

**IS GLOBAL WARMING CAUSING SEVERE WEATHER?**

Student name

Instructor name

Course name

Date

Today, global warming is an undeniable fact, which proves that our planet and its climate are in trouble. Global warming affects all areas of our life: politics, economics and a social sphere. The study of global warming involves many sciences in order to examine the causes of global warming and try to find possible solutions to reduce the impact of our civilization on the planet. An interdisciplinary research in this field is important, because global warming is caused by many factors and has an impact on different spheres of our life. For instance, climate science is aimed to investigate the changes caused by global warming. Geology examines the impact of human activities (drilling) on climate. Economic science helps to understand economic benefits and material losses caused by severe weather conditions taking into account results obtained by Climate science and Geology. Economic science investigates and develops measures to reduce negative impact of economic activity on climate and global warming. Taking into account the information mentioned above, it is evident that an interdisciplinary research is crucial, because one science is unable to solve the problem of global warming without collaboration with other disciplines.

The thesis statement of the paper is that "the increased incidents of severe weather point to global warming and human as factors. Therefore, remedies must be found to solve this problem".

I. Natural disasters such as **hurricanes** and tornados are the result of global warming. Recent years, hurricanes have become a great problem for many coastal villages and towns around the world. Scientists explain that hurricanes are caused by heated water and variations of sea level. For instance, according to Avery: "The computerized global climate models predict we'll get more and bigger storms as the planet warms", which results in severe weather conditions. Avery explains that "heat in the atmosphere is the fuel that leads to stormy weather," and "weather disasters are occurring with ever-greater intensity and frequency around the world." (Avery, n.d.). So, it is evident that this "fuel" in the atmosphere

is the result of human activities (gas emissions and other pollutant) which lead to the heated atmosphere and hurricanes.

Nevertheless, there is an opposite view supposing that “the present hurricane surge is part of a 60 to 70-year cycle linked to natural effects” (Briggs, 2005), and has nothing to do with heated weather conditions. Unfortunately, nobody can reject the fact that thousands of tons of mercury, lead, and other heavy metals are put into the water and air each year in the form of liquids and gases, which cause the sea temperature increase. Heavy metals, like pesticides, are long lasting and can spread over large areas. Algae and fish are disappeared and natural processes of adsorption stops. These changes in biosphere resulted in global warming.

b) **Tornados** is another problem caused by heated water. This phenomenon was proved by Carter who stated that tornados are caused by temperature increase and storm chasing. He illustrates this fact stating that ‘the escalation in extreme weather conditions over the past two decades has led to an increase in the frequency and intensity of storm conditions’ (Carter, 2005). Some scientists try to explain tornados and storms as a result of changing weather conditions neglecting the influence of global warming on this process. They say: “When we look at the Mozambique floods, at the storms that hit France, at the absence of winters in Britain over the past few years, at the avalanches in the Alps, we are witnessing events that are now clearly tainted by human actions” (Carter, 2005). The question is ”Why changing weather conditions occur?” Following Carter, it is possible to say that these changes occur because of global warming.

To conclude, it is possible to say that the majority of scientists agree that global warming and “green house effect” are the main reasons why we suffer from hurricanes, tornados and storms, and as predicted, will suffer even greatly if do not take pain to reduce pollution. Economic science states that tornados and hurricanes have a great impact on

economic situation in many countries, and have a negative influence on market situation in the world. They ruin crops and resulted in famine, they ruin houses and caused death of thousands of people.

II. The impact of human activities on the global warming is evident. Humanity is caused severe weather by a number of ways, including pollution and drilling. People have always polluted their surroundings, but throughout much of history, pollution was not a major problem.

a) **Today, environmental pollution** is one of the most serious problems facing humanity. Environmental pollution is a term that refers to all the ways by which people pollute their surroundings. People dirty the air with gases and smoke, poison the water with chemicals and other substances, and damage the soil with too many fertilizers and pesticides. The warming or “Greenhouse effect” we are now experiencing is a result of carbon dioxide we have dumped into the air. It turns clear, odorless air into hazy, smelly air that harms health, kills plants, and damages property. In general, air pollution and global warming results from pouring hundreds of millions of tons of gases and participates into the atmosphere including the major greenhouse gases such as carbon dioxide, methane (CH<sub>4</sub>), the halocarbons (CFCs) and nitrous oxide. So called "trace gases" make up the remainder of air's composition. Most air pollution results from combustion (burning) processes. Each time a fuel is burned in a combustion process, some type of pollutant is released into the air, and ruin ozone layer, which protects the Earth from radiation. As a result our atmosphere is heated, and climate becomes warmer.

Except air pollution, soil pollutants (fertilizers) come into the water and resulted in acid rain which has become an increasingly serious problem caused severe weather. This pollutant forms when moisture in the air combines with nitrogen oxide and sulfur dioxide released by automobiles, by factories, and by power plants that burn coal or oil. The reaction

between the moisture and the chemical compounds produces nitric and sulfuric acids. It also reduces the amount of oxygen that water can hold. The addition of heated water is called thermal pollution. It occurs when heated water is added to a body of water. Most heated water comes from industries and power plants that use water for cooling. Another major pollutant is fuel oil, which enters oceans mainly from oil tankers and offshore oil wells. As it was mentioned above, this heated water causes such disasters as tornados and hurricanes.

To overcome this problem, many companies take a great pain to reduce negative impact of their production installing state-of- the-art technologies or non-waste production units. (BENCHMARKING ENVIRONMENTAL PERFORMANCE, 2005).

According to the recent researches, human activities do not influence global warming and do not heat the atmosphere. They found that “levels of human-sourced emission dwarf anything produced by even the largest recent eruptions (e.g. Krakatoa) and the ice-core record shows that, while records of past massive eruptions are preserved as layers rich in volcanic dust and sulphur dioxide, there are no CO<sub>2</sub> ‘spikes’ of eruptive origin” (Global Warming: A Perspective from Earth History, 2005). Even if it is so and air pollution is not influence by human activities, humanity should take measures to reduce emissions and high level of carbine dioxide in the air they breath in.

b) Drilling is another cause which is closely connected with global warming. It has been found that: “the shorter period for frozen tundra "appears consistent with findings of general warming in the Alaska Arctic associated with global climate change." (Nesmith, 2003). Scientists suppose that removal of an ice core and building of the roads in winter have a direct impact on global warming. Melting of snow resulted in temperature rise. Drilling Ice Cores has a very negative effect on climate in tundra areas. The process of drilling includes burning in large, open areas producing harmful gases when burned. Another problem is that, in the meantime, the drilling is increasing rapidly. New territories are required for

explorations and maintenance of equipment. Arctic areas are the most attractive for oil companies, because they propose uncurtailed production of oil and gas. On the other hand, the process of ice removal is also a sphere of concern (Greens Call New Oil, 2005), because it ruins ecosystem of the region and resulted in warmer weather conditions around the globe. The threat drilling and its effect on global warming raises ethical questions. The sewage treatment of land is an example of a technological development that was designed to protect the environment but which can cause pollution nevertheless. Arctic ice is the main storage of drinking water, but if it can change the natural cycles in water, and resulted in climate change. "The supreme irony is that the winter season is getting shorter because of a pronounced warming of the climate brought on, in part, by the burning of oil" (Nesmith, 2003).

III. To reduce the impact of humans on climate, the following remedies such as recycling and hydride technologies can be used. Thus, to end or greatly reduce pollution immediately, people would have to stop using many things that benefit them. Most people do not want to do that, of course.

Pollution can be gradually reduced in several ways. Scientists and engineers can work to find ways to lessen the amount of pollution that such things as automobiles and factories cause. Governments can pass and enforce laws that require businesses and individuals to stop, or cut down on, certain polluting activities. And—perhaps most importantly—individuals and groups of people can work to persuade their representatives in government, and also persuade businesses, to take action toward reducing pollution.

**Recycling** is the reprocessing of waste products for reuse. Many kinds of wastes can be recycled. Some, including cans and newspapers, can be used over and over again for the same purposes. Cans can be melted down and used to make new cans. Old newspapers can be turned into pulp and then made into lean newsprint. Other materials, such as glass bottles and

automobile tires, can be reused for other purposes. Ground-up glass can serve as an ingredient in road-building materials. Old tires can be melted down in a special process in which they give off valuable chemicals, such as oil and gas. Many communities have introduced programs that encourage households to sort their trash for recycling. Recycling programs can reduce the amount of solid wastes that must be dumped or burned (Bailey, 2002).

**The technological developments** do much to control pollution caused by older technology. Various methods of reducing pollution from automobile engines have been developed recently. Examples include new additives to replace tetraethyl lead in gasoline, and devices to remove pollutants from exhaust and make combustion processes more complete.

One more alternative solution is a hydrogen car. Hydrogen fuel cell vehicles may be all the rage on the developmental circuit these days. Clean hydrogen fuel is the best alternative for traditional one, as well as fuel cells, which are more efficient and cleaner than “hydrogen internal combustion engines”. “Instead of burning fuel in an engine, fuel cells are more like batteries, using an electrochemical reaction between hydrogen and oxygen to create electricity” (Hydrogen cars ready to roll — for a price, 2005).

From the economic perspective, the use of some harmful materials should be stopped. For example, oil companies now produce unleaded gasoline because lead was found to be a major pollutant in automobile exhausts. Automobile manufacturers have modified engines so that the engines can run properly on unleaded gasoline (French, 2004).

Innovative technologies which are closely connected with alternative energy solutions can also help to reduce the risk of global warming. For example, pursuing alternative sources of energy such as wind and solar power is important for two reasons: the lack of coal reserves in many countries and concerns that heavy reliance on fossil fuels contributes to global

warming (Aitken, 2000). These solutions do not heat the air and water, and do not lead to severe weather conditions.

It is possible to conclude that global warming is caused by many factors resulted from technological innovations of our time. Today, global warming becomes a major problem of our civilization resulted in severe weather conditions and natural disasters. For our civilization, it is important to find appropriate solutions to reduce the global warming effect and safe live on our planet. The information mentioned above, shows that interdisciplinary approach should be the core strategy in the process of global warming studies. Hurricanes and tornadoes are studied by Climate science, but their impact on social life is closely connected with Economic science. The economic benefits of drilling deal with economic science, nevertheless drilling is a prerogative of geology, which is responsible to find “a safe” method for an ice core drilling, and reduce its impact on global warming. Without economic perspectives, we cannot foresee benefits of new and safe technologies. Some scientists suppose that “global warming” is nothing more than “ephemeral fed” created for economic benefits, and it does not threaten the humanity, but neither of them reject existence of “ozone holes” and risen sea level, melting Arctic snows and risen temperature, and as the most important, hurricanes and tornadoes which caused great losses for many countries this year.

## References

1. Aitken, D. (2000). *Global Warming and Local Economic Perspective*. Available at [www.daylighting.org/pubs/global\\_climate.pdf](http://www.daylighting.org/pubs/global_climate.pdf)
2. Avery, D. (n.d.). *Three Big Hurricanes In A Row: Is It Global Warming?* Available at: [http://www.cgfi.org/materials/articles/2004/sept\\_17\\_04.htm](http://www.cgfi.org/materials/articles/2004/sept_17_04.htm)
3. Bailey, R. (2002). *Global Warming and Other Eco Myths: How the Environmental Movement Uses False Science to Scare Us to Death*. Prima Lifestyles.
4. Briggs, H. (2005). *Global 'Warming link' to big hurricanes*. Available at: [http://www.independent-media.tv/item.cfm?fmedia\\_id=11963&fcategory\\_desc=Global%20Warming%20/%20Climate%20Change](http://www.independent-media.tv/item.cfm?fmedia_id=11963&fcategory_desc=Global%20Warming%20/%20Climate%20Change)
5. *BENCHMARKING ENVIRONMENTAL PERFORMANCE AT AUTOMOBILE ASSEMBLY PLANTS*. (2005). Available at <http://www.managementfirst.com/quality/articles/automobile.php>
6. Carter, A. (2005). *Global Warming and Storm Chasing*. Available at: <http://www.firstscience.com/SITE/ARTICLES/carter.asp>
7. *Global Warming: A Perspective from Earth History*. (N.d.) Available at: <http://ebulletin.le.ac.uk/features/2000-2009/2004/12/nparticle-vkt-hgf-t4c>
8. French, I. (2004). *Carbon Sequestration - Bridging the Gap between Kyoto and a Viable Global Carbon Management Programme?* Available at: [http://www.energypulse.net/centers/article/article\\_print.cfm?a\\_id=633](http://www.energypulse.net/centers/article/article_print.cfm?a_id=633)
9. *Greens Call New Oil Drilling a Global Warming Risk*, (2005). Urge Congressmembers to Do Everything Possible to Thwart ANWR and All New Drilling. <http://www.commondreams.org/news2005/0322-16.htm>

10. *Hydrogen cars ready to roll — for a price.* (2005). Available at:

<http://msnbc.msn.com/id/4563676/>

11. Nesmith, J. (2005). *Global warming interferes with Alaska oil drilling.* Available at:

[http://seattlepi.nwsourc.com/national/131906\\_oil23.html](http://seattlepi.nwsourc.com/national/131906_oil23.html)