



*Original Contribution*

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## ENVIRONMENTAL POLLUTION, SOME REALIZED PROJECTS AND SUGGESTIONS

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### ABSTRACT

*The purpose* of the investigation was to create a school programme in order to sustain the green places in the school campus, as well as healthy condition for sport, relaxation and education. *Methods* To arrange the school campus as a green zone. To plan and perform a student's self-government. *Results:* Atmospheric pollution is a serious problem nowadays. It is connected with human activity in the field of industry, energy and transport. We give some ideas in order to limit the pollution in the present work. A green alley was worked out and students from the club 'Ecology' joined it. This problem appears because of the lack of preoccupation and noticeable devaluation of human worth in relation to the living matter and its continuous destruction.

**Key words:** pollution, Green Zone, environment

### INTRODUCTION

Pollution is contamination of earth's environment with materials that interfere with human health or the natural functioning of living organisms and their physical surroundings. Though some environmental pollution is a result of natural causes, many others are caused by human activities.

### METHODS

One of many forms of pollution, air pollution, occurs inside homes, schools, and offices; in cities; across continents; and even globally. Air pollution makes people sick—it causes breathing problems and promotes cancer - and it harms plants, animals, and the ecosystems in which they live. Some air pollutants return to Earth in the form of acid rain and snow, which corrode statues and buildings, damage crops and forests, and make lakes and streams unsuitable for fish and other plant and animal life.

Most air pollution comes from one human activity: burning fossil fuels - natural gas, coal, and oil - to power industrial processes and motor vehicles. Among the harmful chemical compounds this burning puts into the atmosphere are carbon dioxide,

carbon monoxide, nitrogen oxides, sulphur dioxide, and tiny solid particles - including lead from gasoline additives - called particulates. Between 1900 and 1970, motor vehicle use rapidly expanded, and emissions of nitrogen oxides, some of the most damaging pollutants in vehicle exhaust, increased 690 percent. When fuels are incompletely burned, various chemicals called volatile organic chemicals (VOCs) also enter the air [4] Pollutants also come from other sources. For instance, decomposing garbage in landfills and solid waste disposal sites emits methane gas, and many household products give off VOCs and their sources tend to be concentrated, however, especially in cities.

Smog is intense local pollution usually trapped by a thermal inversion. Before the age of the automobile, most smog came from burning coal. In 19th-century London, smog was so severe that streetlights were turned on by noon because soot and smog darkened the midday sky. Burning gasoline in motor vehicles is the main source of smog in most regions today like the capital of Bulgaria. Powered by sunlight, oxides of nitrogen and volatile organic compounds react in the atmosphere to produce photochemical smog. Smog contains ozone, a form of oxygen gas made up of molecules with three oxygen atoms rather than the normal two. Ozone in the lower atmosphere is a poison—it damages

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vegetation, kills trees, irritates lung tissues, and attacks rubber. Environmental officials measure ozone to determine the severity of smog. When the ozone level is high, other pollutants, including carbon monoxide, are usually present at high levels as well.

Several pollutants attack the ozone layer. Chief among them is the class of chemicals known as chlorofluorocarbons (CFCs), formerly used in air conditioners, as agents in several manufacturing processes, and as propellants in spray cans. CFC molecules are virtually indestructible until they reach the stratosphere. Here, intense ultraviolet radiation breaks the CFC molecules apart, releasing the chlorine atoms they contain. These chlorine atoms react with ozone, breaking it down into ordinary oxygen molecules that do not absorb the UV beam. The chlorine acts as a catalyst. A single chlorine atom can destroy up to 100,000 ozone molecules in the stratosphere. Other pollutants, including nitrous oxide from fertilizers and the pesticide methyl bromide, also attack atmospheric ozone.

Scientists are finding that under this assault the protective ozone layer in the stratosphere is thinning. In the Antarctic region, it vanishes almost entirely for a few weeks every year. Although CFC use has been greatly reduced in recent years and will soon be prohibited worldwide, CFC molecules already released into the lower atmosphere will be making their way to the stratosphere for decades, and further ozone loss is expected. As a result, experts anticipate an increase in skin cancers, more cataracts (clouding of the lens of the eye), and reduced yields of some food crops.

Humans are bringing about another global-scale change in the atmosphere: the increase in what are called greenhouse gases. Like glass in a greenhouse, these gases admit the Sun's light but tend to reflect back downward the heat that is radiated from the ground below, trapping heat in the Earth's atmosphere [3]. This process is known as the greenhouse effect. Carbon dioxide is the most significant of these gases—there is 31 percent more carbon dioxide in the atmosphere today than there was in 1750, the result of our burning coal and fuels derived from oil. Methane, nitrous oxide, and CFCs are greenhouse gases as well.

Some scientists are reluctant to say that global warming has actually begun because climate naturally varies from year to year and decade to decade, and it takes many years of records to be sure of a fundamental change.

There is little disagreement, though, that global warming is on its way.

Global warming will have different effects in different regions. A warmed world is expected to have more extreme weather, with more rain during wet periods like the unexpected rain storms and inundations of many regions in Bulgaria and Europe this summer; can cause also longer droughts, and more powerful storms. Although the effects of future climate change are unknown, some predict that exaggerated weather conditions may translate into better agricultural yields in areas such as the western United States, where temperature and rainfall are expected to increase, while dramatic decreases in rainfall may lead to severe drought and plunging agricultural yields in parts of Africa, for example.

Warmer temperatures are expected to partially melt the polar ice caps, leading to a projected sea level rise of 9 to 100 cm (4 to 40 in) by the year 2100. A sea level rise at the upper end of this range would flood coastal cities, force people to abandon low-lying islands, and completely inundate coastal wetlands [5].

## RESULTS

That's why our opinion is that it will be better for the environment of our country to increase the import of hybrid cars which utilize a gasoline or diesel engine as electrical batteries in order to extend the car's range and often to



provide additional power. Other way to protect the atmosphere is to use rail and bus transport instead of an automobile.

Sometimes pollution is unrecognised site - inside the homes and buildings where we spend most of our time. Indoor pollutants include tobacco smoke [3]; radon and chemicals released from synthetic carpets and furniture, pesticides, and household cleaners. When disturbed, asbestos sheds airborne fibres that can produce a lung disease called asbestosis. Pollutants may accumulate to reach much higher levels than they do outside,

where natural air currents disperse them. Indoor air levels of many pollutants may be 2 to 5 times, and occasionally more than 100 times, higher than outdoor levels. These levels of indoor air pollutants are especially harmful because people spend as much as 90 percent of their time living, working, and playing indoor. Inefficient or improperly vented heaters are particularly dangerous. That's why it is very important to ventilate, to create airflow that can decrease those levels of the pollutants. That's why we worked very hard on the project "Green Zone" in school to assure the relatively healthy conditions for sport and relaxation of the students. The green alley was worked out with students from the club 'Ecology' that joined us. Special wallpapers were worked and installed in our computer laboratories (see the **Figure** above).

### CONCLUSION

Our investigation showed how the climate is changing most of all because of the human production, transport etc. That changes are very drastic but also can be prevented

reducing the level of several toxic gases that cause the green house effect, ozone depletion and acid rain from the air, but their full removal is impossible to attain. And that's why these substances damage the environment, human health, and quality of life.

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