos para la certificación, autorización y control de dichas entidades y los auditores referidos en el artículo 5 se regirá por el reglamento a que hace referencia el mencionado artículo 3 letra c) de la Ley Orgánica de la Superintendencia del Medio Ambiente.

Artículo 11.- Serán consideradas infracciones a la presente ley al menos las siguientes:

- a) El incumplimiento de la obligación de inscribirse en el Registro mencionado en el artículo 8.
- b) El incumplimiento de las obligaciones de reporte de información a las cuales hace mención el artículo 8.
- c) El incumplimiento metas, plazos de cumplimiento y otros requisitos establecidos en planes de prevención y gestión de residuos referidos en el artículo 5 de la presente ley.
- d) No remitir anualmente a la Superintendencia del Medio ambiente un informe con la auditoría señalada en el artículo.
- e) No remitir planes de prevención y gestión de residuos al Ministerio del Medio Ambiente y no informar de modificaciones según lo señalado en el artículo 5.
- f) No realizar la certificación de criterios ambientales referida en el artículo 7.

Artículo 12.- A los infractores de la presente ley, la Superintendencia del Medio Ambiente, podrá aplicar una o más de las sanciones definidas en conformidad a los artículos 38 y 40 de su ley orgánica. La sanción que corresponda aplicar a cada infracción se determinará, según su gravedad, dentro de los rangos establecidos en la ley N° 20.417.

Artículo 13.- La entrada en vigencia de la presente ley no eximirá a los sujetos regulados al cumplimiento de las demás obligaciones de carácter ambiental establecidas en el ordenamiento jurídico a esa fecha o que se establezcan con posterioridad.

²⁵ Duda: mejor incluir eso en art 12, sanciones?

²⁶ Duda: en la versión anterior se indicó que con estos recursos no se puede financiar profesionales (de la Corporación, en este caso sería MMA)?

COMMENT:

The draft proposal mentioned above includes further comments from us on some items.

There is no final versión available since the legal department of the MMA is further finalising the text prior to submitting it to the Congress.

We did not receive the final proposal of review or information purposes so far.