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Status of packaging waste recycling in the EU member states

The EU is one of the global leaders in the fight against climate change, having set an ambitious goal of achieving climate neutrality by 2050. One of the mechanisms for achieving this ambitious goal is the implementation of circular economy principles. In this aspect, the problem of efficient use of resources becomes relevant, which can be solved, in particular, by wider implementation of recycling of various types of waste.

One of the types of waste, the accumulation of which continues to grow, is packaging waste. In order to solve the problem of packaging waste accumulation, the EU has adopted relevant indicative targets to be achieved in the near future [1]. Namely, 55% of municipal waste and 65% of packaging waste must be prepared for re-use or recycled by 2025. Additionally, material-specific recycling targets were established as well.

Measures implemented in the EU and aimed at increasing the level of packaging waste recycling have led to significant successes. Fig. 1 shows the indicators of packaging waste processing in the EU for 2021.

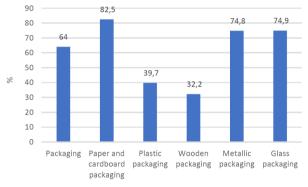


Fig. 1. The recycling rate (%) of packaging waste in the EU in 2021. Source: Eurostat, 2023

The relevant authorized bodies monitor the level of implementation of packaging waste recycling by individual Member States. The results of recent monitoring are analyzed in the corresponding report [2]. This report provides information on the state of waste recycling in different countries, focuses on countries at risk of not meeting their commitments to achieve an appropriate level of waste recycling by 2025 and provides examples of best practices that can be used in the field of waste recycling.

The report's analysis shows that recycling targets for packaging waste from materials such as paper or cardboard, as well as ferrous metals, are likely to be achieved by all EU Member States by 2025. The situation regarding the recycling of plastic packaging is worse. There are several countries that are at risk of not meeting the targets. Therefore, special attention should be paid to this issue, analysing ways to improve the situation.

In addition, the European Commission's web-site provides information on good waste management practices that can serve as models [3]. For example, the National Deposit Refund Scheme (for bottles and cans) in Germany is presented as an effective practice. Such a system was one of the first in Europe. Today, the mandatory deposit refund scheme applies to almost all aluminium, glass and plastic (PET) cans and beverage bottles. At the same time, the average return rate of cans and bottles in Germany exceeds 95%. The deposit refund scheme is incentivized by a deposit of $\notin 0.08 - \notin 0.15$ for reusable bottles and at least $\in 0.25$ for single-use bottles and cans. In Germany, a high level of reuse of beverage bottles has been achieved. Reusable PET bottles and glass bottles are reused up to 20 and 50 times on average, respectively [4]. A national campaign has been launched in Ireland to raise awareness among the general public about the concept of circular economy. At the same time, extended producer responsibility organizations participate in this campaign [5]. In Denmark, a web-based knowledge platform "Genanvend" has been created to help municipalities share information on best practices in waste recycling. This platform contains technical reports and inspiring practices from municipalities on waste management [6]. And the list of such effective practices applied in various European countries can be continued.

In summary, packaging waste recycling in EU Member States shows progress alongside persistent challenges. Despite advancements in collection systems and policy measures, plastic packaging recycling remains a significant hurdle. To boost recycling rates, focusing on recyclable packaging design, improving collection systems, and rigorous policy implementation are vital.

From the above analysis, it can be seen that the EU attaches great importance to the implementation of packaging waste recycling technologies and sets ambitious goals for achieving relevant targets in the near future. Considering Ukraine's European integration aspirations, the EU's experience in the field of packaging waste recycling is of considerable interest.

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