

THE ECONOMIC SIDE OF WASTE SORTING PROBLEM

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Nowadays waste sorting problem is becoming increasingly vital as young generation, in particular people between 13 and 30 years old, care about the future of the planet. However, the environmental pollution caused by waste that people throw away is often overlooked.

The so-called “Lviv waste crisis” of 2016 and 2017 caused a serious problem for our country while creating a threat for the ecology as well. So, it is necessary to do research into the issue of waste sorting in Ukraine, and in Melitopol in particular.

The purpose of the research is to determine what actions of the government and material costs are needed to improve the state of the environment in our town.

To find out the costs that are needed, at first we must find out what we already have and what we need to invest into. First of all, a certain amount of containers for sorting waste are required. To define this amount we need to know that usually the density of municipal solid waste (in containers) is 180-250 kg / m³ [1]. Population of Melitopol as of January 1, 2020 is 151,948 citizens [2]. The average household produces 6.5 million tons of waste or about 271 kg per person per year [3]. So that means that one person produces 750 grams of waste a day. According to the official data, we can calculate the total waste amount which is 10.6 tons a day.

One container can fit 1100 litres of waste or 250 kg, so to cover the whole town 426 containers are needed, unless that waste is sorted.

To make people sort the waste it has to be readily available, not to entail extra fare to deliver waste to garbage collection point and mountains of sorted waste at home, so even more new containers will be required in each courtyard. Currently there are about 2 or 3 containers in each courtyard. That means that the city authorities need to buy at least 852 containers, the total cost of which is 3 365 400 hryvnias.

Plastic, paper and glass will gather slowly and they do not deteriorate quickly, so they won't entail a lot of extra fare, while the money that will be bailed out from waste recycling will cover the transportation costs.

To popularize waste sorting, social advertising may be needed. And the main point is building the garbage recycling plant. This project would be rather expensive for the budget of our town, so help from the regional or country administration as well as foreign investments will be required.

In conclusion, this topic needs further investigation and will be looked into based on the present research.

References

1. Перевод топлива (бензина, ДТ, газа), твердых бытовых отходов (ТБО) из литров (метров кубических) в тонны, коэффициенты: website. URL: <http://uin.in.ua/spravochniki/perevod-topliva-benzina-dt-gaza-tverdich-bitovich-otchodov-tbo-iz-litrov-metrov-kubicheskich-v-tonni-koeffitsienti/> (Last accessed: 27.10.2020).
2. Численность населения в городе Мелітополь: website. URL: <https://index.minfin.com.ua/reference/people/town/melitopol/> (Last accessed: 21.10.2020).
3. Украина утопает в мусоре: на каждого человека приходится по 8,5 тонн отходов: website. URL: <https://ukraine.segodnya.ua/ukraine/na-kazhdogo-iz-ukraincev-prihoditsya-po-85-tonn-musora-1142879.html> (Last accessed: 21.10.2020).

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