switchasia

Funded by the European Union

Enablers for Effective EPR in the Asia-Pacific Region

Lessons from developed and developing countries in the EU and Asia

KAZAKHSTAN

Acknowledgement

Enablers for EPR in the Asia-Pacific Region: Lessons from developed and developing countries in the EU and Asia was written as part of the technical support provided to the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan through the SWITCH-Asia SCP Facility, which is funded by the European Union.

Author: Yerbol Orazbekov, SWITCH-Asia Expert in Kazakhstan

Supervision and coordination: Zinaida Fadeeva, SWITCH-Asia SCP Facility

switchasia

Funded by the European Union

The SWITCH-Asia Programme

TABLE OF CONTENTS

LIST OF FIGURES

LIST OF TABLES

ABBREVIATIONS

3Rs	Reduce, reuse, recycle
BAT	Best available techniques
CA	Central Asia: Kazakhstan, Kyrgyz Republic, Tajikistan, Turkmenistan, Uzbekistan
C&D	Construction and demolition
ECA	Europe and Central Asia
EL-SPAM	End-of-life self-propelled agricultural machinery
ELV	End-of-life vehicle
EPR	Extended Producer Responsibility
ICI	Industrial, commercial and institutional
IEA	International Energy Agency
KZT	Kazakhstani Tenge
LEB	Local executive body
MCI	Monthly Calculation Index, an indicator used to calculate allowances and other social payments, as well as to apply penalties, taxes, and other payments in accordance with the legislation of the Republic of Kazakhstan
MENR	The Ministry of Ecology and natural resources of the Republic of Kazakhstan
MSW	Municipal Solid Waste
NGOs	Non-governmental organisations
WEEE	Waste electrical and electronic equipment

1. EXECUTIVE SUMMARY

This technical advisory project aims to study and develop Extended Producer Responsibility (EPR) mechanisms in the Asia-Pacific region. By leveraging the successful experiences of the European Union (EU) and Asian countries, the initiative will help identify key factors that make EPR systems effective in different countries, as well as uncover barriers to development and ways to overcome them.

Background of EPR

The concept of Extended Producer Responsibility (EPR) was first introduced on October 26, 1990, by Swedish researcher Thomas Lindhqvist in a report for the Swedish Ministry of the Environment.[1] The EPR system, based on the 'polluter pays' principle, is an environmental strategy aimed at reducing the overall impact of a product on the environment by making the producer responsible for its entire life cycle—from production to collection, recycling, and disposal.

An important aspect of the project is the participation of Dr Thomas Lindhqvist, the author of the Extended Producer Responsibility (EPR) concept. His contribution provided a deep understanding of the historical context, global experience, and the future role of EPR in shaping a circular economy.

Since its inception, EPR has gained widespread adoption, particularly in the EU, where it has become an essential part of the transition to a circular economy. Today, around 400 EPR systems are in operation worldwide, and their number continues to grow.[2] However, the implementation mechanisms vary depending on the economic development, infrastructure, and regulatory conditions of individual countries.

EPR and the Circular Economy

One of the key directions in waste management development is the transition to a circular economy, where waste is viewed as a resource. EPR, as an integral component of the circular economy, plays a crucial role in this process by ensuring the collection and recycling of secondary raw materials while reducing landfill volumes.

An efficiently functioning EPR system contributes to:

- Reducing the burden on natural resources by increasing the share of recycled materials.
- Encouraging manufacturers to design more eco-friendly products with sustainability in mind.
- Boosting the recycling industry, creating new jobs and economic opportunities.
- Fostering responsible consumption, where both producers and consumers participate in waste reduction efforts.

As the world moves toward sustainable development, EPR systems have become a key tool in implementing circular economy principles, helping countries achieve environmental and economic resilience.

Project Objectives

- Identify success factors and challenges in the implementation of EPR.
- Analyse existing regulatory frameworks and initiatives related to EPR.
- Identify key experts and organisations influencing EPR development.
- Develop practical recommendations for improving EPR systems in the region.

1 https://en.wikipedia.org/wiki/Extended_producer_responsibility#cite_ref-4

2 https://www.wwf.de/fileadmin/fm-wwf/Publikationen-PDF/Plastik/WWF-Hintergrundinformationen-Extended-producer-responsibility.pdf

Key Stages of Project Implementation

- Analysis of existing EPR systems in the participating countries and the state of waste management, studying best practices and conditions for their effective implementation.
- Examination of regulatory conditions for EPR implementation, assessing legislative barriers and opportunities.
- Consultations with stakeholders (interviews, surveys) involving international experts.
- Development of recommendations and organisation of both national (for each participating country) and regional meetings to exchange best practices, present recommendations, and discuss EPR development strategies in the region.

Target Countries

- Central Asia: Kazakhstan
- Southeast Asia: Malaysia, Thailand, Philippines
- South Asia: Pakistan

Expected Outcomes

- The project will help countries in the region develop more effective EPR systems, improve waste recycling regulations and financing mechanisms, and strengthen collaboration between government agencies, businesses, and the public.
- As a result, the initiative will produce a set of practical recommendations and strategies aimed at accelerating the transition to closed-loop waste management and a circular economy.

EPR in Kazakhstan

The Extended Producer Responsibility (EPR) system in Kazakhstan began developing in 2016 as a privately managed initiative. Initially, it covered the collection and disposal of packaging, vehicles and agricultural machinery, tires, batteries, oils and special fluids, and cable-conductor products. However, over time, the system underwent multiple adjustments.

In 2022, significant changes took place—EPR operations were transferred to the state, sparking debates about the future development of the mechanism.

Key Challenges for EPR in Kazakhstan

- Limited producer involvement in waste recycling processes
- Insufficient domestic recycling capacity, requiring further infrastructure development
- The need to improve legislation, particularly in terms of incentivising manufacturers to use recycled materials

Given these challenges, Kazakhstan's participation in this project is crucial, as it will allow the country to

- Gain international expertise and best practices to enhance its current EPR model
- Develop regulatory mechanisms adapted to the country's economic realities
- Strengthen coordination between the government, businesses, and civil society to improve waste management efficiency
- Identify key conditions for transitioning to a circular economy, drawing on the positive experiences of other countries.

2. INTRODUCTION

2.1. Background

Kazakhstan faces a number of environmental challenges in waste management. The low level of waste recycling, with a significant portion being sent to landfills, leads to environmental pollution and the loss of valuable resources. A critical aspect of this issue is the informal sector, which plays a significant role in waste collection, sorting, and recycling. This sector operates outside official, regulated frameworks, often leading to violations of environmental standards and a lack of social and labour regulations. Informal waste recyclers typically work without proper safety measures, in unsanitary conditions, which reduces the effectiveness of their work and has a negative impact on the environment.

Extended Producer Responsibility (EPR) systems can significantly address this situation. EPR is a mechanism in which producers take responsibility for managing the waste generated throughout the entire life cycle of their products, including collection, recycling, and disposal. This helps reduce packaging waste, encourages the creation of more environmentally friendly and recyclable materials, and promotes the transition to a circular economy.

The EU actively supports the implementation of EPR through its SWITCH-Asia programme, which aims to promote sustainable consumption and production (SCP) in the Asia-Pacific region. As part of the European Green Deal and the global Global Gateway initiative, the EU assists countries in the region in transitioning to a low-carbon, resource-efficient economy. Extended Producer Responsibility is a key element of the EU's Circular Economy Action Plan, aimed at minimising the environmental impact of waste and improving resource efficiency.

The SWITCH-Asia project, supported by the EU, focuses on implementing EPR systems in countries across the region, including Kazakhstan. The project's goal is to identify the key factors that contribute to the successful implementation of EPR systems and provide recommendations on adapting these systems to local conditions, including the formalisation of the informal sector. The study includes an analysis of stakeholders and their views on the EPR system, as well as initiatives related to EPR, which will help improve waste management, increase recycling rates, and accelerate Kazakhstan's transition to a circular economy.

2.2. Objectives of the Study

The main objective of the project is to identify the key factors that facilitate the implementation and development of EPR (Extended Producer Responsibility) in the country and the further application of such experience in other regions.

Within the project, in collaboration with international experts, recommendations for improving the EPR system in Kazakhstan will be developed and proposed for discussion by stakeholders. The recommendations will take into account the experience of other countries in the Asia-Pacific region and Europe. A knowledge-sharing session will be organised to discuss the findings and recommendations.

Key objectives of the project in Kazakhstan

- Analysis of the factors that contribute to the implementation of EPR in the country
- Assessment of the current waste management system (legislative framework, waste/recyclable material management volumes, infrastructure, stakeholders)
- Consultations with key stakeholders and participants in the EPR system in the country, discussing their vision of the EPR system, obtaining recommendations and suggestions for its improvement
- A knowledge and recommendation-sharing session with the involvement of international EPR consultants and stakeholders in Kazakhstan; the recommendations will be formulated based on factors that contribute to the implementation and development of EPR in countries previously studied
- Transfer of the finalised recommendations to the relevant stakeholders in Kazakhstan

3. STUDY AREA

As part of a project implemented in one of the Central Asian countries, Kazakhstan was selected as the focus for research. The Extended Producer Responsibility (EPR) system began implementation in Kazakhstan in 2016.

3.1. Specifics of the Central Asian Region

The Central Asian region is characterised by a number of unique features considered within the project. The post-Soviet republics in this region have had a limited period (about 30 years) to establish independent foreign and domestic policies, including setting priorities in social welfare and environmental protection. In Kazakhstan, environmental priorities are largely focused on achieving the United Nations Sustainable Development Goals (SDGs).

Information on economic growth rates in Central Asia by country for the period 2021–2026 (real GDP growth rates (%) at market prices, unless otherwise specified) is presented in Table 1.

Table 1. Economic Growth Rates in Central Asia

Countries	2021	2022	2023	2024e	2025f	2026f
Kazakhstan	4.3	3.2	5.1	3.4	4.7	3.5
Kyrgyz Republic	5.5	9.0	6.2	5.8	4.5	4.5
Tajikistan	9.4	8.0	8.3	7.2	5.5	5.0
Uzbekistan	8.0	6.0	6.3	6.0	5.8	5.9
Turkmenistan	-	-	-	-	-	-

Note: e = estimate; f = forecast; ECA = Europe and Central Asia; GDP = gross domestic product. Source: World Bank.[3]

The World Bank projects Central Asia to grow by 4.3% in 2024, down from 5.6% last year. Kazakhstan is expected to slow to 3.4%, from 5.1% in 2023, amid delays in the expansion of the Tengiz oil field and tighter fiscal policy. Growth estimates for other Central Asian countries have been revised upward by almost 1 percentage point on average, reflecting a rise in consumption, higher government spending, and continued support from remittances and trade with Russia. Despite the improved outlook, however, Central Asia's per capita GDP is expected to grow by only 2.7% this year, the slowest of any European and Central Asian (ECA) subregion except Turkey.

3.2. Specifics of Kazakhstan's economy

Kazakhstan's economy can be described as resource-based, with a strong foundation in the mining industry, oil and gas sector, and agriculture. Kazakhstan holds the 9th largest proven oil reserves globally, concentrated mainly in the western regions near the Caspian Sea; it ranks 8th in coal reserves, and 2nd in uranium reserves. The country is also among the top ten grain exporters. Traditionally, livestock farming has been well developed.

However, the processing industry in Kazakhstan remains underdeveloped, both in the industrial sector and in agriculture.

3 https://www.worldbank.org/en/region/eca/publication/europe-and-central-asia-economic-update

3.3. Administrative-territorial and Socio-economic position

The Republic of Kazakhstan is the largest economy in Central Asia and the second largest in the post-Soviet space. Since 2015, Kazakhstan has been a member of the Eurasian Economic Union. Administratively, the country is divided into 17 regions and 3 cities of national significance. With a land area of 2,724,900 km^2, Kazakhstan ranks ninth globally in terms of size.

As of June 1, 2024, the population of Kazakhstan was 20.14 million, of which 12.55 million (62.3%) resided in urban areas and 7.59 million (37.7%) in rural areas. With a population density of 7.33 people per km^2, Kazakhstan ranks 184th in the world (11th from the bottom), which contributes to the high costs of interregional logistics for both people and goods.

Population income

The estimated average nominal income per capita in May 2024 was KZT 196,431.00 (approximately USD 444 at the official exchange rate of the National Bank of the Republic of Kazakhstan as of May 1, 2024).

Gross Domestic Product (GDP)

In the GDP structure for January–March 2024, goods production accounted for 35.1%, while services production comprised 57.9%, according to reporting data. The main contributor to GDP production was industry at 28.5%, followed by wholesale and retail trade; repair of motor vehicles and motorcycles stood at 16.5%.

Industrial production statistics

The volume of industrial production in January-June 2024 amounted to KZT 23,495.4 billion (EUR 46.26 billion). In the mining and quarrying industry – KZT 10,744.3 billion (EUR 21.156 billion), in the manufacturing industry – KZT 10,967.4 billion (EUR 21.59 billion euros), in electricity, gas, steam, hot water, and air conditioning supply –KZT 1,567.3 billion (EUR 3.06 billion), in water supply, waste collection, treatment, and disposal, and pollution elimination activities – KZT 16.4 billion (EUR 0.426 billion).

Table 2. Kazakhstan's economic industry by sectors, January-June 2024

Industry	Share in total volume, in %
Mining and quarrying	45.7%
Manufacturing	46.7%
Electricity, gas, steam, hot water, and air-conditioning supply	6.7%
Water supply; waste collection, treatment, disposal; and pollution remediation activities	0.9%

Table 3. Dynamics of sales of new passenger and commercial vehicles in Kazakhstan, January–August 2023, units

Year	2022	2023	Growth per year,%
Total	74,973	120,322	60.5%

Source: ALE Kazakhstan Automobile Union (KAU)

Table 4. Number of motor vehicles in Kazakhstan in 2023

Indicator	Thousand Units	%
Buses	112.366	2.11%
Trucks	523.545	9.83%
Passenger cars	4690.900	88.06%
Total motor vehicles	**5326.810**	**100.00%**

Passenger vehicles are the most popular among the population, which increases atmospheric emissions in urban areas. Measures are being taken to enhance the attractiveness of public transport and vehicles powered by electricity or alternative fuels, but changing these habits will require time and resources both to develop the necessary infrastructure and to influence consumer preferences.

The majority of vehicles in the country are over 10 years old, and their decommissioning and recycling will soon be necessary. The age distribution of passenger cars in the country is illustrated in Figure 1.

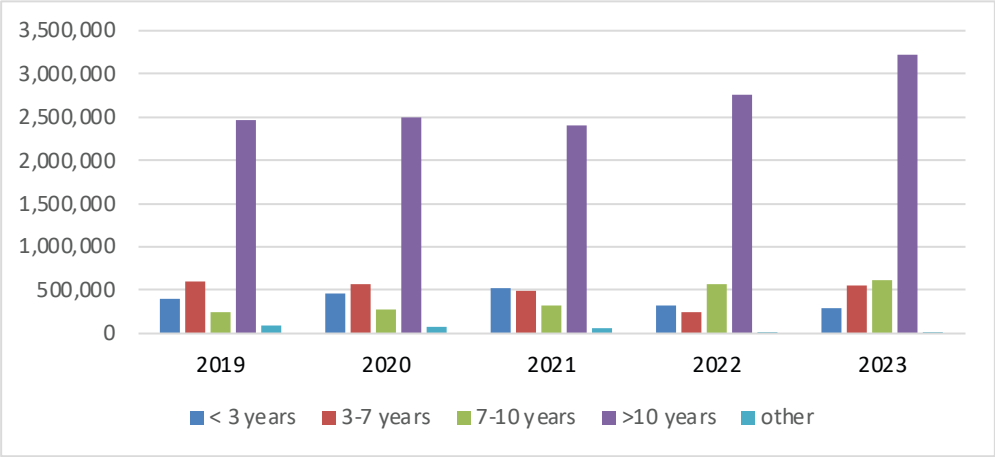

Figure 1. Dynamics of passenger cars in Kazakhstan by year of production, units

4. REVIEW OF ENABLING FACTORS FOR EPR IN KAZAKHSTAN

4.1. Baseline Waste Management situation in the country

Existing waste management system

Kazakhstan has a centralised municipal waste management system organised by local executive authorities. Residents and organisations can use the services of the centralised waste collection and disposal system. Alternatively, waste can be delivered to waste management facilities independently.

Municipal solid waste (MSW) is collected according to the schedule outlined in the contract, but this is not the case in all settlements.

At the legislative level, the separate collection of municipal solid waste (MSW) has been introduced, dividing it into dry (paper, cardboard, metal, plastic, and glass) and wet (food waste, organic matter, and others) fractions.

Additionally, containers for specific types of waste (plastic bottles, mercury lamps, electronics, and others) may be installed. There are also initiatives to introduce reverse vending machines, which are most commonly placed in shopping malls, airports, schools, and universities.

Examples of container site are shown in Figures 2 and 3, below (Ekibastuz City).

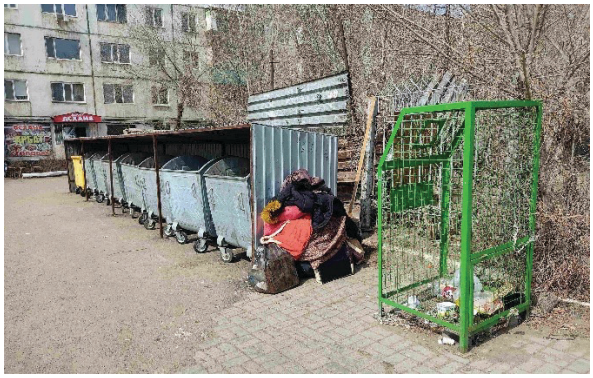

Figure 2. Container site

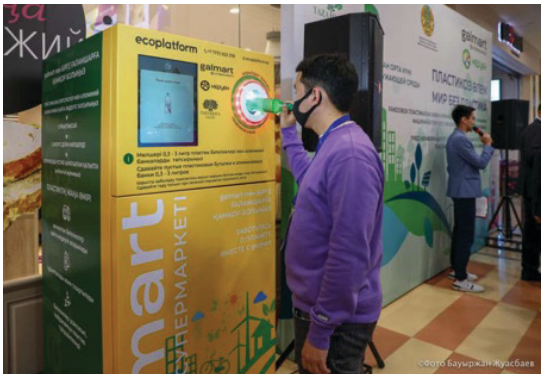

Figure 3. Reverse vending machine (for receiving containers)

An annual campaign for cleaning up territories from trash, *Taza Kazakhstan* (*Clean Kazakhstan*), is held. The event is based on the Concept for the Development of Environmental Culture for 2024–2029 (approved by the Decree of the Government of Kazakhstan).

The majority of all municipal solid waste (MSW) in Kazakhstan is transported by specialised waste collection companies.

Table 5. Number of specialised waste removal companies in the period from 2017 to 2023

Year	2017	2018	2019	2020	2021	2022	2023
Number of municipal waste collection and disposal organisations	546	601	587	625	676	729	808
Percentage of growth compared to the previous year	–	10.1%	-2.3%	6.5%	8.2%	7.8%	10.8%

Table 6. The number of enterprises and organisations for the collection and removal of municipal waste in Kazakhstan in 2023

Total	Type of organisations		Type of ownership		
	enterprises and organisations	individual entrepreneurs	government	private	foreign
808	467	341	36	768	4

The dynamics of the number of waste collection companies indicate stagnation from 2017 to 2019, followed by steady growth. This trend is clearly illustrated in Figure 4.

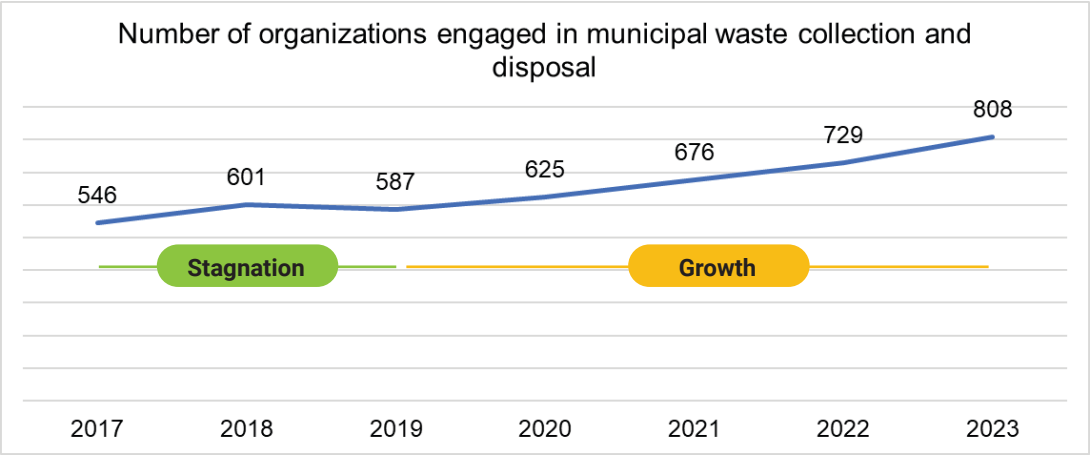

Figure 4. Dynamics of growth in the number of waste collection companies

The dynamics of the population coverage by waste removal shows growth (see Table 7). It should be recalled that, according to the law, children and adolescents under 14 years of age may not be counted when drawing up a waste removal contract (for information, in 2020, the population up to and including 15 years of age was 5,789 thousand people).

Table 7. Dynamics of population coverage by municipal waste collection services in Kazakhstan

Year	2017	2018	2019	2020	2021
Population regularly served by waste collection organisation (in thousands)[4]	7,952	8,042	8,140	8,494	8,935
Population at the beginning of the period (in thousands)	17,918	18,157	18,396	18,632	18,880
Percentage of population covered by waste removal, %	**44.4%**	**44.3%**	**44.2%**	**45.6%**	**47.3%**

The website of JSC *Zhasyl Damu* presents the morphological composition of municipal solid waste (MSW) in Kazakhstan[5] (see Figure 5).

4 https://taldau.stat.gov.kz/ru/NewIndex/GetIndex/19773508

5 https://recycle.kz/kz/sbori Kaz) ; https://recycle.kz/ru/sbori (RU); https://recycle.kz/en/sbori (EN)

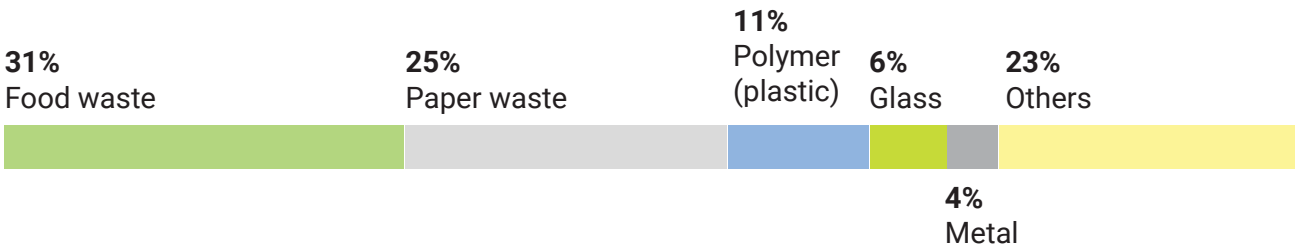

Figure 5. Morphological composition of MSW in Kazakhstan

Waste-sorting facilities do exist in Kazakhstan. The design capacity of the sorting equipment is shown in Table 8.

Since 2017, there has been a sharp increase in processing capacity, maintaining a high growth rate until 2020. Afterwards the growth rate declined, which could have been caused by COVID-19 and the loss of authority by JSC EPR Operator.

Table 8. The design capacity of sorting equipment in Kazakhstan

Year	2017	2018	2019	2020	2021	2022	2023
Capacity of sorting facility, thousand tonnes	780	1420	1630	1980	2013	2181	2165
Percent increase compared to the previous year	–	82.0%	14.8%	21.5%	1.7%	8.3%	-0.7%

Despite the introduction of waste sorting in households, the majority of such waste still ends up in landfills (see Figure 6). Effective sources of secondary raw materials include targeted collection of recyclables by specific components. For instance, in large cities, paper and plastic are collected separately in offices, markets, and educational institutions. In such cases, the materials are less contaminated and better sorted.

According to the Ministry of Ecology and Natural Resources of Kazakhstan, approximately 4.5 million tonnes of municipal solid waste (MSW) are generated annually. In 2023, a total of 4.135 million tonnes of MSW were generated, with 23.9% of it being recycled or utilised (see Figure 7). The largest share consisted of household waste, accounting for 65.6%, followed by production waste (classified as municipal) at 20.2%, street litter at 10.5%, and market waste at 2.2%.

It is important to note that not all of the population has access to waste collection services, so the reported figures do not represent 100% of the municipal waste generated.

The subsequent steps in MSW management after collection are illustrated in Table 9.

Table 9. Waste management methods in Kazakhstan, 2023

Waste Management Method	Volume (tonnes)	Share (%)
Total municipal waste transported by specialised companies (*excluding self-removal*), transferred to:	**3,298,415**	**100%**
- landfills for municipal solid waste	2,273,764	69%
- third-party organisations/waste recycling plants	914,456	28%
- own waste management facilities	36,372	1%
- other	73,823	2%

Table 9 shows that the largest volume of collected municipal solid waste (MSW) is directed to landfills.

The following is the classification of waste disposal landfills in Kazakhstan:

- Class 1 – hazardous waste landfill
- Class 2 – non-hazardous waste landfill
- Class 3 – municipal solid waste (MSW) landfill

Figure 6. MSW landfill

Figure 7. Collection of recyclable materials

As for the processing and disposal of municipal solid waste (MSW) in the country, this issue receives special attention. Statistical data on the MSW recycling rate relative to the collection volume (%) for the years 2018–2023 are presented in below.

Indicator	2018	2019	2020	2021	2022	2023
Share of recycled and reused MSW (%)	11.51	14.9	18.3	21.1	25.4	23.9

Figures 8 and 9 show the workshop of individual entrepreneur Popov (Pavlodar City) for recycling plastic waste into pellets, as well as bales of cardboard waste ready for transport. Typically, the pellets are sold to China or Russia. The cardboard is sent for recycling to Almaty (the distance by railway is 1,000 km).

Figure 8. Plastic waste recycling workshop (Pavlodar city)

Figure 9. Cardboard pressing workshop (Pavlodar city)

Bales of plastic (Ekibastuz landfill) are awaiting shipment for recycling (see Figure 10).

Figure 10. Plastic waste collection site (Ekibastuz City)

Separate collection and sorting of municipal solid waste (MSW). According to the data from the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan (hereafter referred to as MENR), more than 1000 enterprises operate in the waste management sector. Separate collection of MSW has been implemented in 130 out of 207 cities and districts of the country, and sorting is carried out in 103 settlements.

Landfills. In 2023, the total number of landfills for MSW in Kazakhstan was 3016, of which 624 (21%) met environmental and sanitary standards.

The smallest share of landfills meeting environmental and sanitary-epidemiological standards is in Pavlodar (5%), North Kazakhstan (11%), and Abai (5%) regions.

In Kazakhstan, ***the locations of illegal dumpsites*** are identified using satellite monitoring. The monitoring is conducted by JSC Kazakhstan Gharysh Sapary.[6] In 2023, 5534 unauthorised waste disposal sites were detected, and 4716 sites (86%) were eliminated.

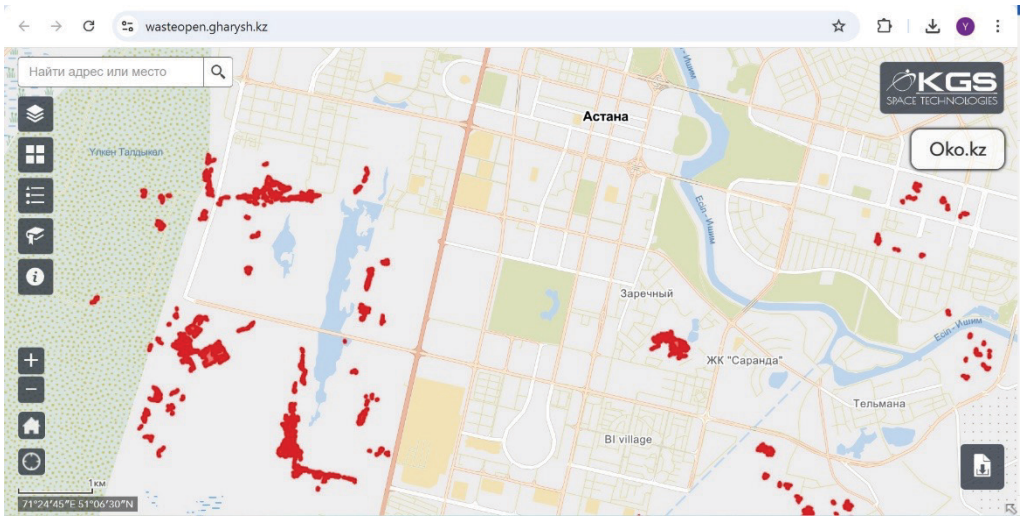

Figure 11. Map of waste disposal sites (Astana City)

6 https://wasteopen.gharysh.kz/

4.2. Incentive measures

This section presents incentive measures aimed at supporting the municipal waste management system and further handling of secondary raw materials.

Subsidising the priority sectors of the economy

Measures of state support for private entrepreneurship (approved by the Resolution of the Government of the Republic of Kazakhstan No. 1060 dated December 31, 2019) provide subsidies for part of the reward rate within the framework of the national project for the development of entrepreneurship for 2021–2025 in the priority sectors of the economy, which include:

- collection, processing, and disposal of waste; recycling (recovery) of materials
- activities for the elimination of pollution and other services in the field of waste removal

These state-support measures include subsidising loans within projects for the manufacturing industry and services:

- collection of non-hazardous solid household and industrial waste (i.e. garbage waste) in accumulation points, garbage bins, mobile trash containers, tanks, etc., and mixed recyclable materials; collection of recyclable materials
- collection of garbage from trash bins in public places
- collection of construction waste and demolition waste; collection of waste from the production of textile products; waste removal activities to recycling sites for non-hazardous waste

Public-Private Partnership (PPP) in waste management

This form of implementing waste management activities can be carried out in accordance with the legislation of the Republic of Kazakhstan in the field of public-private partnership (Article 366 of the Environmental Code of the Republic of Kazakhstan).

The activities may include both early stages – design, construction – as well as the actual implementation and operation of waste management and secondary material facilities, as well as the elimination of illegal dumpsites. The initiators of the projects are the Ministries and Agencies (MIAs), which also develop and approve the tender documentation in coordination with the authorised environmental protection authority.

The private partner's financing within the public-private partnership projects for waste management is provided through the tariff for the population for the collection, transportation, sorting, and disposal of solid household waste.

Energy purchase from renewable energy sources (RES)

The guaranteed purchase of electricity generated by waste-to-energy facilities is carried out by the Renewable Energy Support Financial and Calculation Center in accordance with the legislation of the Republic of Kazakhstan on supporting the use of RES (Law of the Republic of Kazakhstan No. 401-VI, dated January 2, 2021, 'On Supporting the Use of Renewable Energy Sources').

Energy recovery from waste refers to the thermal treatment of waste to reduce its volume and generate energy (the so-called 'waste-to-energy' technology), including the use of waste as secondary and/or energy resources, excluding the production of biogas and other fuels from organic waste (Environmental Code of the Republic of Kazakhstan, Article 324).

On a global scale, this technology is not considered renewable. In Kazakhstan, the Law 'On Supporting the Use of Renewable Energy Sources,' adopted in 2020, included the term 'thermal recovery' of waste. The main goal of this recovery is to reduce the volume of waste at landfills and dumpsites and to recover energy.

Green Taxonomy (Classification of 'Green' Projects)

In Kazakhstan, a Green Taxonomy has been developed and approved (Resolution of the Government of the Republic of Kazakhstan No. 996, dated December 31, 2021, 'On Approving the Classification (Taxonomy) of 'Green' Projects Eligible for Financing through 'Green' Bonds and 'Green' Loans').

The classification (taxonomy) of green projects eligible for financing through green bonds and green loans includes the category of sustainable water and waste use (sustainable water use and water conservation, waste and wastewater, resource conservation and restoration).

In 'green' projects, equipment for the recovery of secondary raw materials (excluding incineration), reuse, and recycling of secondary raw materials may be used, including equipment for processing construction materials, scrap metal, plastics, glass, paper, electronics (excluding hazardous components), and used tires.

The threshold indicator is the recycling of collected secondary raw materials of at least 80%.

EPR Operator (Jasyl Damu JSC)

Since January 2022, the development of infrastructure for waste and secondary raw material management has been handled by Jasyl Damu JSC within the competence of the Extended Producer Responsibility (EPR) operator (importers) (hereafter referred to as the EPR Operator).

In accordance with the provisions of the Environmental Code of the Republic of Kazakhstan (Article 388), the EPR Operator can develop a regional system for municipal solid waste (MSW) management

> *through the implementation of technologies for the collection, transportation, preparation for reuse, treatment, sorting, recycling, and/or disposal of waste, the construction of plants (facilities) for preparation for reuse, treatment, recycling, sorting, and/or disposal of waste, the improvement of the material and technical base of organisations engaged in the collection, transportation, preparation for reuse, sorting, treatment, recycling, and/or disposal of waste, and the organisation of waste-to-energy processes.*

By the Resolution of the Government of the Republic of Kazakhstan No. 1250,[7] dated December 29, 2023, the amounts of monetary payments by the EPR Operator to businesses involved in the collection, transportation, preparation for reuse, sorting, treatment, recycling, disposal, and/or disposal of waste resulting from the loss of consumer properties of products (goods) subject to the extended producer responsibility (importers) have been approved (see Tables 10, 11, and 12, below).

Applications for concluding contracts with the EPR Operator, represented by Jasyl Damu JSC, in the information system (ecoqolday.kz) are accepted according to the Rules[8] approved by the Order of the Minister of Ecology and Natural Resources of the Republic of Kazakhstan No. 332, dated November 27, 2023.

Table 10. Packaging waste payment rates

Types of waste products (goods)	Monetary payment, monthly calculation indicator (mci)* per tonne		
	collection	transportation	processing
Glass packaging	7.66	5.46	1.44
	€ 55.56**	€ 39.60	€ 10.45
Paper and cardboard packaging	5.82	4.23	1.55
	€ 42.22	€ 30.68	€ 11.24

7 https://adilet.zan.kz/rus/docs/P2300001250

8 https://adilet.zan.kz/rus/docs/V2300033703

Types of waste products (goods)	Monetary payment, monthly calculation indicator (mci)* per tonne		
	collection	transportation	processing
Polymer packaging	9.05	7.41	1.79
	€ 65.64	€ 53.75	€ 12.98
Packaging made of combined materials	8.96	6.92	1.45
	€ 64.99	€ 50.19	€ 10.52
Metal packaging	0.21	-	-
	€ 1.52	-	-

*1 MCI in 2025 is equal to KZT 3,932. **According to the exchange rate of the National Bank as of March 30, 2025 (EUR 1 = KZT 542.08).

Table 11. Rates of payment for waste of auto components, electronic and electrical equipment

Types of Product (Goods) Waste		Monetary payment, monthly calculation indicator (mci)* per tonne (for collection, transportation, processing, use, and/or disposal of waste)
Tires	Truck/ Passenger car	13.50
		€ 97.92
	Large	17.15
		€ 124.40
Oils		2.98
		€ 21.62
Batteries		2.39
		€ 17.34
Electronic and Electrical Equipment with Coolants		21.43
		€ 155.44
Large Electronic and Electrical Equipment		16.19
		€ 117.43
Small Electronic and Electrical Equipment		7.42
		€ 53.82
Electronic Equipment with Screens and Monitors		43.19
		€ 313.28

Types of Product (Goods) Waste	**Monetary payment, monthly calculation indicator (mci)* per tonne** (for collection, transportation, processing, use, and/or disposal of waste)
Small Information, Technical, and Telecommunication Electronic and Electrical Equipment	51.91
	€ 376.53
Lamps	80.95
	€ 587.17

*1 MCI in 2025 is equal to KZT 3,932. **According to the exchange rate of the National Bank as of March 30, 2025 (EUR 1 = KZT 542.08)

Table 12. Rates of Payments for the Disposal of Vehicles and Agricultural Machinery

Types and Categories of Vehicles and Self-Propelled Agricultural Machinery	**Base Rate (MCI)**	**Coefficient**
1. Vehicles of Category M1, including off-road vehicles of category G, as well as other means of transportation included in the TN VED code group 8703 (except for quad bikes, snow and swamp vehicles, snowmobiles, all-terrain vehicles, and tricycles)		
With electric motors, except for vehicles with hybrid powertrains	50 MCI	0
With engine displacement:		
Up to 1,000 cm³	50 MCI	1.5
1,001 cm³ to 2,000 cm³	50 MCI	3.5
2,001 cm³ to 3,000 cm³	50 MCI	5.0
Over 3,001 cm³	50 MCI	11.5
2. Vehicles of Categories N1, N2, N3, including off-road vehicles of category G, as well as other means of transportation included in TN VED code groups 8701 20 101, 8701 20 901, 8704, and 8705 (except for municipal cleaning machines of category 'X')		
With electric motors, except for vehicles with hybrid powertrains	50 MCI	0.0
With a gross (technically permissible maximum) weight of:		
Up to 2.5 tonnes	50 MCI	3.5
2.501 tonnes to 3.5 tonnes	50 MCI	7.5
3.501 tonnes to 5 tonnes	50 MCI	7.5
5.01 tonnes to 8 tonnes	50 MCI	8.0
8.01 tonnes to 12 tonnes	50 MCI	9.5

12.01 tonnes to 20 tonnes (excluding semi-trailer tractors)	50 MCI	10.5
20.01 tonnes to 50 tonnes (excluding semi-trailer tractors)	50 MCI	20.5
Semi-trailer tractors from 12 tonnes to 50 tonnes	50 MCI	11.0
3. Vehicles of Categories M2, M3, including off-road vehicles of category G, as well as other means of transportation included in the TN VED code group 8702		
With electric motors, except for vehicles with hybrid powertrains	50 MCI	0.0
With engine displacement:		
Up to 2,500 cm³	50 MCI	4.0
2,501 cm³ to 5,000 cm³	50 MCI	8.0
5,001 cm³ to 10,000 cm³	50 MCI	10.5
Over 10,001 cm³	50 MCI	13.5
4. Tractors		
With a rated engine power of:		
Up to 60 hp	50 MCI	2.0
61 hp to 130 hp	50 MCI	5.5
131 hp to 220 hp	50 MCI	17.0
221 hp to 340 hp	50 MCI	29.0
341 hp to 380 hp	50 MCI	29.0
Over 380 hp	50 MCI	40.0
5. Grain Harvesters, Forage Harvesters		
With a rated engine power of:		
Up to 160 hp	50 MCI	9.0
161 hp to 220 hp	50 MCI	23.0
221 hp to 255 hp	50 MCI	32.0
256 hp to 325 hp	50 MCI	38.0
326 hp to 400 hp	50 MCI	38.0
Over 400 hp	50 MCI	45.0

*1 MCI in 2025 is equal to KZT 3932

Existing Solid Waste Management (SWM) Regulations, Acts and Policies

Kazakhstan has a sufficient legal framework for regulating the management of municipal solid waste and for regulating the EPR system.

SDGs

Among the UN Sustainable Development Goals (SDGs) adopted by Kazakhstan, there are a number of goals and objectives related to measures for reducing the negative impact of waste on the environment and the health of the planet's population. Table 13 highlights these goals and their corresponding objectives. The SDGs, being global documents in scope, define a general framework without taking into account the specifics of individual states or the current state of the necessary infrastructure.

Kazakhstan has adopted the SDGs and is creating development plans that will take into account their corresponding goals and objectives.

Table 13. SDGs related to waste reduction

SDG	Target/Indicator
11.6 By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management.	**11.6.1** Proportion of municipal solid waste collected and managed in a controlled manner to the total waste generated by cities.
12.3 By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses.	**12.3.1** Global Food Loss Index
12.5 By 2030, substantially reduce waste generation through prevention, reduction, recycling, and reuse.	**12.5.1** National recycling rate, tonnes of material recycled
12.6 Encourage companies, especially large and transnational companies, to adopt sustainable practices and to integrate sustainability information into their reporting cycle.	**12.6.1** Number of companies publishing sustainability reports
12.7 Promote public procurement practices that are sustainable, in accordance with national policies and priorities.[9]	**12.7.1** Number of countries implementing sustainable public procurement policies and action plans

The **Concept for the Transition of the Republic of Kazakhstan to a green economy** (approved by the Decree of the President of the Republic of Kazakhstan dated May 30, 2013 No. 577), which defines the main 'trend' for the further development of the country in the field of ecology and resource consumption, indicates that the country needs to rebuild a comprehensive waste management system covering both industrial and municipal waste.

The **Concept** states that to establish an effective system, the following approaches should be adopted:

- Create a coordinated waste disposal system that provides a full range of services and comprehensive landscape protection

9 This point enables the support and development of 'green' procurement of products derived from waste recycling, such as electricity and heat from renewable energy sources, compost, products from recycled materials, fuel briquettes from waste, and more.

- Reduce the number of landfills by shifting to extensive recycling and reuse, as well as extract valuable substances and materials and generate fuel through waste utilisation
- Develop a circular economy with the repeated use of products both within and outside the value chain
- Improve the environmental situation and reduce the technogenic impact on the environment

The **Concept** also outlines long-term strategic goals and target indicators for the green economy, which include metrics in the area of waste management (see Table 14).

Table 14. Goals and target indicators of the green economy in waste management for the Republic of Kazakhstan

Goal Description	2030	2050
Population coverage with solid waste collection services	100%	-
Sanitary waste storage	95%	-
Percentage of waste recycled	40%	50%

The final recommendations of the Concept for addressing solid waste issues include the following activities that should be considered in the development of local programmes and projects:

1. Conducting a thorough audit of all major municipal solid waste (MSW) landfills and determining measures for their reclamation
2. Developing a state programme for the recycling and disposal of MSW, covering the following aspects:
   - Defining the target recycling rate of MSW up to 50% by 2050, and the disposal of the remaining MSW at landfills that meet environmental and sanitary requirements, with their share increasing to 100% by 2050, meaning that all landfills in the country must meet the most modern environmental and sanitary standards by 2050
   - Introducing separate waste collection from consumers
   - Defining a tariff calculation methodology that ensures coverage of operational costs and investments in this area with a specified profit margin, taking into account the profits from recycled materials
   - Implementing the principle of extended producer responsibility to cover part of the costs for the collection and disposal of packaging waste, electronic and electrical equipment, vehicles, batteries, furniture, and other goods after use
   - Developing a mechanism to attract investments, including through public-private partnerships in large cities and at the municipal level in small settlements, using budgetary resources for industry development
   - Signing contracts for waste management on a competitive basis with broad territorial coverage
   - Defining state support measures for vulnerable social groups when setting tariffs for MSW collection and disposal.
3. Updating MSW recycling and storage standards using new technologies such as anaerobic digestion, composting, or biogas
4. Creating a regulatory and legal framework for monitoring the collection, transportation, recycling, disposal, and storage of MSW by 2015
5. Improving the collection, processing, and provision of statistical information to monitor progress in achieving the target indicators in the field of waste management.

According to the **Concept for the Transition of the Republic of Kazakhstan to a green economy** (approved by the Decree of the President of the Republic of Kazakhstan on May 30, 2013, No. 577), in order to address the problems with municipal solid waste (MSW) alongside other measures, it is necessary to implement the

principle of extended producer responsibility (EPR) with the goal of covering part of the expenses for the collection and disposal of waste from packaging, electronic and electrical equipment, vehicles, batteries, furniture, and other goods after use.

The main **regulatory legal acts** of the Republic of Kazakhstan that govern waste management are listed below:

- Code of the Republic of Kazakhstan dated January 2, 2021, No. 400-VI 'Environmental Code of the Republic of Kazakhstan' (Chapter 27)
- Message of the President of the Republic of Kazakhstan to the people of Kazakhstan 'Kazakhstan-2050 Strategy'
- Decree of the President of the Republic of Kazakhstan dated May 30, 2013, No. 577 'On the Concept of Transition of the Republic of Kazakhstan to a Green Economy
- Law of the Republic of Kazakhstan dated April 28, 2016, No. 506-V 'On Amendments and Additions to Certain Legislative Acts of the Republic of Kazakhstan on the Issues of Transition of the Republic of Kazakhstan to a Green Economy
- Resolution of the Government of the Republic of Kazakhstan dated October 12, 2021, No. 731 'On Approval of the National Project 'Green Kazakhstan'
- Resolution of the Government of the Republic of Kazakhstan 'On the Approval of the Rules for the Implementation of Extended Producer Responsibility (Importers)' dated October 25, 2021, No. 763
- Order of the Minister of Ecology, Geology, and Natural Resources of the Republic of Kazakhstan 'On the Approval of the List of Certain Types of Products (Goods) Manufactured on the Territory of the Republic of Kazakhstan and/or Imported into the Territory of the Republic of Kazakhstan by Individuals and Legal Entities, for Which the Collection, Transportation, Preparation for Reuse, Sorting, Processing, Recycling, Disposal, and/or Disposal of Waste Generated After the Loss of Consumer Properties of Such Products (Goods) are Ensured' dated November 9, 2022, No. 689
- Order of the Acting Minister of Ecology, Geology, and Natural Resources of the Republic of Kazakhstan 'On the Approval of the Rules for Municipal Waste Management' dated December 28, 2021, No. 508 (with amendments from November 19, 2023)
- Order of the Acting Minister of Energy of the Republic of Kazakhstan dated July 19, 2016, No. 332 'On the Approval of Criteria for Classifying Consumption Waste as Secondary Raw Materials'
- Order of the Minister of Ecology and Natural Resources of the Republic of Kazakhstan dated May 18, 2023, No. 154-p 'On the Approval of Methodological Recommendations for Local Executive Bodies on Developing a Municipal Waste Management Programme'
- Order of the Acting Minister of Ecology, Geology, and Natural Resources of the Republic of Kazakhstan dated August 6, 2021, No. 314 'On the Approval of the Waste Classifier'
- Order of the Minister of Health of the Republic of Kazakhstan dated December 25, 2020, No. ҚР ДСМ-331/2020 'On the Approval of Sanitary Rules 'Sanitary and Epidemiological Requirements for the Collection, Use, Application, Disposal, Transportation, Storage, and Burial of Production and Consumption Waste'
- SN RK 1.04-15-2013 'Landfills for Solid Household Waste'
- ST RK 3780-2022 'Waste. General Requirements for Sites for Placement of Containers for Organising Separate Collection of Municipal Waste'
- Other applicable legal acts of the Republic of Kazakhstan in the field of waste management.

The provisions on Extended Producer Responsibility (EPR) are outlined in Chapter 31 of the Environmental Code of the Republic of Kazakhstan.

- Article 386. Requirements for the fulfilment of extended producer responsibility (importers)
- Article 387. Legal status of the operator of extended producer responsibility (importers)
- Article 388. Areas of activity of the operator of extended producer responsibility (importers)

- Article 389. Powers of the operator of extended producer responsibility (importers)
- Article 392. Fulfilment of extended producer responsibility (importers)

According to the Environmental Code of the Republic of Kazakhstan, **municipal waste does not include decommissioned vehicles**.

Additionally, each region of Kazakhstan is required to develop and approve municipal waste management programmes for settlements. These programmes should include a general description of the current waste management situation in the settlement areas, existing infrastructure, tariff policies, and waste management indicators. The programmes must outline measures to achieve the specified targets, as well as economic calculations for developing the waste management system.

Some of the waste management indicators are reflected in the regional development plans (for provinces and cities), which are approved by local representative bodies.

JSC *Zhasyl Damu* functions as the operator for Extended Producer Responsibility (EPR) across the entire territory of Kazakhstan, which can be **considered a monopoly**.

The Ministry of Ecology and Natural Resources of the Republic of Kazakhstan is the sole shareholder of JSC *Zhasyl Damu*.

Existing institutional setup and capacity for solid waste management (SWM)

In Kazakhstan, waste management issues (state regulation) fall under the jurisdiction of the Ministry of Ecology and Natural Resources (MENR). The Waste Management Department of the MENR is responsible for implementing state policy in the field of waste management. Its key functions include:

- Developing and implementing state policies for managing solid household and industrial waste
- Fulfilling international treaties and obligations related to waste and chemical management regulations
- Supporting and developing the Extended Producer Responsibility (EPR) system, including coordinating the activities of the EPR operator
- Implementing state investment policies in the field of production and consumption waste management.

The territorial bodies of the Committee for Ecological Regulation and Control of the Ministry oversee the enforcement of environmental legislation regarding waste management at the local level. At the local level, the role of organiser and controller of the solid waste management system is assigned to local executive bodies (LEBs). According to the Environmental Code of the Republic of Kazakhstan, LEBs are required to organise a centralised system for collecting solid waste to provide individuals and legal entities with waste collection and transportation services.

In particular, in most cases, the LEBs own waste disposal landfills conduct tenders for the provision of waste collection and transportation services in populated areas and organise the elimination of illegal dumps.

LEBs in villages, settlements, and rural districts implement state policy in the field of municipal waste management by:

- promoting the separate collection of organic municipal waste and its recovery, including through composting
- organising regular municipal waste collection
- ensuring compliance with environmental requirements in municipal waste management
- preventing and suppressing unauthorised burning of municipal waste.

In this context, hazardous components of municipal waste (such as electronic and electrical equipment, mercury-containing waste, batteries, accumulators, and other dangerous components) must be collected separately and transferred to specialised enterprises for recovery.

Since 2022, LEBs have also been responsible for developing Municipal Waste Management Programmes in populated areas (hereafter referred to as the Programme). The Programme is intended to promote the collection, sorting, and processing/recycling of municipal waste.

As part of these Programmes, an analysis of the current waste management system is conducted, including an assessment of the volume and composition dynamics of municipal waste generation, as well as an evaluation of existing waste management infrastructure.

To implement the Programme, it is necessary to include activities that may, for example, encompass:

- *organisational measures* (working with the public to activate waste collection and sorting, organising community events for trash cleanups, promoting resource conservation practices)
- *organisational and managerial measures* (for example, developing the institution of territorial operators: waste management organisations for larger areas, which can engage subcontracting companies for part of the work; such companies have an overall picture of waste management in the region, can present investment proposals for financing waste recycling/disposal facilities with a broader territorial coverage, leading to higher returns)
- *technical and technological measures* (proposals for developing infrastructure, constructing integrated facilities for waste reception/recycling/disposal/removal, purchasing equipment, machinery, and containers)
- *incentives for secondary material collection* (creating and developing the secondary resource market through the implementation of 'green procurement' by government bodies)
- *economic measures* (reviewing tariff policies and the standards for waste generation per capita)

These measures are designed to foster a sustainable and efficient waste-management system.

Non-governmental organisations (NGOs) in Kazakhstan play an active role in waste management.

For example, the self-regulatory organisation **Kazakhstan Waste Management Association KazWaste**[10] is a major nationwide association of companies specialising in waste handling, including municipal waste. The association represents the interests of the waste industry stakeholders, organises an annual conference on waste management, has issued a number of waste-related standards, and is actively involved in almost all legislative initiatives related to municipal waste.

KazWaste not only provides a platform for discussion and information exchange but also contributes to setting industry standards, promoting best practices, and shaping policies that support sustainable waste management in Kazakhstan. Through such activities, NGOs like KazWaste significantly influence the development and improvement of waste management systems across the country.

The country has **Aarhus Convention centres**[11] that facilitate public participation in discussions of legislative draft regulations and urban planning projects.

One of the tasks of the **Packaging Association of Kazakhstan**[12] is the regulation and control of the packaging waste management process. The main objectives of the association include providing assistance in the development of member companies, overcoming common trade barriers, working with government bodies of the Republic of Kazakhstan, the EAEU, and the WTO, as well as attracting domestic and foreign investors and investments to develop the pulp and paper industry and the packaging sector.

The main objectives of the **Association of Secondary Raw Material Recyclers of Kazakhstan**[13]**,** officially registered in 2023, are strengthening targeted state support for the industry, regulating the export of raw materials, training qualified personnel, and introducing digitalisation into the sector. This association maintains close and ongoing collaboration with the Ministry of Ecology and Natural Resources of the

10 https://kaz-waste.kz

11 https://aarhus.osce.org/kazakhstan

12 https://kzpack.kz/

13 https://wrkz.kz/

Republic of Kazakhstan, JSC Zhasyl Damu, and other authorities. Additionally, regular work is carried out with the Ministry of Industry and Construction of the Republic of Kazakhstan on issues related to bans on the export of secondary raw materials.

Financial instruments

The Centre for Green Finance of the Astana International Financial Centre (AIFC)[14] ensures the development of green financing policies and green financing instruments. It is the only company in Central Asia accredited by the International Capital Market Association (ICMA) and the Climate Bonds Initiative.

Since January 2022, the development of infrastructure for waste management and secondary raw materials has been handled by **Jasyl Damu JSC** within the scope of its role as the extended producer responsibility (EPR) operator.

Existing stakeholder perceptions about waste minimisation

The issue of waste minimisation, focusing on prevention of waste generation and subsequent recycling or disposal, is a priority in Kazakhstan's state policy. Measures are being implemented to encourage waste reduction, including working with the population (public events, support for environmental NGOs), waste management tariff regulation, and business support (introduction of **integrated environmental permits** with mandatory implementation of Best Available Techniques, BATs). In 2025, BAT reference documents on waste management will be developed.[15]

Other measures are presented below.

Waste Management Hierarchy. In Kazakhstan, the hierarchy of waste management measures is established at the legislative level in the Environmental Code of the Republic of Kazakhstan. This principle defines the prioritisation of waste management methods in terms of resource efficiency, emission reduction, and the potential to apply circular economy principles (see Figure 12).

Figure 12. Waste management hierarchy

This hierarchy is supported by other documents that promote the development of the waste management sector, such as recycling and disposal. For example, waste disposal tariffs encourage waste reduction and reuse. The **recycling and disposal market** is developing, although a significant portion of waste is still landfilled.

Decarbonisation of the economy: reducing waste generation is also considered through the lens of greenhouse gas (GHG) emission reduction. In 2023, Kazakhstan adopted the Strategy for Achieving Carbon Neutrality of the Republic of Kazakhstan by 2060 (hereafter referred to as the Strategy). The Strategy examines the impact of the waste management sector (an intersectoral area) on greenhouse gas emissions.

14 https://gfc.aifc.kz/en

15 https://igtipc.org/en/ndt-reference-books/

Decarbonisation of industrial processes is proposed through measures such as:

- Using alternative construction materials instead of cement, steel, and aluminium with lower or zero greenhouse gas (GHG) emission intensity
- Increasing the recycling of waste (including scrap) to reduce the need for raw material processing, which is a primary source of emissions in the sector
- Increasing the share of recyclable and compostable waste

Plans and programmes of local executive bodies for regional development include **indicators for waste recycling levels**, which align with the goals of a green economy: 40% by 2030 and 50% by 2050.

It must be acknowledged that a significant volume of industrial goods that fall under the EPR requirement is imported, which makes it impossible to assess the environmental sustainability of these goods in terms of **resource efficiency** and **reparability**.

Are Kazakhstani citizens satisfied with waste collection and disposal?

Issues with waste management are a source of dissatisfaction among the population of Kazakhstan. According to a study by the Institute of Public Policy of the AMANAT party,[16] the country has a low level of recycling and secondary use of municipal solid waste (MSW). As of May 2023, separate waste collection has been implemented in only 139 out of 207 cities and districts, while sorting is carried out in just 103. Kazakhstan ranks 175th out of 179 countries in the global recycling index. In 2022, only 25.4% of MSW was recycled, with some regions reporting rates below 20%.

Existing market for secondary resource materials

In accordance with the Environmental Code of Kazakhstan, certain types of waste may lose their status as waste and transition into the category of **finished products** or **secondary resources** if they have undergone recovery operations. Substances or materials resulting from recovery operations must meet the established criteria specified in the Code.

The list of specific types of waste that lose their status as waste and transition into the category of finished products or secondary resources (material or energy) includes:[17]

- plastic waste, polyethylene, and polyethylene terephthalate (PET) packaging
- paper and cardboard waste (recovered paper)
- used glass containers and cullet
- non-ferrous and ferrous metal scrap
- used tires
- textile products
- wood
- non-hazardous construction waste.

The secondary resource market in Kazakhstan has not been assessed

Events related to the transfer of functions pertaining to EPR from a private company to the state sector took more than a year. Due to disruptions in payments (compensations) to companies specialising in waste management, some organisations exited the market or went bankrupt.

The market volume targeted by companies in Kazakhstan can be **estimated indirectly through an analysis of the processing capacities of recycling companies**.

16 https://nv.kz/2023/11/08/294061/

17 Order of the Minister of Ecology and Natural Resources of the Republic of Kazakhstan dated August 26, 2024, No. 192.

According to data from the Bureau of National Statistics, the total processing equipment capacity in 2023 amounted to 163.8 thousand tonnes. The volume of processed municipal solid waste (MSW) was 31.2 thousand tonnes. Thus, the overall equipment utilisation rate was 19% (see Table 15).

Table 15. Indicators of capacity and utilisation rates of MSW recycling equipment, 2023

Region	The design capacity of municipal solid waste (MSW) recycling equipment	Processed to obtain products (secondary raw materials)	% Equipment utilisation rate
REPUBLIC OF KAZAKHSTAN	**163,811**	**31,168**	**19.03%**
AKMOLA REGION	6,940	1,952	28.13%
ATYRAU REGION	6,441	2,444	37.94%
ZHAMBYL REGION	5,500	1,194	21.71%
KARAGANDY REGION	51,300	276	0.54%
KOSTANAY REGION	7,000	1,555	22.21%
PAVLODAR REGION	1,380	976	70.72%
SOLTUSTIK KAZAKHSTAN REGION	26,295	8,124	30.90%
SHYGYS KAZAKHSTAN REGION	12,500	13,636	109.09%
SHYMKENT CITY	46,455	1,011	2.18%

(Source: Bureau of National Statistics)

Reports on the implementation of EPR for producers and importers can also serve as a source for analysing the secondary resource market. For example, the 2021 report provides the following data on the processing capacities of recycling enterprises in Kazakhstan (see Figure 13):

- Paper recycling: 204 thousand tonnes/year
- Glass recycling: 88 thousand tonnes/year
- Plastic recycling: 53 thousand tonnes/year

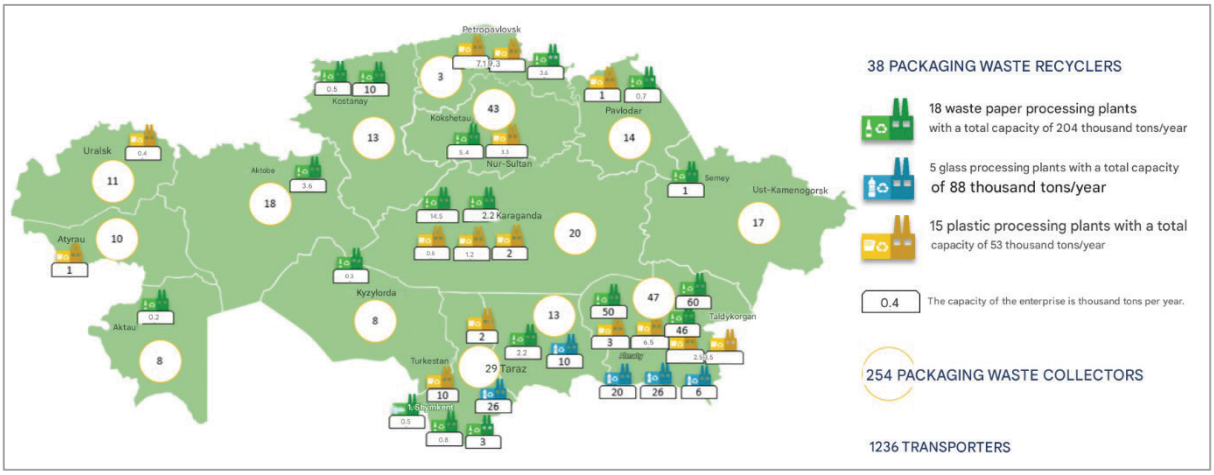

Figure 13. Enterprises for recycling and disposal of packaging waste, 2021

(source: JSC Zhasyl Damu, Report on the Implementation of Extended Producer Responsibility for Producers and Importers, 2021)

According to the data from JSC Zhasyl Damu, the total processing capacity of enterprises for recycling automotive components is as follows (see Figure 14):

- Tire recycling: 66.7 thousand tonnes/year
- Oil recycling: 44 thousand tonnes/year
- Battery recycling: 21 thousand tonnes/year
- Antifreeze recycling: 1 thousand tonnes/year

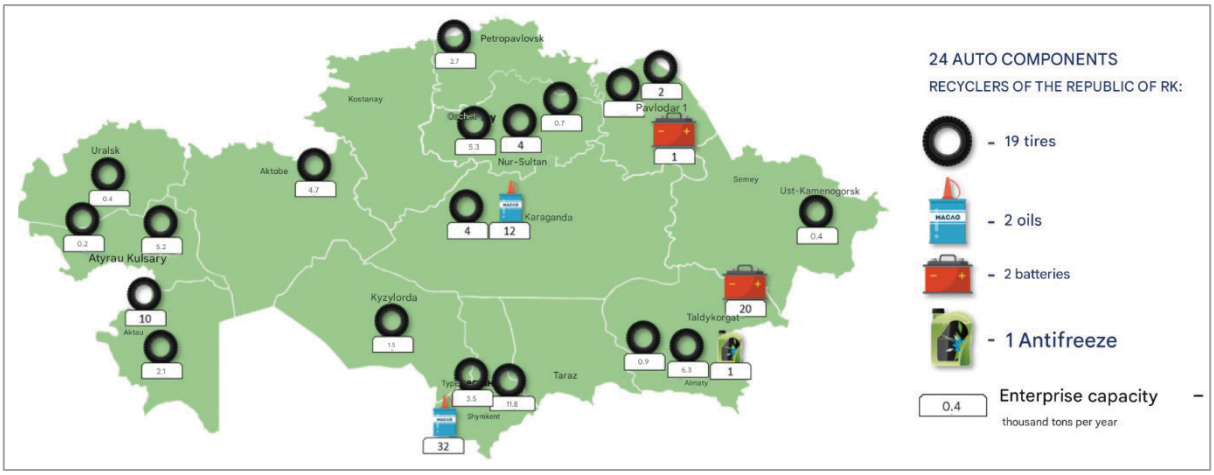

Figure 14. Enterprises for the Recycling and Disposal of Automotive Component Waste, 2021

(Source: JSC Zhasyl Damu, Report on the Implementation of Extended Producer Responsibility for Producers and Importers, 2021)

Recycling enterprises themselves are consumers of secondary raw materials and establish networks for their collection. The **Kainar-ACB battery manufacturing plant**[18] in the city of Taldykorgan uses a network of partners and affiliates for the collection of used batteries through its sales network. A major consumer of paper waste is **Kazakhstan Waste Recycling**[19] (collection and recycling of paper waste), which is part of the **Kazakhstan Kagazy** holding group, specialising in the production of paper, corrugated cardboard, and packaging. The parent company began accepting secondary raw materials in 2004 (see Figure 15).

Figure 15. Waste Paper Collection Points, Kagazy Recycling

18 https://kainar.kz/

19 https://kazakhstankagazy.com/en/

4.3. Baseline EPR Implementation in Kazakhstan

In Kazakhstan, the EPR principle has been in effect since January 1, 2016.

Until 2022, the functions of the EPR operator were performed by **LLP ROP Operator**, a privately-owned entity. Currently, the EPR operator is **JSC Zhasyl Damu**, with 100% state ownership represented by the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan. EPR obligations apply to products included in the list approved by the authorised environmental protection body (see Table 16).

Table 16. List of products covered by EPR Requirements

2016	2016	2020	2020	2021
Motor Vehicles	**Products (Goods)**	**Packaging**	**Agricultural Machinery**	**Cable and Wire Products**
• Passenger cars • Trucks • Buses	• Tires • Batteries • Oils, specialty fluids	• Plastic • Paper, cardboard • Tetra Pak • Glass • Metal	• Tractors • Combines	• Wires, cables

There are exceptions to the Extended Producer Responsibility (EPR) requirements:

1. Packaging (oils, polymers, glass, paper, cardboard, batteries) containing at least 30% recycled materials
2. Producers and importers of products manufactured or imported into Kazakhstan but sold outside its borders
3. Packaging (plastic, glass, metal, etc.) intended for products sold outside Kazakhstan
4. Imports by individuals within duty-free quotas for personal use (excluding vehicles and agricultural machinery)
5. Import of packaging for goods included in the list of socially significant food products approved by the Government of the Republic of Kazakhstan
6. Plastic packaging made from preforms,20 for which an environmental fee has already been paid
7. Packaging used for the company's own needs (such as raw materials, materials, spare parts) not intended for sale
8. Packaging of goods imported as part of foreign humanitarian aid, registered in accordance with the legislation of the Republic of Kazakhstan

Throughout 2023, all applications were submitted through the information system app.recycle.kz. From January 1 to December 31, 2023, the EPR Operator issued 292,043 Certificates of Payment for Recycling Fees (hereafter CPRF) for vehicles and self-propelled agricultural machinery (hereafter SPAM), imported and manufactured in the Republic of Kazakhstan.

20 A preform is a blank, usually made of plastic (most often polyethylene terephthalate, or PET), used to produce the final product, such as bottles.

Table 17. Number of units of imported and produced vehicles and self-propelled agricultural machinery in 2023, units

Category	Production	Import	Total
M1	128,102	111,750	239,852
M1G	238	11,848	12,086
M2	806	393	1,199
M2G	111	34	145
M3	2,458	1,156	3,614
M3G	131	20	151
N1	3,341	2,037	5,378
N1G	2,209	3,998	6,207
N2	770	850	1,620
N2G	64	80	144
N3	431	10,376	10,807
N3G	1,098	2,638	3,736
COMBAIN	744	249	993
TRACTOR	4,515	1,596	6,111

(source: JSC Zhasyl Damu)

Additionally, 26,258 Certificates of Payment for Recycling Fees (CPRF) were issued for products (goods) covered by EPR, encompassing 300,842 product and goods items with a total weight of approximately 368 thousand tonnes.

Table 18. Products for which the recycling fee was paid in 2023

Product Groups	Weight (tonnes)
Rubber, rubber products, and items made from them	91,247.49
Electric batteries, including separators for them	7,882.60
Oil and petroleum products (excluding raw), obtained from bituminous rocks, and products not elsewhere specified or included, containing 70% or more by weight of oil or petroleum products derived from bituminous rocks, excluding biodiesel and used oil products	85,276.42
Other chemical products	15,206.13
Polymer, glass, paper, cardboard, metal packaging, packaging made from combined materials	136,229.41

Product Groups	Weight (tonnes)
Tableware and kitchenware, table utensils and kitchen accessories, other household items and hygiene or toiletry products made of plastics	952.84
Newspapers, magazines, and other periodicals, illustrated or unillustrated, containing or not containing advertising material	0.06
Hand-moulded paper and cardboard, uncoated, used for writing, printing, or other graphic purposes	960.15
Primary cells and primary batteries	5.49
Incandescent electric lamps or gas discharge lamps, including sealed beam lamps, as well as ultraviolet or infrared lamps; mercury-containing arc lamps	12.47
Medical or veterinary thermometers, containing mercury	2.77
Large-sized electrical and electronic equipment	8,617.43
Electrical and electronic equipment containing heat transfer fluids	10,553.66
Electrical and electronic equipment equipped with screens and monitors	3,202.82
Small-sized electrical and electronic equipment	7,648.96
Small electronic and information equipment	191.45
Total	**367,990.15**

(source: JSC Zhasyl Damu)

The dynamics of the recycling of End-of-Life Vehicles and End-of-Life Self-Propelled Agricultural Machinery over the periods of operation since the introduction of EPR, based on the data from the automated information system, are presented in Figures 16 and 17.

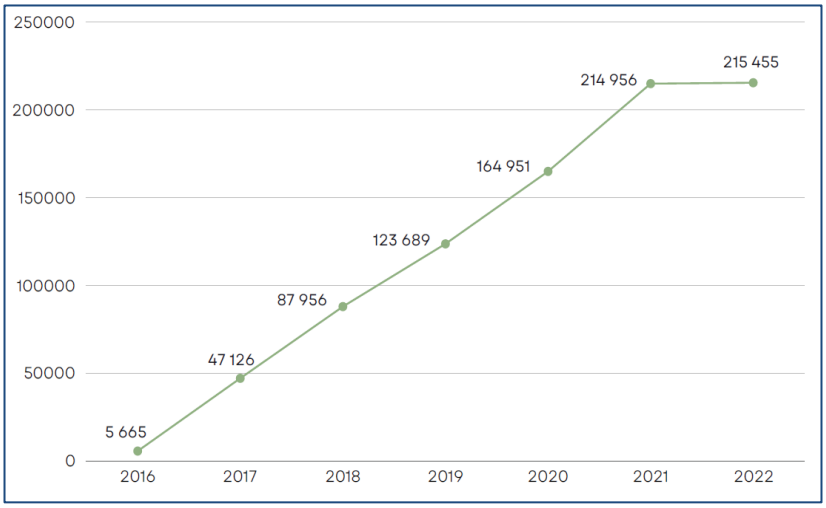

Figure 16. The dynamics of End-of-Life Vehicles (cumulative total) in units (source: JSC Zhasyl Damu)

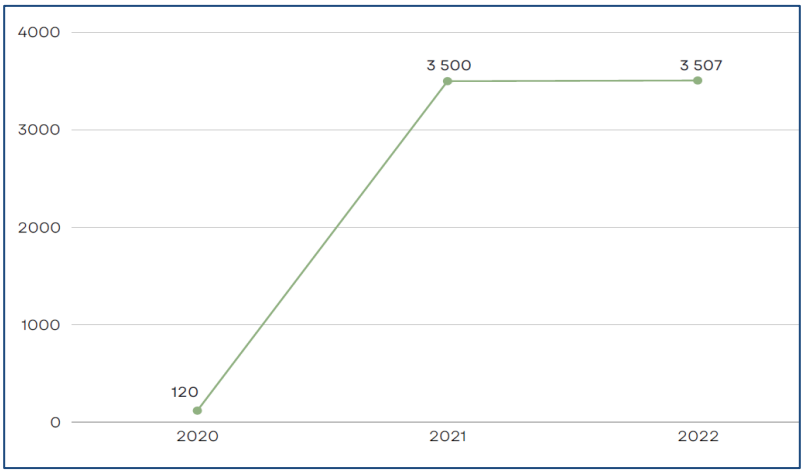

Figure 17. The dynamics of End-of-Life self-propelled agricultural machinery (cumulative total) in units (source: JSC Zhasyl Damu)

Since 2016, a total of 197,816 units of End-of-Life Vehicles and End-of-Life Self-Propelled Agricultural Machinery have been recycled in accordance with the signed certificates of completed work.

Existing or Proposed Policy Framework Relevant to EPR Implementation

In Kazakhstan, the necessity of EPR is recognised as essential for the development of the waste management system. Primarily, the economic mechanism of EPR facilitates the targeted collection of funds aimed at developing waste processing infrastructure. In Kazakhstan, a portion of these funds is also allocated to tasks related to the promotion of environmentally friendly transportation.

This section lists the key strategic and regulatory documents that establish the high-level policy framework and emphasise the need for developing the waste management sector, with EPR as one of its key instruments.

The highest-level strategic document in Kazakhstan is the **Kazakhstan-2050 Strategy: A New Political Course for an Established State**, presented by the President of Kazakhstan on December 14, 2012. This document sets the framework for the country's long-term development, covering key aspects such as improving citizens' quality of life, economic growth, and the rational use of natural resources.

To achieve the goals of the Strategy, the **Strategic Development Plan of the Republic of Kazakhstan until 2025** was developed (approved by Presidential Decree No. 636 dated February 15, 2018). This plan outlines medium-term priorities, sets objectives, and launches initiatives across various sectors. Among these initiatives, special attention is given to waste reduction and recycling development, which serve as the foundation for establishing an extended producer responsibility system.

Priority areas of the Strategic Development Plan until 2025:

- **Systemic Reforms:** seven key changes in the economy and social life of the country.
- **Priority Policies:** implementation of the objectives outlined in the Kazakhstan-2050 Strategy.

Among the systemic reforms, **Reform 5: Strong Regions and Urbanisation** stands out. It aims to increase the country's GDP through the effective use of local regional potential and ensure a basic quality of life across the entire country. The reform includes the task of **Improving the environmental situation**, which encompasses:

- ***Initiative 5.18: Development of the recycling and disposal of municipal solid waste (MSW):*** The initiative is aimed at developing measures for the separate collection of municipal solid waste (MSW), the installation of sorting lines, the construction of waste processing facilities to produce secondary products (biogas, electricity, compost), supporting small and medium-sized businesses in this field, as well as conducting information campaigns to raise public environmental awareness.

- ***Initiative 5.19: Implementation of the 'polluter pays' principle:*** This principle involves enterprises compensating for environmental damage, which encourages them to reduce emissions, invest in environmental protection measures, and prevent pollution.

Policy 6: 'Green Economy and Environmental Protection' is aimed at improving the quality of natural resources, developing renewable energy, decarbonising the economy, adapting to climate change, and enhancing energy efficiency. The key tasks of the policy include:

- Task 1: Achieving the goals of the Paris Agreement
- Task 2: Identifying sources of funding and accounting for 'green' finance and attracting investments
- Task 3: Stimulating investments in 'green' technologies
- Task 4: Decarbonising the economy
- Task 5: Improving the efficiency of water resource use and conservation
- Task 6: Developing renewable energy sources and improving traditional energy sources
- Task 7: Preserving biodiversity
- ***Task 8: Developing a low-waste economy***
- ***Task 9: Managing production and consumption waste***

  The main efforts for tasks 8 and 9 will be focused on:

  - Stimulating waste reduction
  - Recycling waste to obtain raw materials and products for manufacturing
  - Developing incentives for waste recyclers
  - Revising legislation taking into account international experience
  - Developing infrastructure for industrial waste recycling

Thus, Kazakhstan is striving for sustainable development based on the efficient management of natural resources and the active recycling of waste.

The plan includes key national indicators related to the green economy and environmental issues (see Table 19). These indicators are not directly related to waste management but depend on the implementation of policies aimed at waste reduction and the rational use of resources.

Table 19. Key National Indicators of the Strategic Plan until 2025 in the Field of green economy and Environment

Indicator	Unit of Measurement	Values			
		2016	2021	2025	2050
Energy intensity of GDP (proxy indicator of environmental impact, according to IEA* data)	% reduction from 2008 level	13	20	25	50
Share of electricity from renewable energy sources	% of total production	0.9	3	6	50

*IEA (International Energy Agency)

The next significant document defining the framework for EPR policy in Kazakhstan is the **Concept for Transition of the Republic of Kazakhstan to a Green Economy** (Approved by the Decree of the President of the Republic of Kazakhstan dated May 30, 2013, No. 577).

The provisions of the Concept are aimed at creating a sustainable and environmentally oriented economy. Its main goals are the rational use of natural resources, reducing environmental impact, and improving the quality of life of the population.

The document states that to address issues with municipal solid waste (MSW), it is necessary to implement measures, one of which is the **introduction of the EPR principle** to cover part of the costs associated with the collection and disposal of packaging waste, electronic and electrical equipment, vehicles, batteries, furniture, and other products after use.

The Concept is the highest document in **Kazakhstan's state planning system** and directly includes provisions on EPR.

The Concept introduces national targets for waste management, including waste recycling rates (40% by 2030 and 50% by 2050).

The status of EPR and its main tasks are regulated by the **Environmental Code of the Republic of Kazakhstan** (the Code is an NPA of direct action). Chapter 31 of the Code is fully dedicated to the issue of EPR.

EPR activities are subject **to state environmental control**. The authorised body in the field of environmental protection ensures compliance with the environmental legislation of the Republic of Kazakhstan, including the fulfilment of obligations by producers (importers) and the EPR operator concerning the collection, disposal, and recycling of waste.

The Code defines that EPR is one of the **mechanisms for economic regulation** of environmental protection.

The responsibilities of the EPR operator include the implementation of a number of activities aimed at **environmental waste management** and **promoting the production of environmentally friendly and safe products**:

1. Reimbursement of waste disposal costs
2. Compensation of packaging costs for socially significant products
3. Stimulating the production of environmentally friendly cars and agricultural machinery
4. Stimulating the production of environmentally safe cables and conductors;
5. Organising the waste collection and recycling system
6. Exporting waste for recycling
7. Providing informational and organisational support
8. Tracking vehicles for solid waste collection
9. Financing scientific and experimental work in the field of waste disposal
10. Developing waste recycling technologies
11. Creating infrastructure for electric vehicles
12. Financing the activities of the EPR operator
13. Co-financing the construction of waste disposal facilities
14. Disposal of waste containing persistent organic pollutants
15. Financing projects in the manufacturing industry

Non-typical EPR obligations

The listed obligations of the EPR operator include some issues that were not originally anticipated as part of the EPR tasks. For example, the development of infrastructure for electric vehicles and costs associated with the production of cars and agricultural machinery.

The Carbon Neutrality Strategy of the Republic of Kazakhstan until 2060 (Decree of the President of the Republic of Kazakhstan No. 121, dated February 2, 2023) supports the process of waste reduction and recycling. The document outlines the requirements for decarbonising the waste management system through processes such as:

- Reducing waste generation volumes
- Accelerating the full implementation of waste collection and sorting
- Increasing the share of recyclable and compostable waste

The development of a circular economy leads to a reduction in raw material costs in the manufacturing sector. In conjunction with the transition to vehicles powered by alternative fuels, this reduces emissions of pollutants and greenhouse gases into the atmosphere.

Existing Initiative and Implementation related to EPR

Since the new EPR operator began its operations in 2022, its activities have primarily focused on initiatives aimed at organising and improving its operations.

Key initiatives to support and develop the EPR system in Kazakhstan include:

- The development of the Development Strategy for 2023–2027, which outlines the long-term priorities and directions for waste management.
- Amendments to the order of the Minister of Ecology and Natural Resources of the Republic of Kazakhstan, dated November 27, 2023, No. 332, which regulates the use of funds received by the EPR operator. These funds are directed towards the implementation of activities related to the collection, transportation, sorting, recycling, and disposal of waste covered by extended producer responsibility (EPR) regulations.

The following are **the initiative steps implemented under the previous EPR operator**.

Improvement of infrastructure for the collection of waste electrical and electronic equipment (WEEE). As part of the infrastructure modernisation programme for waste management in Kazakhstan, 346 containers for the collection of WEEE were installed, and 39 collection points were opened. These measures improved the accessibility of infrastructure for waste collection and transportation, making the process more convenient for the public.

Pilot projects for containers for mercury-containing lamps and batteries. As part of the EPR implementation in Kazakhstan, two pilot projects were launched for the installation of containers for the collection of mercury-containing lamps and batteries. A total of 2,321 containers were placed across 11 regions of the country, and in 2018, 2,884 kg of batteries were collected and more than 846,000 lamps were recycled.

Launch of the **'Clean Taxi' service** in June 2018. In June 2018, the 'Clean Taxi' service was launched in the capital, allowing residents to dispose of old electronics directly from their homes for free. During its first six months of operation, 54 tonnes of waste were collected and recycled, making a significant contribution to improving the environmental situation in the city.

Information and Awareness Activities to Raise Environmental Awareness Among the Population. Methodological materials for schools were developed, and eco-seminars and tours of recycling facilities were conducted. These activities contributed to engaging residents in the process of waste separation and fostering a more eco-friendly culture.

With the support of the UN Development Programme, the **social project 'Exchange Old for New'** was implemented. Citizens were able to exchange old large household appliances for certificates to purchase new energy-efficient equipment. This initiative not only facilitated waste disposal but also promoted energy-efficient technologies.

Financing of WEEE Collection and Recycling. The EPR operator allocated funds for the collection and recycling of 10,000 tonnes of waste, which significantly increased the share of WEEE recycling and enhanced the efficiency of the EPR system itself.

In Karaganda, as part of a pilot project, 10 containers were installed for the collection of WEEE. This marked an important step in the development of regional infrastructure and improved conditions for waste collection (see Figure 18).

Figure 18. Container for the collection of waste electrical and electronic equipment (WEEE) (Karaganda)

In partnership with the 'Kazakhstan 2050' movement, **the Zhas Sheber (Young Master) project** was implemented, providing students with the opportunity to repair old household appliances. The workshop, based at a children's home in Nur-Sultan (formerly Astana), helps young people develop useful skills while actively participating in the recycling of equipment.

Between 2016 and 2017, a total of 370 and 1,951 **containers for collecting mercury-containing waste** were installed in the capital and other regions of the country. In 2017, over 3 million mercury-containing lamps and around 800 kg of batteries were collected (see Figure 19).

Figure 19. A container for collecting mercury-containing waste

The project for the installation of 100 electric vehicle charging stations in Nur-Sultan (Astana), Almaty, and along the Nur-Sultan–Borovoe highway (a popular recreational area near the capital) became part of the initiative to promote eco-friendly transportation. These stations provide electric vehicle charging that meets international standards.

Table 20. Number of electric charging stations by city

City	Number of Stations
Nur-Sultan (Astana)	51 stations, 30 locations
Almaty	52 stations, 24 locations

Separate Waste Collection System in Nur-Sultan (formerly Astana). In 2018, 6,276 containers for separate collection of solid household waste were installed at 2,565 locations. This improved the waste recycling system and significantly enhanced its efficiency (see Figures 20 and 21).

Figure 20. Containers for separate collection of solid waste

Figure 21. Garbage truck for transporting separately collected waste

Existing perceptions towards EPR implementation by stakeholders

Extended producer responsibility (EPR) in Kazakhstan is perceived differently by various stakeholder groups. The perception of the EPR mechanism largely depends on the level of awareness regarding its objectives, implementation methods, and actual results.

Among consumers, the prevailing opinion is that EPR represents an additional tax burden, particularly concerning the recycling fee for automobiles.[21] The primary dissatisfaction stems from the fact that funds collected under EPR are not always used transparently, and their real contribution to improving the waste recycling system remains unclear. Many citizens are also unaware of their role in the EPR system and view waste recycling as a responsibility of the government or businesses rather than a collective duty. Distrust in the system may also be attributed to legal claims against the activities of JSC **EPR Operator** (Private organisation) and related media coverage in the public information space.

Manufacturers of products subject to EPR requirements perceive the system as an additional financial burden that reduces the competitiveness of their products.

At the same time, the EPR system is viewed by waste management operators and secondary raw material consumers (especially large ones) as an opportunity to implement environmentally oriented solutions, such as the use of recycled materials. However, the lack of adequate recycling infrastructure creates additional challenges for them, as processing collected waste within the country remains difficult. There are emerging initiatives to revise the EPR system in Kazakhstan and establish a private system with functional separation by waste types (see the **Vision of the KazWaste Association,** below).

Major retail chains are introducing initiatives to implement environmentally friendly solutions, such as collecting used batteries, beverage containers (plastic, aluminium), and packaging. However, the lack of clear incentives from the government limits the scale of such programmes.

Government authorities perceive EPR as a tool for financing environmental initiatives, but its implementation in practice faces issues of transparency and efficiency. One of the key challenges remains the creation of a sustainable waste recycling system, as well as oversight of the distribution of funds collected under EPR. Questions arise regarding the mechanism for allocating funds and their effectiveness in developing recycling infrastructure.

The current operator is implementing a system with stricter control over fund distribution, which needs to be evaluated over time (as of the preparation of this report, the operator does not have statistical materials on the effectiveness of its activities).

Environmental activists and NGOs generally support the EPR concept but emphasise the need for greater transparency and targeted use of collected funds. The absence of clear mechanisms for public oversight raises concerns that a significant portion of collected funds does not reach the recycling sector.

The experience of the previous operator, under whom more active collection of secondary raw materials began, has shown that incentive measures for businesses must be introduced so that EPR contributes not only to fund collection but also to the development of a circular economy in the country.

Vision of the KazWaste Association

The following outlines is the Vision of the self-regulatory organisation **Kazakhstan Waste Management Association KazWaste** for the formation of the EPR system.

The association KazWaste actively participated in the development of EPR legislation as a directly interested organisation. It presented its vision of the current EPR system and proposals for its improvement to the MENR RK.

The essence of the proposal

It is proposed to adopt the experience of OECD countries. According to the 'Polluter Pays' principle, the functions should be transferred from Zhasyl Damu (which has shown inefficiency, bureaucracy, and reluctance to develop anything due to the fear of responsibility) to corporate non-profit funds – EPR operators for different types of waste. Importers and manufacturers create such funds, and the boards of these funds include a representative from the authorised body.

21 https://inbusiness.kz/ru/author_news/effektivnost-rop-v-kazakhstane

The MEPR RK sets tasks and goals for these funds, monitors them every two years, accepts reports, and votes on the approval of the reports in the board.

The corporate-fund-EPR operator

Receives waste recycling fees, approves its budget, conducts tenders among collectors and recyclers, makes decisions on the amount of payments and forms of support for various regions through the purchase of reverse vending machines, collection points, sorting equipment, equipment for producing goods from waste, etc.

The corporate fund is interested in the completeness and speed of budget spending, development of recycling, establishing fair rates for waste collection fees, and necessary payment rates, taking into account the goals for increasing recycling and collection set by the MEPR.

The role of the state is to set recycling targets and develop fair and effective rules for EPR implementation in the country.

Administration and control

Administration, monitoring of contractors, identifying unscrupulous actors, contract work, auditing, implementation of digitalisation, PR, developing internal regulations, and introducing Best Available Techniques (BAT), etc., will be the responsibility of the corporate fund. This will lead to fewer lawsuits, claims, and disputes directed at the authorised body. In this way, the mechanism will function here as it has in the EU for the past 30 years.

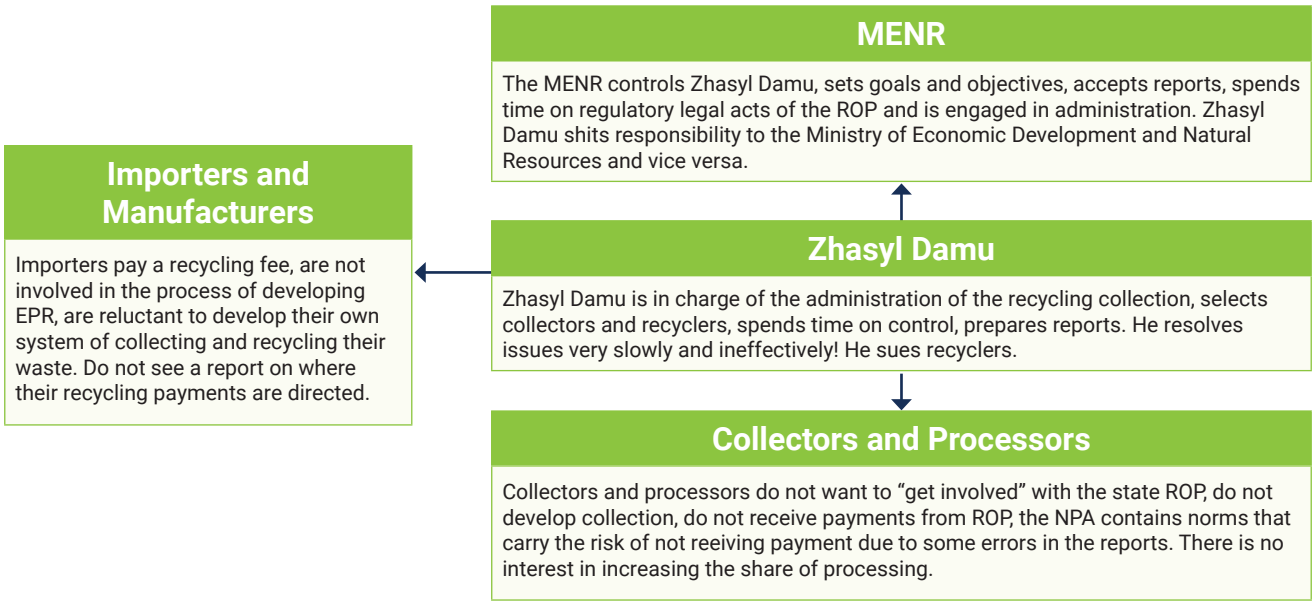

Figure 22. Current system of EPR implementation in Kazakhstan

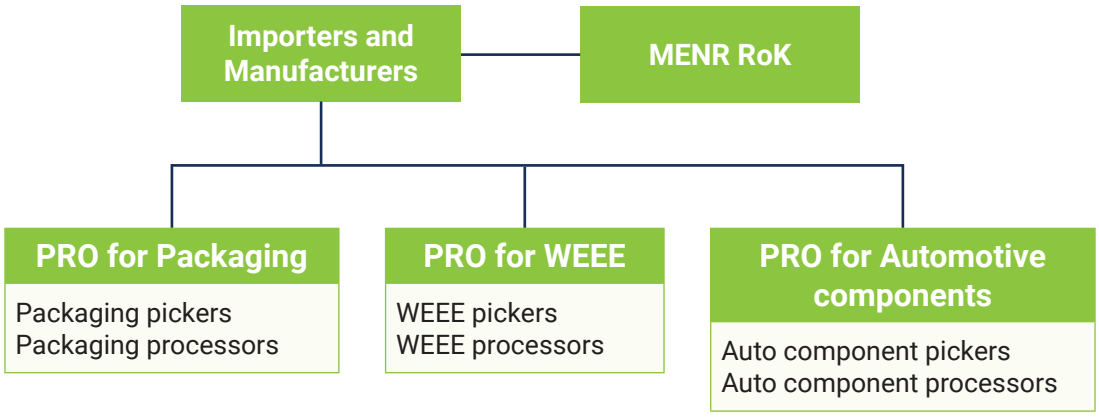

Figure 23. Proposed EPR model in Kazakhstan (KazWaste proposal)

5. NATIONAL CONSULTATIONS AND STAKEHOLDER ENGAGEMENTS

At the initial stage of the report development, open internet sources were used to collect information on the EPR system and stakeholders in the process (websites of JSC Zhasyl Damu, the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan, and other organisations).

Subsequently, to obtain more detailed information, individual interviews were conducted with stakeholders regarding their role in the EPR process, any comments or suggestions for improving the system, their vision for its future development, the volumes of collection or use of recyclables, as well as the assessment of the secondary raw materials market and its prospects.

For the national consultations, the following stakeholders were identified, providing information on success factors, gaps, and prerequisites for effective EPR structures:

Waste Management Department of the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan (MENR RK) – the sole shareholder of JSC Zhasyl Damu responsible for implementing state policy on waste management and overseeing the activities of the EPR operator (JSC Zhasyl Damu).

JSC Zhasyl Damu – the entity performing the functions of the EPR operator (with MENR RK as its sole shareholder).

Self-regulatory organisation Kazakhstan Waste Management Association KazWaste – the largest non-governmental association of waste collection and recycling companies, actively involved in shaping legislation.

Association of Packaging Manufacturers of Kazakhstan – a union of companies specialising in the production and sale of packaging materials.

Association of Secondary Raw Material Processors of Kazakhstan – an organisation uniting companies engaged in the collection and processing of various recyclable fractions, including glass, plastic, paper, and aluminium.

LLP Raduga (Petropavlovsk) – a company using secondary raw materials in the production of household goods made from plastic and paper/cardboard.

LLP AlmatySteklo (Almaty region, Karasai district) – a manufacturer of colourless glass containers that uses cullet as raw material.

IE Popov I.A. (Pavlodar) – a private business in the waste management sector, recycling plastic waste and trading other types of secondary raw materials.

As part of the project, a series of meetings were held with representatives of the **Waste Management Department of the MENR RK** and the EPR operator. These meetings focused on assessing the activities of the EPR operator and discussing potential proposals for improving the EPR system. During the discussions, several issues were identified, including the lack of data on the secondary raw materials market and the need to develop control mechanisms for the EPR operator's activities. Additionally, the possibility of incorporating key performance indicators (KPIs) into the strategic documents of the EPR operator as a control tool was explored. Stakeholder opinions, including critical perspectives, were voiced, helping to identify existing challenges within the EPR system.

As a result of these discussions, the EPR operator expressed readiness for further engagement and invited project representatives for a site visit and discussions on alternative solutions. Meanwhile, the Waste Management Department of MENR RK continues to analyse the operator's activities and develop proposals for improving the EPR system.

Figure 24. Meeting with Vice Minister of the Ministry of Ecology and Natural Resources of the Republic of Kazakhstan, Mr. Zh. Aliev

At a meeting attended by Mr. Zh. Aliev, Vice Minister of MENR RK, representatives of the SWITCH-Asia project, and S. Popova (EU Delegation to Kazakhstan), ongoing and planned projects in the field of sustainable development and circular economy were presented. Additionally, draft recommendations were introduced, and the SWITCH-Asia consultants' readiness to adapt proposed solutions for current and future projects was discussed.

Meetings with representatives of **JSC Zhasyl Damu**, the entity performing EPR operator functions, were attended by N.K. Kabdolzhanov, Deputy Chairman of the Management Board. The discussions revealed gaps in information regarding the secondary raw materials market and the necessity of such data.

An analysis of JSC Zhasyl Damu's development strategy indicated the company's readiness for further growth with international consulting support (as per the SWOT analysis). The company has 'inherited' obligations from the previous EPR operator and acknowledges the importance of preventing past mistakes, which has led to increased control over financial operations. However, these measures may appear excessive to service consumers within the EcoQolday system.

The operator is progressing toward simplifying procedures, but the early stage of implementation requires oversight. Notably, JSC Zhasyl Damu began systematic engagement with EcoQolday service users only in the fall of 2024, meaning that time is needed to fine-tune the system, particularly considering the shortcomings of the previous operator.

The operator plans to expand the scope of EPR participants and develop the necessary infrastructure through financial support mechanisms.

A key discussion point was the imbalance in the company's financial allocations. According to JSC Zhasyl Damu's 2023 report:

- **KZT 185 billion (EUR 375 million)** were allocated to returnable financing of waste sorting, recycling, and disposal projects, while
- **KZT 285 billion (EUR 577.7 million)** were directed toward projects involving the procurement of vehicles, including specialised equipment.

This disparity arises from the fact that the majority of the operator's funding comes from recycling fees on vehicles and agricultural machinery. As a result, part of the funds allocated for packaging waste and other waste streams is sourced from vehicle recycling fees.

Table 21. Utilisation fee rate for 2024

Classification	EPR Fee (KZT/ tonne)	Payout Amount (KZT/ tonne)	Deviation (KZT/ tonne)	EPR Fee (€/tonne)	Payout Amount (€/ tonne)	Deviation (€/tonne)
Glass	4,208.88	53,755.52	-49,546.64	€ 8.29*	€ 105.85	-€ 97.56
Plastic	5,168.80	67,379.00	-62,210.20	€ 10.18	€ 132.67	-€ 122.49
Paper and Cardboard	6,497.92	42,827.20	-36,329.28	€ 12.79	€ 84.33	-€ 71.53
Composite Material Packaging	3,359.72	63,982.36	-60,622.64	€ 6.62	€ 125.98	-€ 119.37
Tires and Treads (Passenger/ Truck)	52,241.80	49,842.00	2,399.80	€ 102.87	€ 98.14	€ 4.73
Tires and Treads (Large-Scale)	52,241.80	63,317.80	-11,076.00	€ 102.87	€ 124.68	-€ 21.81
EEE Containing Heat Carriers	29,092.96	79,119.56	-50,026.60	€ 57.29	€ 155.79	-€ 98.50
Large-Sized EEE	14,546.48	59,773.48	-45,227.00	€ 28.64	€ 117.70	-€ 89.05
Small-Sized EEE	7,384.00	27,394.64	-20,010.64	€ 14.54	€ 53.94	-€ 39.40
EEE with Screens and Monitors	60,179.60	159,457.50	-99,277.90	€ 118.50	€ 313.98	-€ 195.48
Small IT EEE	90,195.56	191,651.70	-101,456.14	€ 177.60	€ 377.37	-€ 199.77
Lamps	174,299.30	298,867.40	-124,568.10	€ 343.20	€ 588.48	-€ 245.28

*The official exchange rate of foreign currencies in 2024 is KZT 507.86 per EUR 1

The proposed measures for promoting the circular economy were considered: differentiation of fees for products subject to EPR, depending on their recyclability or repairability; introduction of KPIs.

5.1. Environmental Associations

At the meeting with Mr. Shynbolat Baikulov, Chairman of the Board of the **KazWaste Association**, the role of EPR in the development of the municipal waste management sector and the vision of the EPR system were discussed.

Challenges in using the EcoQolday online platform in certain cases were highlighted.

Mr. Baikulov presented comments on the EPR system, which had previously been submitted to the Ministry of Ecology (see section 4.2.3: Existing Stakeholder Views on EPR Implementation). The key message was to develop a decentralised private ownership model for the EPR system, specialising in different types of waste.

Mr. Batyrbek Aubakirov, head of the **Kazakhstan Packaging Association** and the **Kazakhstan Association of Secondary Raw Material Recyclers**, raised the issue of comparing EPR rates for packaging materials (plastic, glass, paper, aluminium) in different countries. He expressed the opinion that it may be necessary to update the rates considering global market trends.

Private Sector

Mr. I.A. Popov (private entrepreneur), a key player in municipal solid waste (MSW) management in Pavlodar and Aksu, previously worked with the EPR system but ceased participation after the transition to a new operator. According to him, one of the reasons was the low payment rates for waste management. He is willing to reconsider waste processing services under the EPR system if payments are increased.

LLP Raduga (Petropavlovsk) has been working with the EPR system since 2017. The company produces over 500 product types across various categories. Half of its offerings are imported, while the other half is manufactured in-house. Some products, such as polyethylene pipes, buckets, basins, scoops, portable toilets, and hygiene paper, are made using recycled raw materials.

The company has a full-cycle recycling process and its own waste management infrastructure, including sorting stations, crushing equipment, and presses. Most of its products are sold in the local market.

During discussions on EPR, it was noted that a production system that manages waste and uses secondary raw materials is not viable without external support. The company believes that additional funding from tariffs or state subsidies, such as those provided by the EPR operator, is necessary for sustainability.

While observing the development of the EPR system, the company also identifies challenges, particularly bureaucratic restrictions imposed by the government, including the limitations of the **EcoQolday** online platform.

One proposed improvement is transferring operator functions to private entities, which could accelerate the adaptation of EPR to the evolving secondary raw materials market.

LLP Almaty Glass (Karasai District, Almaty Region) specialises in manufacturing colourless glass containers. **Mr. Andrey Igonin**, the company's director, stated that they produce 117 different types of glass bottles and jars. Their products are sold in Kazakhstan, Tajikistan, Uzbekistan, Kyrgyzstan, Moldova, Armenia, Georgia, and Poland.

Approximately 50% of the raw material comes from cullet (recycled glass), which is processed under an agreement with the EPR operator. However, Mr. Igonin noted that the volume of cullet supplied has decreased compared to the period under the previous operator. The decline is likely due to a reduction or discontinuation of subsidies for glass waste collectors and transporters.

The main sources of cullet are landfills, where manual sorting of waste occurs.

To develop the secondary raw materials market, particularly for cullet, Mr. Igonin emphasised the need to expand waste collection points. As a measure for improving EPR, he suggested supporting the waste management industry, especially in the collection and transportation of glass waste.

6. ASSESSMENT OF ENABLING FACTORS FOR EPR IN KAZAKHSTAN

The review of collected data and interviews revealed the following key findings.

- The essential role of the EPR operator as a mechanism for collecting funds for waste utilisation.
- The dependence of waste management companies that extract secondary raw materials on additional revenue sources (subsidies).
- The existence of unused capacities for waste and secondary raw material processing.
- Opportunities for market expansion for certain products made with recycled materials.
- Concerns about the accuracy and relevance of utilisation fees and payments for waste management.
- Strong interest in obtaining more information about the efficiency of the EPR operator's activities.

According to project consultants, the following existing factors may have the most significant impact on the future trajectory of the EPR system:

- **Legislation regulating EPR operator activities**

  A significant legislative effort was undertaken due to the transition of the operator from private to state ownership.

- **Challenges in adapting legislation**

  Key provisions are embedded in Kazakhstan's Environmental Code, making the process of updating regulations more complex. This challenge is also reflected in the operator's strategy.

- **Development strategy of Zhasyl Damu JSC (2023-2027)**

  The strategy includes a SWOT analysis, demonstrating a willingness to improve and openness to dialogue. It outlines key performance indicators and expected results, which could be adjusted with stakeholder input to enhance the operator's efficiency.

- **Negative legacy of the previous operator**

  Financial scandals involving the former EPR operator led to criminal charges, fostering public distrust in the system. Calls to abolish the utilisation fee have persisted due to a lack of transparency in fund allocation. As a result, newly introduced EPR regulations aimed at reducing fraud risks have made subsidy disbursement more complex for the waste management sector.

- **Full government control over EPR activities**

  Since the state owns 100% of the operator's shares, bureaucratic inefficiencies pose a risk to effectiveness. Current waste management subsidy procedures have become overly complicated due to stringent control measures.

  Imbalance in financing and subsidies

  In 2023, Zhasyl Damu allocated:

  - 185 billion KZT (€375 million) for sorting, recycling, and waste disposal projects.
  - 285 billion KZT (€577.7 million) for vehicle and specialised equipment procurement.

  Some funds collected for vehicle and agricultural machinery disposal are redirected to cover other waste types. This highlights the need for additional measures to incentivise funding collection for packaging and other waste categories.

- **Underdeveloped waste processing and recycling infrastructure**

  Waste collection rates remain low, and in 2023, only 23.9% of waste was recycled, according to official statistics.

The overall proposed scheme of the EPR system is presented in Figure 25.

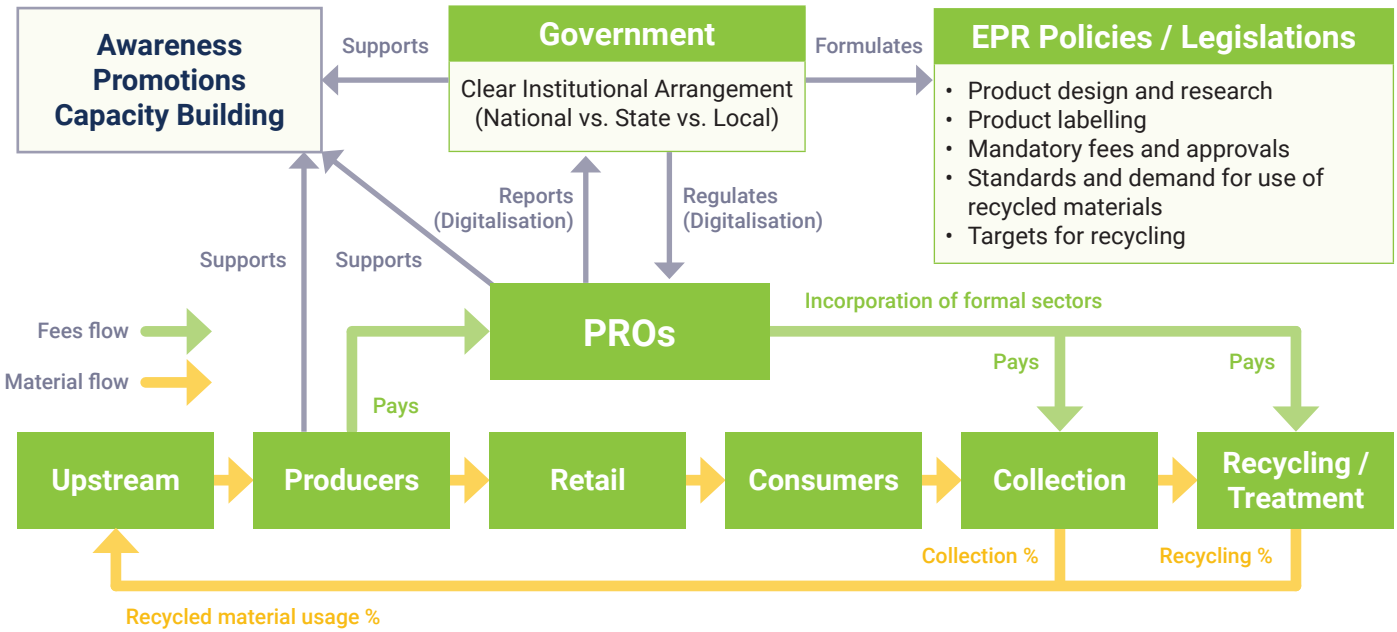

Figure 25. EPR System Scheme (Key Stakeholders, Resource Flows)

7. WAY FORWARD FOR EPR IN KAZAKHSTAN

The considered success factors, as well as the 'brakes' on the development of the EPR system in Kazakhstan mentioned in the previous chapters, along with global trends and the vision of the EPR system by stakeholders in the implementation of the national EPR system in Kazakhstan, require strengthened control over the activities of the national EPR operator and an assessment of its further effectiveness.

In order to take measures for the further development/improvement of the EPR system in Kazakhstan,

- considering the experience of the previous EPR operator in developing the waste management system subject to EPR requirements,
- taking into account the short-term practical experience of the current EPR operator,
- recognising the importance of the EPR system as a tool for implementing the 'polluter pays' principle,

the project consultants, with the support of the Waste Management Department of the MEP RK, have proposed the following recommendations:

1. **Introduction or expansion of key performance indicators (KPIs) for the EPR Operator**
   - The development strategy of JSC Zhasyl Damu (EPR operator) for 2023-2027 includes key performance indicators and expected results regarding waste collection and recycling rates, as well as other relevant metrics.
   - Aligns with SDG indicator 12.5.1: 'National recycling rate, tonnes of material recycled.'
2. **Exploring the possibility of introducing a differentiated fee for non-recyclable/single-use components of produced or imported goods covered by EPR**
   - There is a possibility of applying a utilisation fee coefficient.
   - Correlates with the eco-labelling provision (subparagraph 3, paragraph 4, Article 47 of the Environmental Code of Kazakhstan).
   - The goal is to encourage the circular economy.
3. **Introduction of non-financial reporting – ESG for the Operator and engaged secondary raw material processing organisations**
   - Some aspects of this are already addressed through the annual reports of the EPR operator, but data on social responsibility and environmental impact of partners are lacking.
   - The goal is to establish a comprehensive secondary raw materials market report and improve the public perception of EPR.
4. **Strengthening public engagement by the EPR Operator to involve citizens in waste sorting and raise awareness of recyclable materials**
   - The goal is to expand the network of recyclers and consumers, as well as to improve the EPR system's reputation by distancing it from past negative associations.

The presented recommendations are primarily organisational in nature and imply the involvement of other stakeholders, including environmental organisations.

These recommendations may be adjusted during discussions at the national seminar with the participation of all organisations involved in the project development. Additionally, the report and recommendations may be supplemented following the regional seminar based on the outcomes of project implementation in all participating countries (see Section 1. Executive Summary).

7.1. Question on the Industrialisation of the EPR System from Vice Minister of Ecology and Natural Resources of Kazakhstan, Mr. Zhomart Aliyev

During the working meeting on February 5 of this year, Vice Minister of the Ministry of Ecology and Natural Resources of Kazakhstan, Mr. Zhomart Aliyev, met with representatives of the SWITCH-Asia project. The meeting included presentations on ongoing and planned projects in the field of sustainable development and circular economy.

As part of the project *Reviewing The Enabling Factors for EPR and EPR Policy Framework In The Countries*, Mr. Aliev requested expert opinions on the necessity and feasibility of industrialising the EPR system, and specifically its specialisation by different waste streams, including packaging and automobiles.

7.2. Vision of the Issue by SWITCH-Asia Project Consultants, presented to Vice Minister Mr. Zhomart Aliyev

Historical Context of EPR in Kazakhstan

The previous EPR operator, LLP EPR Operator, was a private company. During its time of operation, specialised waste management enterprises subject to EPR requirements were actively engaged and received subsidies.

However, the activities of LLP EPR Operator raised several legal and financial concerns, which led to the loss of its EPR operator functions.

As a result, the image of the EPR system suggests the need for greater control over incoming utilisation fee funds and the subsequent distribution of subsidies.

Current EPR Structure

In 2022, the functions of the national EPR operator were transferred to the state-owned enterprise JSC Zhasyl Damu, which operates under the Ministry of Ecology. Prior to this, the company had experience in managing orphaned waste.

The regulatory framework was refined, allowing the EPR operator to commence full-scale operations in the fall of 2024 (less than six months ago). State oversight ensures greater transparency and targeted allocation of funds, facilitating a more systematic development of waste management infrastructure, whose deficit is confirmed by statistical data.

The data presented by JSC Zhasyl Damu on the amount of utilisation payments in 2024 and the amounts paid for waste management and secondary raw materials operations indicate a disparity. For example, the rates for waste management subsidies for packaging (of all types) significantly exceed the utilisation payment rates. This makes packaging waste management subsidies within the EPR system financially dependent as of today.

International Experience

Globally, EPR operators can be either public or private. In some countries, a model with multiple specialised operators by waste type is applied, increasing efficiency and accountability.

In Kazakhstan, the current model is still in its early stages of development and lacks sufficient reporting data for an objective assessment of its effectiveness and sustainability.

Recommendations

- *Premature conclusions about the effectiveness of JSC Zhasyl Damu as the EPR operator should be avoided until sufficient data and reporting are available.*
- *The strategy developed by the company for 2024-2027 can be adjusted if necessary, with the involvement of stakeholders to align with national and international standards.*

- *Future adjustments to the EPR system should be based on an evaluation of the implementation of the current strategy implementation and corresponding reporting.*
- *In the future, the possibility of diversifying EPR operators by specialisation, depending on waste type, could be considered, aligning with international practices.*

www.switch-asia.eu

EU SWITCH-Asia Programme
@EUSWITCHAsia

SWITCH-Asia
@SWITCHAsia

SWITCH-Asia Official
@switch-asia-official