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## **Environment today: main problems and ways of solution**

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The relationship between man and nature has become one of the major problems facing civilization today. The word environment means simply everything that is around us. The air we breathe, the soil on which we stand and walk, the water we drink are all parts of the environment.

Nowadays people understand the importance of solving the environmental problems that endanger people's lives. The most serious environmental problems nowadays are: pollution (water pollution, air pollution, nuclear pollution); noise produced by cars, buses, planes, etc.; destruction of wildlife and countryside beauty; shortage of natural resources (metals, different fossil fuels).

First let's consider air pollution. In order to understand how air pollution affects our body, we must understand exactly what this pollution is. Billions of tons of coal and oil are consumed around the world every year. Every day a huge number of plants and factories emit lots of harmful substances into the atmosphere of big cities. Industrial and traffic pollution poisons the air we breathe, and is the main reason of greenhouse effect and acid rains. Acid rains in their turn can damage flora and fauna in lakes and rivers and destroy forests. There are many different examples that prove it. For instance, when the Americans decided to clean up the Statue of Liberty in 1986, the first thing they had to do was to make a hole in its nose and take away the acid rain that had collected inside. The polluted air of New York had mixed with the rain and damaged

the Statue badly. Traffic is another reason of air pollution in big cities.

Greenhouse effect may also have disastrous consequences on our planet. Although it is a naturally occurring phenomenon, it is possible that the effect can be intensified as the result of human activity. Each time we burn gasoline, oil, coal, or even natural gas, more carbon dioxide is discharged to the atmosphere. If we do not slow down our use of fossil fuels and stop destroying the forests, the world will become hotter than it has been in the past million years.

If present rate of destruction remains, most of the rain forests will have gone by the middle of the century. This will allow man-made deserts to invade lush areas. Evaporation rates will also increase and water circulation patterns will change.

Another serious problem we are facing today is that nuclear power stations can go wrong and cause nuclear pollution. This happened in Windscale in Britain, in Three Mile Island in the USA, in Chernobyl and Fukushima in Japan.

Our planet is in serious danger. Industrial pollution has made many sources of water undrinkable. Rivers, lakes and even seas have become poisonous. Thousands of fish die every year as a result of the illegal dumping of industrial waste into rivers all over the world. A few years ago people thought that the supply of clean water was unlimited. Now clean water is scarce, and we start valuing this precious resource. We must protect clean water resources for the sake of our children and grandchildren.

Nowadays it is difficult to imagine our life without electric power. We use electric power every day and everywhere: to light our houses, to cook food, to power electric devices. But few people know what is behind the use of electric power.

The further humanity moves the more acute the use of alternative, renewable energy sources becomes. The

development of alternative energy sources and the search for new sources of energy is the main global trend of the new millennium. The reasons for this are the depletion of natural resources and the prospect of a possible energy crisis, the negative impact of traditional energy on the environment and the threat of environmental catastrophe.

To minimize the use of natural resources biogas plants should be built and used. Biogas is a type of biofuel which is derived from biomass, for example, rotten plants and animal waste. Undoubtedly, every country has plenty of organic waste, which, if recycled, can be used for producing electricity and heating houses.

When plants and animal waste rot, methane is released. After cleaning this gas we get biomethane which is absolutely identical to natural gas. Biogas is a naturally occurring gas that is generated by anaerobic bacteria as a result of the breakdown of organic matter and is used in energy production. Biogas differs from natural gas in that it is a renewable energy source produced biologically through anaerobic digestion rather than a fossil fuel produced by geological processes [1].

Millions of homes in less-developed regions, including China and parts of Africa, are reported to use household digesters as a renewable energy source. The level of development of biogas plants varies greatly in Europe. While countries such as Germany, Austria and Sweden are fairly advanced in their use of biogas, there is a vast potential for this renewable energy source in the rest of the continent, especially in Eastern Europe. The use of biogas is a green technology that has environmental benefits.

Alternative energy sources are also used in Belarus and this industry is successfully developing. We have biogas plants in Gomel, Mogilev and Brest regions, and such plants are still being built. On November 6, 2012, the most powerful biogas plant was launched in Mogilev region. 25 similar biogas plants

are expected to be built in our country within the next five years [2].

We believe that environmental disasters can be prevented if people broaden ecological education and if every person understands that the beauty of nature is extremely fragile. People must obey the unwritten rules of nature.

There are a lot of simple things all of us can do to stop the destruction of the environment. First of all, we mustn't drop litter in public places. Besides, we shouldn't dump our rubbish without thinking which things, such as bottles and paper, can be recycled. We must stop using aerosol sprays, because the substances they contain destroys the ozone layer. There are also many things people can do at home to help nature. For example, we could waste less water by turning off the tap while brushing teeth or taking showers instead of baths. We should take care of birds and animals as well. We can help to plant trees and create parks for endangered species. We can clean rivers and canals and create footpaths. But first of all we must change people's attitude towards the environment. We strongly believe that we must consume less, recycle more, conserve wildlife and nature, and act according to the dictum "Think locally, think globally, act locally"!

#### References:

1. What is biogas? [Electronic resource]. – Mode of access: <http://www.bts-biogas.com/en/company/what-is-biogas.html#p.components.components-of-biogas>. – Date of access: 13.03.2016.
2. Биогазовые установки в Беларуси [Электронный ресурс]. – Режим доступа: [http://mogilev-region.gov.by/news/samuyu\\_moshchnuyu\\_biogazovuyu\\_ustanovku\\_v\\_belarusi\\_zapustili\\_v\\_spk\\_rassvet\\_kirovskogo\\_raiona](http://mogilev-region.gov.by/news/samuyu_moshchnuyu_biogazovuyu_ustanovku_v_belarusi_zapustili_v_spk_rassvet_kirovskogo_raiona). – Дата доступа: 10.03.2016.