

## **Recycling plastic waste urban agriculture**

### **VINNYTSIA NATIONAL TECHNICAL UNIVERSITY**

**Abstract:** *the concept of waste plastics urban economy, the need for and methods of recycling.*

*The rapid development of production of various polymers in the second half of the XX century. Led to the introduction of polymeric materials in all areas of life. The volume of production continues to grow at 5-6% annually. Therefore, the issue of recycling of polymer materials are inseparable from the problems of recycling other waste of human life.*

**Keywords:** *plastic, urban agriculture, recycling, polymeric materials.*

*Plastic waste decompose under natural conditions over the years, polluting the environment degradation products. In their unauthorized burning in the atmosphere can stand extremely dangerous carcinogenic substances - dioxins and furans.*

*In the Vinnitsa landfill waste municipal unitary enterprise "EkoVin" made garbage that subsequently there prohibited. One day their number is 1,750 cubic meters, and for the year - about 640 thousand. M<sup>3</sup>. The total share of waste plastic, plastic film, PET (plastic container) on c. Vinnitsa is 18.5%. This is quite a significant amount, as one of the priorities is their recycling and reuse.*

*Main directions of recycling plastic waste: disposal in landfills and dumps; with the factory processing technologies; separate pyrolysis and burning in special furnaces; use of waste polymers as prepared material for other processes.*

*Average purchase prices of polymers for recycling of all kinds are 350 - 600 USD. / T.*

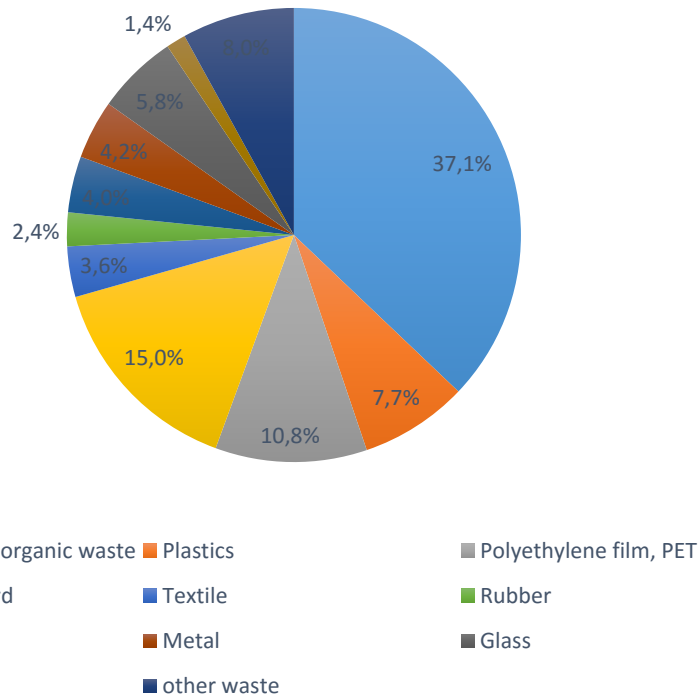
*In most countries, including Ukraine, there is no waste separation. As a result, a large amount of waste is not recycled.*

*In Vinnitsa on landfill of waste was installed mobile station for rubbish sorting, which work to further reduce the burden on landfill and minimize the negative impact on the environment.*

*On the Ukrainian State Enterprise "Ukrecoresource" launched a new line of recycling polyethylene of high and low pressure, as well as polypropylene pellets that can produce trash bags, sewage pipes, outdoor tile, technical film and other similar products.*

*Polyethylene high density as secondary raw material used in obtaining various flower pots, for the production of toys, pipes, bags, tires, bottles and more. Highdensity polyethylene has initially pale color that is value for processing enterprises, since recycling can be painted in any color. Products derived from other materials mixed in the processing plant, the result will be black.*

## Morphological composition of waste in the city of Vinnitsa



### ***Problems related to plastic waste***

- *For a long time the natural decomposition;*
- *Of harmful substances in the process of decomposition;*
- *Energy-intensive recycling process;*
- *As expensive equipment for waste treatment plants;*
- *The lack of separate collection in most countries;*
- *Significant predominance of generated waste recycled.*

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