

ECOLOGICAL-ECONOMIC ASPECTS OF WASTE MANAGEMENT

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One of the hottest environmental issues has recently become the fight against the rubbish. Both air pollution, depletion of the ozone layer and global warming are the result of human activity.

Ukraine is taking the lead position of wasting products per person in Europe. There are more than 4.7 thousand official landfills, which are filled up with 35 billion tons of all kinds of waste. Three percent of the country is covered by domestic and industrial waste. This may become an especially acute problem soon.

The only way to ensure environmental security and development of human consciousness is the use of energy saving technologies. This campaign is based on the economy of resources, maximizing the use of secondary resources, comprehensive utilization and waste management.

The main step is the separate rubbish collection such as paper, glass, food, plastic and metal bottles. Unfortunately, in Ukraine there is no culture of waste separation, all waste is thrown into the same container. In order to change this sad situation we have to study the world experience in dealing with waste management.

Waste separation is necessary for the rapid selection of raw materials for recycling, less pollution, saving money instead of building specialized separation factories. Germany is one of the advanced European countries in solving rubbish problems. German garbage sorting is a system with a lot of particularities. Thus there are containers for different types of waste near the house. Blue container is used for paper and cardboard, but packets of juice and dirty wall paper you cannot throw out there. There are special containers for glass divided according to the color brown, white or green. Moreover the most conscientious Germans unstick label from the bottles. Besides, you cannot throw away bottles at night and on weekends as the noise of breaking glass can disturb citizens. Plastic bags, foil, cans are thrown out in yellow container. What is more packages should be dry, empty and put together. Brown container is used for organic waste. Preventing the decay and spread of smell, Germans recommend wrapping waste in old newspaper. So, before you decide to throw away anything in Germany you should think "what kind of litter bin do you need?"

There are many opinions about the most efficient processing waste technology. The most common method is incineration. In the EU, the U.S. and Japan observed increasing the number of incineration plants with generation of electricity or thermal energy using alternative fuels. Plants must be equipped with a powerful gas treatment system, preventing air pollution. At the end of 2011 sixty

one incineration plants worked in Germany with a total capacity of 14 million tons per year, 72% of produced energy is used to generate heat (13,609 GW/h), 28% - for electricity (5257 GW / h). Incineration of solid wastes generate electric power that is 0.6 of the total electricity in the country.

In Sweden, the recycling sector provides 20% of the total heat. Moreover, 96% of waste recycled by 30 plants and 800 tons are imported. Swedish businessmen want to increase this number in half. Nowadays in Ukraine there is no business like in Sweden. There are only two incinerators in particular "Energy", loaded half and plant in Dnepropetrovsk, which unfortunately doesn't work. Besides biological waste processing is actual at this time The result of it are biofuel and compost.

In Japan only 12% of household garbage is recycled. Waste is used to produce eco cement to make connection blocks to strengthen the coasts. The demand for this product is 6 million tons per year.

In the U.S. used special equipment which chop food waste under the sink in the kitchen. This products fall into the domestic waste water and then removed.

In Germany used sieve catching the domestic refuse. Accumulated waste is processed by biogas equipment and after that produce biogas, which is used to heat water and produce electrical energy. Thus districts provide themselves with electricity.

Table 1 – The level of consumption of municipal waste in the EU (% , 2009).

Country	Recycling	Incineration	Composting	Landfilling
Germany	48	34	14	0
Sweden	36	49	14	1
Switzerland	34	49	17	0
France	18	34	16	32
Bulgaria	0	0	0	100
Ireland	32	39	4	62
Netherlands	32	39	28	1
Ukraine	34	0,17	0	65,83

Analyzed statistical data, was found that the highest rates of ecological and economic ways of processing solid waste have developed European countries. The leader in recycling is Germany - 48%. The biggest amount of waste is burned in Sweden and Switzerland - 49%. In Ukraine 34% - is recycled, 0.17% - is burned and 65.83% - is landfilled .

As we already know landfilling takes the first place in Ukrainian waste management. This is obvious because one ton of garbage incineration costs 127 UAH and the same amount of garbage landfilling costs 90 UAH. Income from the removal of one ton of garbage is 250 UAH. So, it is cheaper to take garbage to the

landfill, but in Europe this method is the most expensive because of special environmental requirements and equipment.

Art of clever waste management is a task of everyday life that will solve environmental problems, keep resources such as gas, electricity and save the nature for our descendants.

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