

**Anna Pohrebniak**

PhD in Economics,

Igor Sikorsky Kyiv Polytechnic Institute

## **NECESSITY OF IMPLEMENTING THE CIRCULAR ECONOMY AT ENTERPRISES IN WAR CONDITIONS**

The circular economy aims to enable companies to overcome the risks of resource depletion and identify new opportunities for sustainable development. The examples presented in this study demonstrate how companies in the EU are implementing circular business models in order to achieve economic growth, increase competitiveness and prevent risks at all stages of the production cycle.

In Ukraine, there is an unstable dynamics of waste management, statistical data show that a small part of waste goes to secondary processing, the rest are subject to disposal, a large part is burned or transferred to specially designated places.

Household waste management in Ukraine needs to increase the rate of industry reform. After all, out of 400 million tons of waste generated annually in Ukraine, only  $\approx 6\%$  is processed. This percentage is almost 7 times less than the average rate of recycling in the EU, which is 40%. At the same time, in 2022, the gap increased, because significant volumes of waste caused by the war were added to those millions of tons.

The global waste management market was valued at over \$420 billion in 2021, with global market researchers predicting it to grow by another 5% by 2026. But the highest growth rates are provided by the segment of secondary processing.

This situation is further complicated by the consequences of the military actions of the Russian Federation against Ukraine. Before the offensive of the Russian troops, there were 17 waste paper processing enterprises in Ukraine, 39 - polymers, 19 - PET raw materials (plastic bottles), 16 - broken glass (according to PwC research), in particular in the following cities: Kyiv, Lviv, Poltava, Odesa. The same enterprises existed in Mykolaiv, Kharkiv and Mariupol. Glassware was headed to the Gostomel glass factory, waste paper to the Zmiiv factory in the Kharkiv region. Since the beginning of the war, these regions have suffered significant destruction and are under constant shelling, Gostomel was under occupation, Mariupol is still a city not controlled by Ukraine. This led to a reduction in the capacity of household waste processing by about 30–35%. If we talk about the losses suffered by business entities in the field of waste disposal, the direct losses amount to 95.36 million dollars. USA, and the loss of profits – 11.9 million dollars. USA. These indicators were evaluated in separate regions: Donetsk, Luhansk, Kharkiv, Chernihiv and Kyiv regions.

One of the biggest problems is waste from damage or destruction of infrastructure facilities. Since the beginning of the full-scale war in Ukraine, about 120,000 private households and more than 20,000 multi-story buildings have been destroyed. In Kyiv region, Chernihiv region and Sumy region, the amount of construction waste is about 15.2 billion tons. Some construction waste is subject to further processing, but before that, building debris must pass a laboratory test for the content of certain substances, which is an additional cost to the state. However, a significant share is heat-deformed debris, or those containing asbestos (minerals from the silicate group), which will not be reused.

The war on the territory of Ukraine caused significant damage to the environment, slowed down the process of introducing the circular economy at domestic enterprises, and provoked the large-scale generation of waste, most of which is dangerous and cannot be processed, restored or reused. Nevertheless, the generation of such a large amount of waste requires strategic decisions regarding their effective management using circular economy models.

The circular economy is a way to clean up the country and reduce the accumulation of garbage, as well as saving costs for their removal and storage at landfills, since the process of processing secondary raw materials is cheaper and opens up new potentials for the development of enterprises.

Of course, war brings destruction and puts most innovative projects on hold. However, now, more than ever, it is important to quickly and profitably eliminate the consequences of military actions, so on the other hand, this is a potential for the development of a circular economy in Ukraine.