

ROLES AND RESPONSIBILITY OF STAKEHOLDERS IN EXTENDED PRODUCER RESPONSIBILITY (EPR) SYSTEM: LESSONS FROM INTERNATIONAL EXPERIENCE AND PROPOSAL TO VIETNAM

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Abstract

Extended Producer Responsibility (EPR), implies that producers take over the responsibility for collecting or taking back used goods and for sorting and treating for their eventual recycling. Such a responsibility may be merely financial or organizational as well. Implementing an EPR system enhances the interactions between different stakeholders, as well as assigning them new responsibilities. The precise nature of these responsibilities varies to reflect the institutional landscape in each individual country and exactly how the EPR system operates in practice.

In Vietnam, EPR has stipulated in the Law on Environmental Protection (LEP) 2020. Learning from the experience of implementing EPR in some countries around the world, models for producers to carry out their responsibilities in waste collection, recycling and treatment have been proposed. The identification of stakeholders, their roles and responsibilities, and specific requirements for a transparent EPR system should be clarified in the Decree guiding the implementation of EPR regulations in Vietnam.

Key words: *Extended Producer Responsibility (EPR), Producers, Waste management*

1. Concepts of Extended Producer Responsibility (EPR)

The rising consumption of a range of complex durable goods over the years has resulted in a serious environmental problem. This is experienced in the form of a large quantity of worn out or end-of life products. Proper management of the waste thus generated has been a matter of serious concern for policy makers. In the 1990s, increasing public

perception against the common disposal methods of landfill disposal and incineration led to the formulation of new policies in the Organisation for Economic Co-operation and Development (OECD) countries. Focus shifted to the diversion of wastes towards recycling and reuses (Ferrão et al., 2008).

Extended Producer Responsibility (EPR) is based on the polluter-pays principle (PPP), but emphasises life-cycle impact of the products and internalization of the externalities related to the end-of life products and also encourages environmentally friendly design of the products (Ferrão et al., 2008; Kibert, 2004; Nnorom and Osibanjo, 2008). EPR is an efficient resource management tool whereby producers take over the responsibility for the end of life management of their used products. This can include collection, sorting and treating these for their recycling and recovery. Its basic feature is that actors across the product value chain (manufacturers, importers and retailers) assume a significant degree of responsibility for the environmental impact of their products throughout their life-cycle. This includes products' 'upstream' impact linked to the selection of materials, product design and production processes as such, as well as 'downstream' impact relating to the products' use and disposal.

The OECD defines EPR as “an environmental policy approach in which a producer’s responsibility for a product is extended to the post-consumer stage of a product’s life cycle” (OECD, 2001). The responsibility of the producer can be physical, financial and/ or informational. There are four main objectives EPR, namely: source reduction (resource conservation/ natural materials), waste prevention, design compatible products more environmentally friendly, as well as using closed loop approach to promote sustainable development. There are two related features of EPR policy: (1) shifting of responsibility (physically and/ or economically; fully or partially) to the upstream producers and away from the municipality and general taxpayer, and (2) to provide incentives to producers to incorporate environmental considerations in the design of their products (OECD, 2001).

EPR requires manufacturers to finance the cost of waste collection and recycling of designated products (Nahman, 2010; Nash and Bosso, 2013). The main function of the EPR is to shift financial management responsibilities and/ or physical waste from local government authorities and the general taxpayers to producers. Environmental costs of treatment and disposal could then be incorporated into the cost of the product. This creates the settings to get the existing market, so it truly reflects the environmental impact of products, as well as where consumers can make choices as they wish based on environmental price signals (OECD, 2001). Internalization of external environmental costs is considered a fundamental aspect of environmental policy design and more specifically of EPR and these tenets have now been formally included into the EU Waste Framework Directive (OECD, 2019).

EPR aims to shift the financial or physical responsibility for ending the life of the product to the beneficiary of the product, so an increase in producer have incentives to provide environmentally friendly products with efficient use of materials containing less hazardous materials (Jacobs and Subramanian, 2012). Intensive use of EPR is expected to improve the design of environmentally friendly products, their prevention and recycling (Rotter, 2011).

2. Roles and Responsibility of Stakeholders in EPR System

In many countries, the management of municipal solid waste is the responsibility of the state, and is usually carried out at municipal/ local authority level. The waste is either directly collected by the relevant state authority or by private companies working on the state's behalf. The costs of such systems are borne by the local authorities and/or national government, with citizens contributing financially through their municipal solid waste fees or taxes.

Producers of products/ goods and other stakeholders along the product value chain are only held responsible for ensuring their products meet certain health and safety standards.

In such systems, funding often only covers the collection of municipal solid waste, transport and disposal at landfills or open dumpsites. Local authorities frequently lack expertise and resources. Recycling often relies on the informal sector, within which multiple stakeholders collect, sort and recycle materials with a sufficiently high material value, often under inadequate welfare and environmental conditions. Transitioning towards sustainable waste management and a circular economy therefore requires a new approach, one that involves all stakeholders at every stage of the product value chain.

The EPR system involves several stakeholders: producers and importers of EPR products, Producer Responsibility Organizations (PROs), distributors of products covered under EPR, waste facilities companies dealing with collection, treatment, recycling or disposal of wastes), municipalities, state authorities (central environmental authority, local environmental authorities, state supervision bodies, police, customs, etc.).

Producer/ importer sells products to consumers through his distributors/ retailers. Consumer after the life cycle of the product has the possibility to deliver the waste product to the distributor which may provide a take-back system (when selling a new product to take over the waste product on one-to-one basis), or consumer can utilize the municipal waste collection system to deliver the waste product directly to the waste facility operating in the municipality.

The distributor in cooperation with the relevant entity of the EPR scheme delivers waste products to waste facility which provides for environmental sound management of waste products and has the permit for these activities from the state authority. How the take-

back is organized depends on the scheme that the respective producers of the products have set up.

Producers can take care of their end-of-life products through a third-party organization taking care of waste management on behalf of the producer, a so-called Producer Responsibility Organization (PRO); or individually following the principle of Individual Producer Responsibility (IPR) stipulating that a producer himself takes care of the (end-of-life) products that he has put on the market; or a government-run EPR Centre that organizes end-of-life product collection and management for all producers covered under EPR legislation.

Producer by the means of his EPR scheme (PRO / IPR / EPR Centre) has the responsibility for a functional system and is obliged to finance the system.

The producer gives the information on amounts and types of products put on the market in dedicated period, usually once a quarter to the relevant entity in the EPR system. In case of using a PRO the producer informs the PRO which informs the relevant public authority and the waste management company that he has contracted. If a producer fulfils his EPR obligation through IPR he himself informs the relevant public authorities and waste management companies.

The relevant institutions of the EPR system (PRO, producers themselves, EPR Centre) communicate with the state authority (usually Ministry of Environment) on different issues: the relevant actor initiates the registration of producers in central registers and reports the amounts of products put on the market as well as the amounts of wastes collected, treated and recycled. Often the central state authority asks for other information (e.g. on financing of the system...).

The distributor may be obliged to implement take-back system and communicates with the relevant entity of the EPR system (PRO/ producer/ EPR Centre) on conditions of transport of collected waste to waste treatment facility. The producer communicates with distributor on recycling contribution which is included in the product price. The relevant actor of the EPR system (PRO/ producer/ EPR Centre) communicates with waste facility dealing with transport of waste products, as well as with waste treatment and/ or recycling facility. If the waste products are collected in the system of separate collection of wastes in municipalities, municipalities communicate with the relevant entity of the EPR system (PRO/ producer/ EPR Centre) to provide for transport of waste products to waste treatment facility. Producer is obliged to supply information on product design and content of hazardous materials to waste treatment facility in order to ensure environmentally friendly treatment of wastes.



Figure 1: Stakeholder and Their Responsibilities With Respect To EPR Mandate

According to Prevent Waste Alliance (2019), implementing an EPR system enhances the interactions between different stakeholders, as well as assigning them new responsibilities. The precise nature of these responsibilities varies to reflect the institutional landscape in each individual country and exactly how the EPR system operates in practice. As EPR schemes only cover part of the total volume of municipal solid waste, they need to be integrated into broader waste management and circular economy policies.

Roles and Responsibility of Producers

Obliging producers to assume responsibility for their product waste forces them to take on a new role in the value chain. The term ‘producer’ refers to any company that introduces their products/ goods for consumption to a national market. Also, the product will be discarded in the same national market. It is irrespective of whether the product is produced domestically or imported. This definition helps to maintain a level playing field between companies importing products (importers) and companies that produce/ package their products within the country concerned (domestic producers).

The producers’ responsibility within an EPR scheme may be defined as:

‘Simple’ financial responsibility: Producers have no obligation but to finance the existing waste management channels. Studies show that schemes using this model have few other incentives to improve waste management, apart from the financial incentive.

Financial responsibility through contracts with municipalities: Producers establish contracts with municipalities to collect and manage waste. The producers’ motivation to improve waste management depends on the type of contract and on the dialogue with municipalities. The financial contribution of producers can be conditioned to quantitative results reached by municipalities (in terms of collection or recycling rate), quality check, or requirements on the type of collection and treatment schemes to be implemented.

Financial responsibility and partial organisational responsibility: Some activities are kept under the responsibility of municipalities (e.g. collection whether implemented directly by public waste collection operators or contracted to private companies), backed financially by producers, whereas some other activities (e.g. sorting, recovered materials reselling) are under the responsibility of producers.

Financial responsibility and full organisational responsibility: The producers subcontract activities to professional waste collection and treatment operators, or even own part of the collection and treatment infrastructure.

As these companies are obliged to assume extended responsibility under the EPR system, they are referred to as the ‘obliged companies’ within the system. A suitable legal framework should be drawn up to underpin the EPR system and make it mandatory for obliged companies to ensure compliance, including appropriate monitoring mechanisms and enforcement powers.

The change in the role fulfilled by the obliged companies has a knock-on effect on the roles and responsibilities of the other stakeholders right along the product value chain. This is why a successful EPR system needs the active participation of all stakeholders (Prevent Waste Alliance, 2019).

Defining roles and responsibilities is a political process involving multiple stakeholders. The specific roles and responsibilities assigned to each stakeholder always depend on the circumstances at play, including the applicable legal and institutional frameworks. Responsibilities also have to be consistent with the structures of the existing or planned EPR system and its various components, since the way systems are set up and operate in practice vary between countries.

Although operational EPR systems vary significantly between countries, all EPR schemes should be designed to strike a balance, simultaneously managing producers’ obligations at the same time as ensuring that environmental policies are implemented as appropriate and in line with the ‘polluter pays’ principle. Accordingly, the basic principles of EPR systems are almost the same in every country: (1) Every producer pays a fee when introducing a packaged good into the market. This fee is proportional to the amount of packaging being introduced; (2) The fee covers the collection, sorting and recycling of the packaging waste; (3) Collection, sorting, and recycling or energy recovery of waste remains the responsibility of the producer(s) concerned. However, the activity required to exercise this responsibility can be delegated to other companies or organisations. EPR systems can be implemented based on individual responsibility, collective responsibility, or a mixture of the two. The decision as to the most appropriate model for an individual system should be discussed as part of a political, multi-stakeholder dialogue, and the exact details of the model agreed upon should be clear to all stakeholder (Prevent Waste Alliance, 2019).

3. Waste Generation and Management in Viet Nam

Viet Nam is a developing country with rapid urbanization, industrialization and population growth with a growing middle-income class and changing consumption patterns. With this, the volume of Vietnam’s solid waste has increased. The Vietnam Environment Administration found that the extent of municipal solid waste generation in the country increases by 10 – 16% every year. The generated waste volume will then increase in future and is estimated to reach a total of around 91 million tons in 2025 (Figure 2). Besides that, there is a threat of illegal import of waste from other countries to Viet Nam under “scrap import”. Furthermore, new waste types such as e-waste, C&D waste, food waste, and disaster waste will emerge as new issues that need to be resolved.

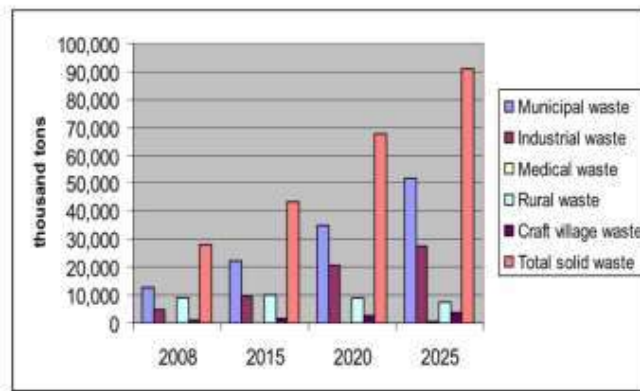


Figure 2: Waste generation projection in Viet Nam by 2025

Source: MONRE, MOC, 2009

According to a study conducted by the Viet Nam Economics and Policy Research institute (VEPR) in 2015, waste management flow can be described in figure 3.

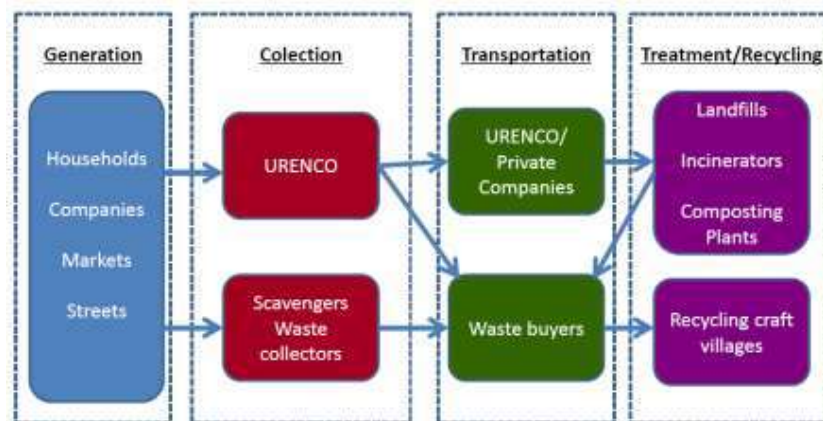


Figure 3: Scheme of waste management in Viet Nam

Source: VEPR, 2015

Currently, about 85% of the waste generated in Vietnam is being buried without treatment in landfill sites, 80% of which are unhygienic and pollute the environment. The national 3R (Reduce, Recycle, Reuse) campaign gained momentum with wastes being dumped into the nearest landfills. Majority of the companies in Vietnam's solid waste management industry are state-owned with the technologies provided by the foreign countries, few of them are large multinational companies and have subsidiaries in Vietnam. Most of the technology providers are from Singapore, China, USA and European countries. However, adoption of technologies in the country is lower and is mainly focused on the hardware products.

Waste prevention and reduction have not been paid enough attention in Viet Nam in both production and daily life. There have not been any incentive policies or compulsory measures for households to reduce their solid waste generation. With regards to industrial waste, most recyclables are sorted right from where they are generated for reuse and recycling. As a result, recyclables will be used as materials for production in the industries themselves. Other scraps which are non-reusable for such production processes but could possibly be used for secondary production will be gathered and sold to recycling units. The rest will be moved to the waste storage of companies or collecting units to transport to treatment facilities.

4. EPR Legal Framework in Viet Nam

EPR has stipulated for the first time in the Law on Environmental Protection (LEP) 2005 with regulations on recall and treatment of waste products and is specified in Decision No. 50/2013/QĐ-TTg on August 9, 2013 of the Prime Minister.

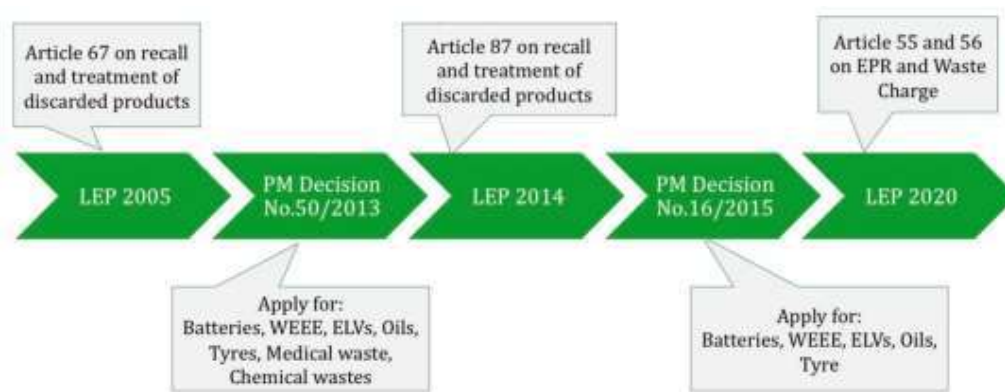


Figure 4: Policy Evolution on EPR in Viet Nam

Source: Nguyen Hoang Phuong, 2020

After that, EPR is further inherited and stipulated in the Law on Environmental Protection 2014 with the responsibility for recall and disposal of waste products and is specified in Decision 16/2015/QĐ-TTg on 22/5/2015 of the Prime Minister.

However, due to various reasons, EPR has not been implemented in practice in Vietnam.

On November 17, 2020, the National Assembly passed the new Environmental Protection Law, which stipulates Extended Producer Responsibility for businesses in Vietnam in Articles 54 and 55. This means that businesses and producers now bear the responsibility for the waste stage of their products.

There are 6 groups of products and packaging subjected to the recycling responsibility of producers and importers: food and beverage packaging; waste from electrical and electronic equipment (WEEEs); tires; batteries; lubricants; and end of life vehicles.

The items under producers' responsibilities for collection and treatment of wastes include: packages for pesticides and chemicals; chewing gum; napkins; cigarettes; industrial products made of plastic and its packing materials.

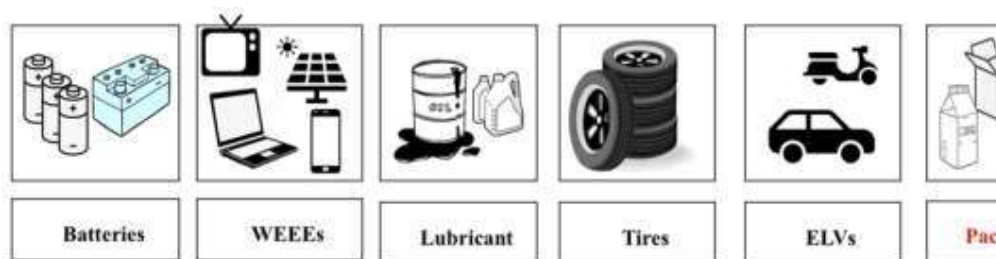


Figure 5: Products and packaging to be recycled (Article 54 of LEP, 2020)

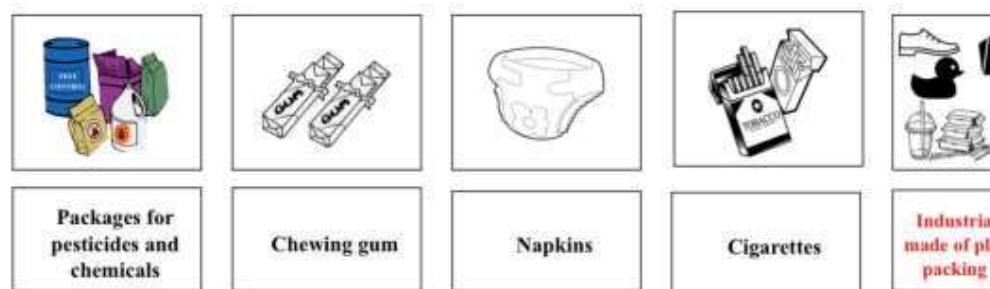


Figure 6: Products and packaging to handle (Article 55 of LEP, 2020)

5. Proposed Roles and Responsibility of Stakeholders in Vietnam’s EPR System

Roles and Responsibility of Stakeholders in Waste Recycling

Article 54 of LEP 2020 regulates that:

1. Organizations and individuals that manufacture or import recyclable products and packages must recycle in accordance with the required recycling rate, methods, and standards, except for exported, temporarily imported products and packages, re-exported, manufactured, or imported for research, study and testing;

2. Organizations and individuals may choose to recycle products and packages in one of the following forms: (a) Organize the recycling of products and packages; (b) Make a financial contribution to Vietnam Environment Protection Fund to support product and packaging recycling;

3. Organizations and individuals defined in this Article must register their recycling plans and report annual recycling results to the Ministry of Natural Resources and Environment (MONRE).

Producers have important roles and responsibilities in this EPR system. However, that responsibility cannot be fulfilled without the effective role and participation of other stakeholders. Model of stakeholders' roles and responsibilities in recycling is proposed in figure 7.

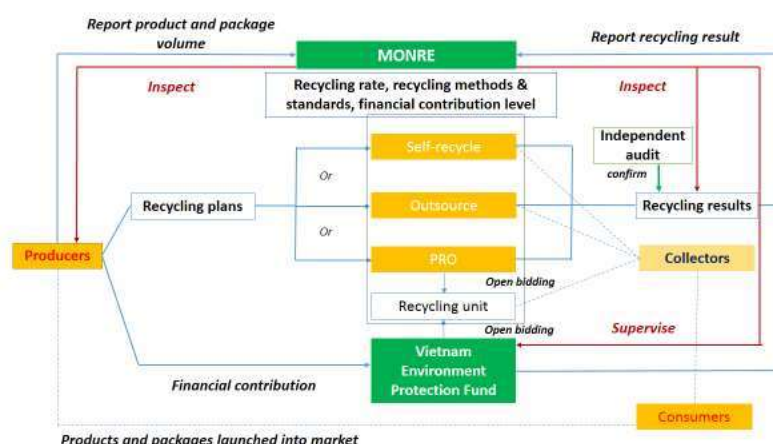


Figure 7: Stakeholders' roles and responsibilities in recycling

Producers can implement EPR in one of three ways: (1) Carry out the recycling by themselves; (2) Do recycling through a third-part, that is Product Recycling Organization (PRO); and (3) Make a financial contribution to the Viet Nam Environmental Protection Fund (VEPF). In other words, producers can participate in EPR either individually or collectively under the PRO or the VEPF. To avoid free-riding problems, producers who do not adopt EPR are subject to fines. Producers that recycle themselves or do so via a third party will have to report through a national EPR data portal managed by MONRE. If a producers that does the recycling itself fails to reach the recycling target over 3-5 years in a row, it will be forced to participate in one of the other two mechanisms. A producers that refuses to choose any mechanism will be fined; if it exceeds its recycling target it can sell

credits to other businesses through a tradable credits system. Producers who fail to perform or fully performs the compulsory recycling responsibility, in addition to receiving administrative punishment, must also pay twice the amount required to handle the remaining required proportion in correspondence with the level of contribution to VEPF.

There are requirements for self-recycling producers or recycling units hired by producers: (1) Being a legal entity; (2) Having recycling function and capacity (technology, finance); (3) Having an environmental license in accordance with the law; and (4) Not violating the law on the environment. Recyclers that do not qualify or pollute the environment cannot join the EPR system.

The PRO or third party authorized by producers to organize the recycling must satisfy the following conditions: (1) Have legal status and is established in accordance with law; (1) Be a non-profit organization; (3) Does not directly recycle and has no ownership relationship with any recycling unit in connection with the authorized scope; and (4) Be authorized by at least 03 producers to organize the recycling; those recycling packages must be authorized by at least 10 producers or importers. The third party authorized by producers to recycle must be registered for operations, must be verified by Vietnam EPR Office prior to operations, and is responsible before the law and producers under the authorized scope.

Mandatory recycling rates and projected financial contribution rates over a 3-year period will be proposed by the inter-sectoral committee and approved by the MONRE Minister. A multi-stakeholder council including representatives from MONRE, General Department of Tax, General Department of Customs, PROs and CSOs, will approve the recycling targets and fees payable to VEPF.

Vietnam EPR Office selects and signs contracts with recyclers in accordance with the provisions of the law on bidding or in the form approved by the National EPR Council to recycle for producers. VEPF is responsible for paying recycling units the recycling cost under the signed contracts and responsible for publicizing the contributions received from producers and the results of using the annual contributions.

Roles and Responsibility of Stakeholders in Waste Collection and Treatment

Regarding hard-to-recycle or hazardous waste such pesticides, chewing gum, napkins, tobacco, and single-use plastics, producers have to pay the VEPF to handle collecting and treatment. This funding will be allocated by MONRE to local authorities. VEPF will be responsible for monitoring implementation while producers will report to MONRE the quantity and volume of products sold on the market.

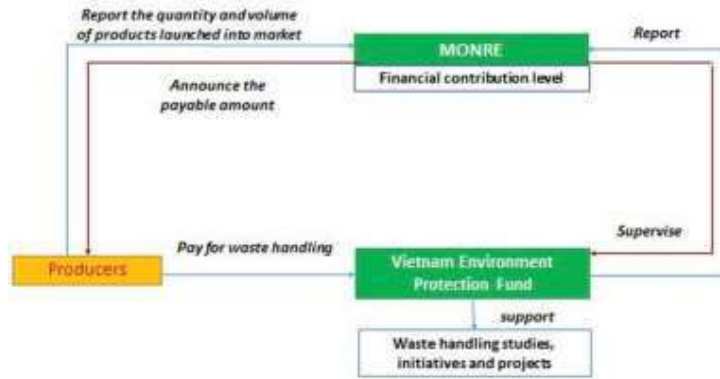


Figure 8: Stakeholders’ roles and responsibilities in waste handling

According to Article 55 of the LEP 2020, responsibilities for collection and treatment of wastes are as follows:

1. Organizations and individuals that produce and/ or import products and packages containing toxic substances, which are difficult to recycle or cause difficulties for the collection and disposal must contribute financially to support activities (except for products exported or temporarily imported for re-export or produced or imported for the purpose of research, study or testing): a) Collect, transport, and handle solid waste discharged by households and individuals; b) Study and develop technology, techniques, and initiatives for household solid waste treatment;

c) Collect, transport, and handle packages containing pesticides.

2. Organizations and individuals defined above make financial contributions to the VEPF; the financial contribution level is determined by volume or unit of product or packaging.

Manufacturers who fail to perform or fully perform its responsibility to provide the funding to support the waste treatment in addition to receiving administrative punishment must also pay an amount equal to 30% of the payable amount and an additional 10% if failing to make payment in the next period. Late payment will be subjected to an interest of 0.03%/day based on the overdue amount.

Agencies, organizations and communities wishing to receive funding support for waste treatment activities as specified in Article 55 of the LEP shall make a dossier requesting support and submit to the Vietnam EPR Office for selection and approval. EPR Office gathers dossiers requesting support and organizes the verification of the funding request of the organizations or individuals specified to submit to the National EPR Council for consideration and approval. Then National EPR Council discusses and approves funded projects. Vietnam EPR Office publicly announces the funded projects to agencies,

organizations and communities. VEPF signs sponsorship contracts with agencies, organizations and communities whose projects are funded according to the provisions of VEPF. Funded projects are activities that directly serve the community's interests and do not aim for profits. VEPF is responsible for publicizing the total contribution amount and the results of using the annual contribution.

6. Conclusion and Recommendations

As stated by Prevent Waste Alliance (2019), the most common difficulty in establishing an operational EPR scheme, containing clear roles and responsibilities, is reaching an unambiguous agreement as to which companies are, and are not, obliged under the system. This requires a clear definition of what constitutes an obliged company, as well as cooperation between multiple ministries and/ or agencies to identify the companies concerned. Implementing an EPR system enhances the interactions between different stakeholders, as well as assigning them new responsibilities. The precise nature of these responsibilities varies to reflect the institutional landscape in each individual country and exactly how the EPR system operates in practice. As EPR schemes only cover part of the total volume of municipal solid waste, they need to be integrated into broader waste management and circular economy policies.

The identification of stakeholders, their roles and responsibilities, and specific requirements for a transparent EPR system should be clarified in the Decree guiding the implementation of EPR regulations in Vietnam.

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