

Environment – Learn to  
Be Responsible!



# ENVIRONMENT: PROBLEMS AND SOLUTIONS

Moscow's environment is monitored and assessed by the quality of four components: air, water, greenspace, and soil. The city's environmental issues are typical of all major cities. Yet even against the background of steadily increasing traffic and industrial revival, the capital's environmental situation can be described as stable. Moscow earmarks some RUB 3 bn-4 bn for environmental protection each year half as much as Russia's total federal spending for the purpose. Nearly RUB 1.5 bn is forked out for planning and developing urban greenspace.

# The most common types of pollution in Moscow



- Air pollution
- The problem of green plantations
- Transport pollution
- Dumps and wastes
- Water pollution



# Air Pollution

Air is the most important wealth of the planet, but people spoil this resource and pollute the atmosphere. The atmosphere contains various gases and substances necessary for life to all beings. Oxygen is an important vital value for people and animals. Oxygen enriches the whole body in the process of breathing.

## Causes of air pollution:

- emissions and activities of industrial facilities;
- car exhausts;
- radioactive objects;
- domestic and industrial wastes.

## Effects of air pollution:

- health problems;
- smog in large cities;
- Greenhouse effect;
- global warming & climate change;
- precipitation of acid rain.

## The solution and what we can do:

To do this, reduce the use of vehicles, reduce waste, use environmentally friendly technologies and switch to renewable energy sources.

# Water pollution

The large surface of the Earth is covered with water, which as a whole forms the World Ocean. On land there are sources of fresh water - lakes. Rivers are the vital arteries of many cities and countries. The sea is fed by a large number of people. All this shows that there can be no life on the planet without water. However, the person disregards the main resource of nature, which led to a huge contamination of the hydrosphere.

## Causes of water pollution:

- sewage household water in populated cities;
- agrochemistry and pesticides;
- powders and cleaners;
- household waste and garbage;
- industrial wastewater;
- chemical compounds;
- leakage of petroleum products.

## Effects of water pollution:

The condition of many rivers and lakes of the world is critical. If pollution of reservoirs is not stopped, many aqua systems will cease to function - to self-clean and give life to fish and other inhabitants. Including people will not have any water reserves, which will inevitably lead to death.

## The solution and what we can do:

- reduce water consumption in industry;
- rational use of water resources;
- clean contaminated water (industrial and domestic waste water);
- to eliminate the consequences of accidents polluting water bodies;
- save water in everyday use & do not leave the faucets open.

# The impact of transport on the environment

Modern society can not do without transport. Now both freight and public vehicles are used, which are supplied with various types of energy to ensure traffic. Despite the fact that transport allows you to speed up the time of all people's movements, not only on the surface of the earth, but by air and water, different types of transport have an impact on the environment.

Machines, buses and other transport of this kind leads to various problems:

- air pollution;
- Greenhouse effect;
- noise pollution;
- electromagnetic pollution;
- deterioration of health of people and animals.

The solution and what we can do:

Everyone can influence this situation, for example, having moved from cars to environmentally safe transport - to bicycles.

# The problem of green plantations

The problem of "green spaces" is one of the most acute environmental problems for today. Deforestation, the destruction of greenery in cities can lead to devastating consequences. It will affect people, animals, nature - for the future

## The main functions of green plantations:

- Sanitary and hygienic.
- Recreational.
- Structural and planning.
- Decorative and artistic.

Mandatory requirements for the system of gardening are uniformity and continuity. The main elements of the city greening system are parks, gardens, green areas of residential and industrial areas, embankments, boulevards, squares, protective zones.

With the growth of the city, the development of its industry is becoming increasingly difficult to protect the environment, creating normal conditions for life and human activities. The intensive development of industry and agriculture is accompanied by significant disruptions in the properties of the natural environment surrounding man. As it develops, the city grows and expands. In general, the increase in the city's territories is due to deforestation.

People make the wrong choice, destroying whole forest tracts. Without trees on the planet, not only thousands of species of fauna will die, but also the people themselves, because they suffocate from dirty air, which there will be no one else to clean. Therefore, we must protect nature, not to destroy trees, but to plant new ones to somehow reduce the damage caused by the human environment.

# Dump

In today's world, a huge accumulation of garbage is the most acute problem. Household waste is most often transported to landfills outside the city. To do this, initially selected a piece of land, which is at a remote distance from the settlements.

## Why is it so dangerous?

The export of waste to organized and unorganized landfills, as well as spontaneous landfill is an epidemiological danger. Dump is a serious source of environmental pollution. In the depths of the trash heap, decomposition processes take place, in which anaerobic bacteria participate. As a result of this process, a toxic biological gas is released, one of the components of which is methane. There is a deep contamination of the ground, foul air is carried by the wind for long distances, and if there are groundwaters under the dump, they are practically poisoned. Thus, the nearest water bodies are toxic and dangerous for humans. And the soil is unsuitable for use for several hundred years after the closure of the landfill.

## The solution and what we can do:

To ensure that the landfill meets the requirements of environmental safety, it is important to carry out specialized remediation measures. Reclamation of solid waste reduces the negative impact on the environment. In everyday life, many people practice the separation of organic and inorganic debris with subsequent disposal.



# Industrial waste

Industrial garbage can be of various types:

## What is it?

Industrial wastes are waste materials, raw materials and other elements that have lost their quality. The source of waste depends on the specifics of the enterprise (metallurgical, light, heavy, chemical). They are formed in various industries, but in the future either are recycled or reused.

All these categories of garbage cause huge damage to the environment, and if the composition contains poison, mercury and other harmful substances, this increases the danger to the environment.



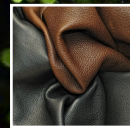
Hardware



Plastic



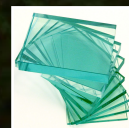
Ash and slag



Leather



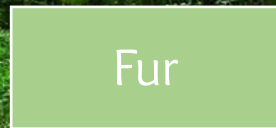
Rubber



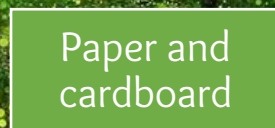
Glass



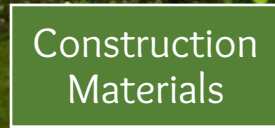
Wood



Fur



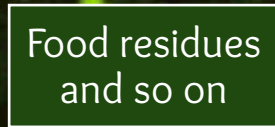
Paper and cardboard



Construction Materials



Textile



Food residues and so on

## Handling of industrial waste

Wastes are collected at the enterprises, sorted according to the hazard classification. There are documents that regulate the management of waste. After collecting garbage, it should be exported to landfills and disposed of. This can only be done by companies that have special licenses. They must guarantee the safe transportation of materials and use special equipment. Dangerous toxic substances must be transported in sealed containers. Those materials that are suitable for recycling should be sent to the factory for processing raw materials.

# Municipal solid waste

Solid household waste is food residue and items that can no longer be used in everyday life. In the composition there are both biological debris and household rubbish. Every year, the amount of solid waste is increasing, because there is a global problem of waste disposal in the world.

## What is the danger?

When batteries, cosmetics, electrical appliances and other hazardous wastes accumulate in garbage dumps, mercury, lead and toxic fumes emerge from them, which get into the air, pollute the soil, and they are washed into the reservoirs with the help of ground and rainwater. Those places where landfills are located, in the future will be unsuitable for life. They also pollute the environment, which causes various diseases of people who live nearby. Depending on the degree of influence, waste types 1, 2 and 3 of the hazard class are distinguished.

## The group is formed by such materials:

- paper and cardboard products;
- metals;
- plastic;
- food waste;
- wood products;
  - fabric;
- glass fragments;
- rubber and other elements.

## Recycling

In many countries of the world, household waste is recycled. In Russia, this is approved by law and is aimed at saving resources. According to industry standards, secondary raw materials are permitted. However, for this you need to use special tools (certification, classification, certification, licensing, etc.).

### The use of recycled wastes is caused by the following factors:

- saving of expenses for extraction of primary raw materials;
- the release of places where SDW was previously stored;
- Reducing the harmful impact of debris on the environment.

# Recycling of garbage

## Garbage collection

Various types of waste and garbage are collected in special tanks installed near all residential buildings and public buildings, as well as in street urns. Recently, garbage sorters for certain types of waste have been used:

- glass;
- paper and cardboard;
- plastic waste;
- other types of garbage.

The use of tanks with the separation of garbage into species is the first stage of its utilization. So it will be easier for employees to sort it out in garbage dumps. In the future, some types of waste are sent for recycling, for example, paper and glass. The remaining types of waste are sent to landfills and to burial sites.

Industrial and household waste is the main waste that mankind produces. To ensure that it does not emit harmful substances, it must be disposed of. The greatest amount of waste generated by the coal industry and metallurgy, thermal power stations and agricultural agrochemicals. For several years, the amount of toxic waste has increased. Decomposing, they not only pollute water, land, air, but also infect plants, animals, negatively affect human health. Separately, the danger consists of the burial of hazardous wastes that were forgotten, and houses and various structures were erected in their place. Such contaminated areas may be places where nuclear explosions were underground.



In order not to drown in the garbage, humanity should think about solving the problem of garbage disposal and radically change the actions aimed at neutralizing waste. It can be recycled. Although this will take a lot of finance, but there will be a chance to invent alternative sources of energy.



# Rational use of natural resources

On our planet there is a large amount of natural resources. These include water bodies and soil, air and minerals, animals and plants. All these benefits people have enjoyed since ancient times. However, today there is an acute question about the rational use of these gifts of nature, because people are using them intensively. Some resources are on the verge of exhaustion, they need a speedy recovery. In addition, all resources are distributed on the surface of the planet is not the same, and the speed of renewal is those that are recovering quickly, and there are those that need dozens, if not hundreds of years.

## The main activities of rational use of nature

- it is necessary to reduce its interference in nature;
- as less as possible to use natural resources without the need;
- protect nature from pollution (do not drain pollutants into water and soil, do not litter);
- to abandon cars in favor of environmental transport (bicycles);
- save water, electricity, gas;
- to refuse disposable adaptations and goods;
- to benefit society and nature (grow plants, make rational inventions, use eco-technologies).

## Ecological principles of resource use

In the era of not just scientific and technological progress, but in the post-industrial era, environmental protection is of particular importance, since in the course of development people actively influence nature.

This leads to excessive use of natural resources, pollution of the biosphere and climate change.

*In order to preserve the integrity of the biosphere, several conditions are necessary:*

- taking into account the laws of nature;
- protection and protection of the environment;
- rational consumption of resources.

# In our school

Students and teachers of our school are concerned about the problem of ecology like no other, therefore in our school every year there are events dedicated to the protection of the environment.



One such example is the cleaning of the area around the school in the fall and spring



The coverage of the ecological problem among the masses is no less important, so that the people around us are interested in changing the environmental situation.

So, students of our school conduct interesting lectures, quizzes and activities aimed at out-of-class environmental education



In addition, in every class  
of our school there are  
houseplants



A photograph of a paved road winding through a lush, green landscape. The road is flanked by tall, mature trees with thick, gnarled trunks and dense, vibrant green foliage. The trees arch over the road, creating a natural canopy. The road has white dashed lines and leads towards a bright, open area in the distance. The overall atmosphere is peaceful and serene.

The end