



What is
LIFE Waste To Resources IP?



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Circular economy is one of the cornerstones for waste prevention. Since 2022 the Ministry of Environmental Protection and Regional Development of the Republic of Latvia together with its 21 partners are implementing the European Union LIFE programme integrated project “Waste To Resources Latvia – boosting regional sustainability and circularity” (**LIFE Waste To Resources IP**). Project was developed to help reduce waste generation, ensure more efficient waste management, and lower the amount of waste to be landfilled, while implementing the National Waste Management Plan 2021–2028.

Financial information



The project has a total budget of **15 245 351 €**, including:



The integrated Project "Waste to Resources Latvia - boosting regional sustainability and circularity" (LIFE Waste to Resources IP, LIFE20 IPE/LV/OO0014) is implemented with the financial support of the LIFE Programme of the European Union and Latvian State Regional Development Agency.

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Project partners:

State institutions:



Ministry of Environmental Protection and Regional Development
Republic of Latvia



State Environmental Service
Republic of Latvia



State Environmental Service
Republic of Latvia

cēsis

Enterprises:



cleanr



ECONOVA LATVIA



Non-governmental organisations:



Academic institution:



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RIGA TECHNICAL UNIVERSITY

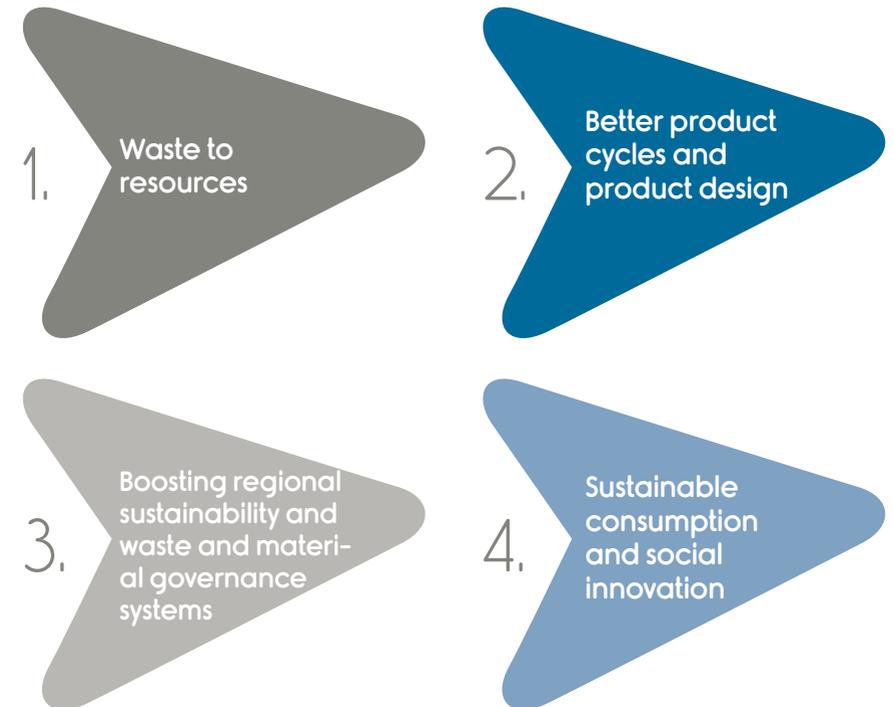
What is the aim of the project?

LIFE Waste to Resources IP will introduce targeted measures to reduce waste generation by promoting re-use of resources, improving waste flow control, reducing negative environmental impacts and the carbon footprint of the economy.



What are we going to do?

To improve waste management in Latvia and achieve the objectives set out in the project, participating organisations will implement measures to be divided into several thematic areas:



1.

Waste to resources

Problem:

Over the last ten years the amount of waste generated by one Latvian resident per year has increased by more than 100 kg. In 2021 one person generated 439 kg of waste. At the same time, 30% of waste generated is disposed in landfills.

2011 - 2022



+100 kg



= 439 kg

SOLUTION

To develop the separated waste collection system, the project introduces pilot activities for better management of priority waste streams of biowaste, food waste, textiles and packaging waste, as well as strengthens the management of extended producer responsibility system for various types of waste, such as packaging, environmentally harmful goods, cigarette butts and other materials.

The project addresses problems that currently hinder the success of separate waste collection – infrastructure necessary for sorting waste is provided, a common approach and requirements for waste management companies are developed, the data management system is improved, and the public is informed and educated.

To ensure waste reduction within the building sector, a system for the re-use and recycling of materials is introduced. Digitalisation of data/material flows linked with an advanced building information system is developed to trace building materials throughout their full life cycle.

Notes

BENEFITS:

Solutions for a modernised separate waste collection system

Waste sorting **demonstration sites** are developed in Latvia, expanding sorting opportunities for residents, and promoting implementation of circular economy principles. In separate waste collection demonstration sites, the public is educated about waste sorting opportunities using modern solutions.



Building waste remains in circulation

A common framework for sustainable management of building waste has been developed, implemented, and demonstrated. Efficient resource circulation has a wide but untapped potential. **Pilot projects** are under way to test approaches and to develop digitised tools for more efficient management of building waste.

After implementation of the system in pilot projects and evaluation of the necessary improvements, it is possible to transfer the system into the regulatory framework and it becomes applicable for whole territory of Latvia. Thus, the establishment of a **building material circulation system** not only reduces energy consumption, CO₂, and air pollutant emissions from the building materials production process, but also preserves natural resources.

More recyclable materials

Novel recycling options for non-recyclable municipal waste and separated wood waste fractions have been tested and demonstrated.

Innovative technological solutions have considerable potential for utilisation of non-recyclable waste, enabling the production of natural gas substitutes, composite plastic materials, and the use of wood residues in the production of new products, thus ensuring the re-use of materials.

Testing facilities based on innovative technologies are set up to demonstrate recycling operations and produce **sample products**.

More efficient use of waste

As a result of efficient waste sorting, regional landfills implement material and energy recovery and reduce the amount of waste to be landfilled. By introducing innovative technological tools, the issues of low quality of separately collected waste (including packaging) and optimization of processing capacity are addressed. Activities are carried out in two regional landfills – the municipal waste landfill “Daiļbe” of the North Vidzeme waste management region and the municipal waste landfill “Dziļā vāda” of the Vidusdaugava waste management region.

These two pilot areas employ different levels of waste sorting and material recovery technology. By testing **innovative technologies**, process efficiency is promoted, and experience is gained. Developed tools are used to demonstrate and transfer this experience to other waste management regions and the companies in Latvia.



Unlocking the potential of biological waste

The measures of National Waste Management Plan 2021–2028 which are indicated in the Food Waste Prevention Programme are being implemented:

- 1) introduction of technological solutions for the management of biological waste closer to the place of its generation;
- 2) analysis and **measurement** of food waste. Biological kitchen waste – vegetables, fruits, biomass, food, and product leftovers are collected and stored in special biological waste containers and delivered to a biogas plant after treatment. The process described is studied and analysed by gathering official statistics, executing **analysis of the composition of waste** and taking other measurements.

Management options for slate roofs containing asbestos

A **common waste flow accounting system** is developed by cooperating with waste management companies and improving the waste transport accounting system, which is maintained by the State Environmental Service. Data on waste containing asbestos collected, transported, and safely disposed are recorded.

Specialised **training** is implemented for inspectors of the State Environmental Service, employees of local governments, which are responsible for environmental issues, and waste management operators, whose landfills are intended for the management of waste containing asbestos.

A **support system** is being created and implemented for households which store or are willing to replace asbestos containing roofing, i.e. which need the support of qualified labour for the dismantling, collection, removal and disposal of roofing in landfills.

BENEFITS:

Valuable business collaboration forms

Promotion of **industrial symbiosis** consists of 3 phases: conversation, connection, and co-creation. One of the basic principles of industrial symbiosis is **cooperation between enterprises** – with the goal to turn one's unnecessary resources or waste into raw materials for another company and thus prevent waste generation.

The main goal of industrial symbiosis is to maximize **the reuse of resources**, improve the sustainability of resources and promote waste reduction in production, which is implemented preventively in the initial stages of product concept development and production. At the same time, industrial symbiosis is focused on achieving the objectives of the circular economy and waste prevention. It is aimed towards promoting and implementing the development of eco-innovations. The development of industrial symbiosis is based on economic benefits and business interest, which is an essential prerequisite for the sustainability of the system.



Knowledge to eliminate non-recyclable plastics

A methodology is being developed and accredited to determine the **recyclability** of different types of plastic products. Based on the results, it is possible to obtain information about the amount of non-recyclable plastic. A **certified laboratory** has been set up as part of the project to determine the composition of different types of plastics and to carry out recycling tests.

Tests carried out in the laboratory will result in the creation of a **database** which will allow further analysis on different types of plastic products, their availability on the market, consumption, and actual recycling. Both material analysis and the development of new materials make it possible to build a collaborative platform between manufacturers and recyclers and to build a shared liability system and reduce the amount of non-recyclable plastics in circulation.

Notes

3.

Boosting regional sustainability and waste and material governance systems

Problem:

In 2021, 52% of the total amount of household waste was disposed in landfills. Waste disposal in landfills takes up large areas, while the consumption of resources increases every year and creates an ever-increasing total amount of waste and burden on landfills.

SOLUTION

Major reforms are being implemented to promote regional sustainability and efficient waste management, transforming the current 10 waste management regions into 5 more efficient waste management regions. The classic concept of landfills, which involves the disposal of waste, is transformed for recovery of secondary raw materials or energy. To implement the reform of waste management regions, consultations and methodological support are provided, regional education and competence centres are established, a circular economy roadmap and regional waste circulation models are developed.

Within the framework of the project, policy instruments and the efficiency of green public procurement are improved, as well as dialogue with the academic and scientific sectors is developed. Recommendations are developed for the application of the extended producer responsibility system for tobacco products with filters. Monitoring of waste management activities and data flows is also improved, based on the digitisation of reporting and control processes and solutions, involving responsible authorities.



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4.

Sustainable consumption and social innovation

Problem:

In 2022, the results of the surveys carried out within the project reflect consumer habits regarding the purchase of various goods. For example, 76% of respondents buy new clothes once every six months, and 22% do it more than once a month. Purchases of electrical goods are also made relatively often – almost every respondent surveyed (88%) has purchased an electrical product in the last year (Data from studies carried out by SIA "Eco Baltia vide" 30.06.2022. – 07.07.2022. "Fort Research"). The findings clearly reflect the habits of today's consumer society, resulting in significant amount of waste.

SOLUTION

Sustainable consumption and social innovation are linked to the development of a **product-as-a-service** concept whereby producers assume responsibility for the product developed throughout its life cycle. The project establishes a system for promoting re-use, repair, and recycling activities.

Educational activities are being implemented within Eco-schools, which contribute to changing behaviour and attitudes of young people, ensuring sustainable consumption and circular thinking, and contributing to the reduction of waste. Young people are being educated on the waste streams set out in the directive on the reduction of the impact of certain plastic products on the environment and the impact of social marketing is being tested. The project establishes a set of activities (voluntary monitoring, coastal community initiatives) to address the issue of waste in coastal areas.

Notes



BENEFITS:

Secondary use of goods

The project supports actions aimed at creating an ecosystem that enables secondary use of resources and materials and offers repair and recycling opportunities for the public. The establishment of the system includes development of operational models for a repair and recycling centre at a municipal level, foresees pilot projects for the development of **repair shops and rental centres** for electrical and electronic equipment waste and information and communication technology equipment.

A digital platform is being developed and implemented to facilitate the transition from goods to services and to provide with a centralised source of information about repair services for various goods. In parallel with the core activities of repair shops and recycling centres, **data analysis** is carried out to understand consumers' needs and habits.

Responsible consumption and smart shopping

Based on the Eco-school framework, educational measures are implemented, and **behavioural change** is promoted for waste reduction, sustainable consumption and thinking within the context of circular economy. The project also foresees other educational activities on new waste streams set out in the directive on the reduction of the impact of certain plastic products on the environment. As Latvia has a coastline of almost 500 km, a set of activities (voluntary monitoring, coastal community initiatives) is being developed to address the problem of marine waste and littering in the coastal areas. The public is widely and regularly informed about the activities and solutions of the project, thus fostering a change of public opinion, attitude, and behaviour in achieving a common goal.

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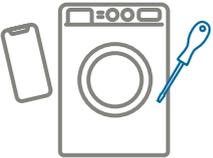


How do I start reducing waste?

First steps to a zero-waste lifestyle:

1  **Refuse** – give up what is not necessary, avoid buying new things unless needed

2  **Reduce** – reduce the amount of things not used at home by giving them away or re-selling

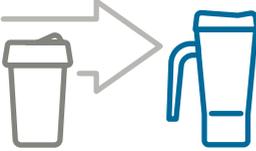
3  **Reuse** – reuse what is already found in your home, purchase second-hand goods, repair if broken, lease if rarely needed

4  **Recycle** – recycle waste which has nevertheless been generated by placing it in appropriate sorting containers or visiting sorting areas

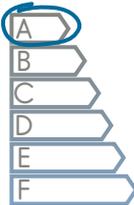
5  **Rot** – compost or sort biodegradable waste

Where to begin?

Keep it simple:

1  **Start with changing one habit.** For example, introduce a reusable bag or cup, switch the next shampoo bottle to a shampoo bar without packaging, opt for a bamboo toothbrush, instead of a plastic toothbrush etc.

2  **Conduct your own personal waste audit** – knowing what ends up in the bin will make it easier to assess what shopping and household habits need to change to avoid buying items with excess packaging

3  **Invest time in finding sustainable alternatives** to large planned purchases

4  **Opt out of single-use items** by choosing reusable items instead, which will last a long time. Keep in mind that you may already own the things you need, such as empty takeaway jars and lunch boxes

5  **Gift adventures instead of things**

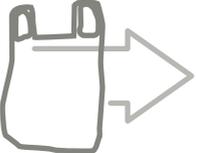
10 simple, more sustainable alternatives to goods:

1 Disposable paper towels   Textile towels

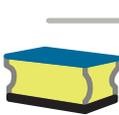
2 Plastic takeaway containers   Glass jars or metal food containers

3 Water in a plastic bottle   Water in a refillable metal or glass bottle

4 Disposable coffee cup   Take-away coffee cup made of metal, glass or other material

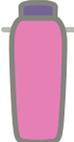
5 Large plastic bags for shopping   Cloth bag

6 Thin plastic bags for vegetables and fruits   Reusable small cloth bags or buying without a bag

7 Plastic dish sponge   Wooden brush or loofah sponge for dishwashing

8 Plastic toothbrush   Bamboo toothbrush

9 Aluminium foil or plastic bags for food storage   Beeswax wraps

10 Shampoo or shower gel in a plastic bottle   Shampoo bar or hard soap

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