

Research paper on causes of industrial pollution

[Business](#), [Industries](#)



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Industrial Pollution Effects on Global Warming

Introduction

Changing climate is also changing our economies, health and communities in almost every part of the world. The fast and rapid industrialization in the past increased the need of thermal power plants and other industries run by fossil fuels. They contributed in atmospheric changes drastically by emitting different pollutants including Co₂, CO, SO_x and NO_x. They have not only threatened the environment by global warming but also give rise to acid rains. These acid rains destroyed forests that are the major sink of greenhouse gases especially carbon dioxide (Held & Soden, 2006). The variety of chemical emission including refrigerants has depleted ozone layer and created ozone hole that consequently become one of the major sources of global warming. The depleted ozone layer is enhancing solar radiations towards the earth (Scafetta, 2010).

Global warming is not an aspect of philosophy, emotions or belief; it is

scientific phenomena having statically evidences. Hence, there is a significant concern among the scientists and environmentalists regarding global warming and climate change (Bunten et al., 2014). Temperature fluctuations are a common phenomenon, but the average global temperature of the earth has increased at a very fast rate in past 50 years. Since climate change is rather a complex process, so it is hard to predict its effects on the planet. There are a number of domains where global warming has posed strong influences including health, economies, rising sea levels, floods, disappearing of glaciers and polar ice, coral damage, wildlife damage and so forth. The global upward change in temperature over a period is the impact of climate change due to industrial pollution apart from other human actions. The Venice and some islands of Maldives may become the history due to rise in sea levels in future decades. This paper dwells on global warming associated with industrial pollution, its causes, impacts and mitigation strategies.

There are many causes of the industrial pollution that can be identified as listed below:

- Lack of proper control and monitoring policies has let many industries over to rule all the laws that are governing the safety of the planet resulting in the massive destruction of the lives on the planet (Scafetta, 2010).
- Massive and uncontrolled growth of industries have been observed in many areas of the world where industries have been even set up in residential areas creating problems of clean drinking water, air and living (Bunten et al., 2014: Spencer & Braswell, 1997).
- Many industries are relying on traditional and outdated technologies to

enhance their production quantity by compromising on environment and quality, and this has equally increased the pollution (Spencer & Braswell, 1997).

- There is no proper mechanism of industrial waste disposal in developing and underdeveloped countries that contribute to the increased earth temperature and increasing pollution (Scafetta, 2010).

- Air pollution is the major sources of industrial pollution. Several cities of the globe are now not even having clean air to breathe. The most notable among them is Beijing. This is impacting the Ozone layer, and also the concentration of carbon dioxide is enhancing in the setting leading to global warming. Ozone layer protects the planet from damaging radioactive rays from the sun, yet as a result of air pollution this layer has been observed a hole. Hence, its ability of shielding our Planet from hazardous rays is coming to be decreased (Spencer & Braswell, 1997).

Industrial Pollution and Global Warming

It has been observed that since 1900 the worldwide temperature of the planet has increased by about 0.8 degrees Celsius as well as considering that the 70s, this surge was observed approximately 0.5 degrees Celsius. The distinctive temperature level increase is because of numerous elements, as well as the most vital amongst them is the emission of some greenhouse gases like carbon dioxide and also CH₄ which is triggered by human beings. According to Anthropogenic Global Warming Theory (AGWT), almost 90% of global warming is done due to humans since 1900 and almost 100% since 70s (Scafetta, 2010).

Greenhouse gases especially carbon dioxide absorbs heat that is emitted

from the Earth's surface. Increase in the concentration of such emitted gases warms our climate by trapping more and more heat reflected by the Earth's surface resulting in global warming. Industries and human activities are the major causes of the emission of the greenhouse gases. These basic activities are due to the burning of fossil fuels since the industrial revolution has started, and this has increased the Earth's temperature by 40%, and most of this increase has occurred since 1970s and is constantly being done even now (Scafetta, 2010).

Other factors that play a role in global warming include natural sources like variations in sun's output and Earth's orbit around the Sun, volcanic eruptions and much internal constant change in the climate system. All these natural causes alone are not responsible for that much rise in the Earth's temperature; human activities have a major role (Bunten et al., 2014).

Impacts of Global Warming

The most notable impact of global warming is on agriculture. Due to severe climate change, extended droughts, floods, smog formation could be the result that affects the agriculture worldwide. Although agriculture has been revolutionized by technology measures but still certain strict actions need to be taken to ensure safe agriculture (Spencer & Braswell, 1997).

Global warming has increased the killer heat waves making summer too hot worldwide. In the year 2003, summer was hottest in Europe in past 500 years which killed almost 2700 people breaking all previous records of human mortalities due to heat. This excess of heat has caused severe damage to European economies and more than \$14. 7 billion loss in

agriculture, forestry, and energy sector has been observed just in one year (Held & Soden., 2006).

Global warming has equally resulted in unexpected rainfalls in some part of the world. Venezuela in 1999 has seen its worst rainfall along with huge landslides and flooding killing about 30, 000 people and such a rainfall was never seen in last 100 years (Mirza, 2002).

During 1998 to 2002, high climatic temperature resulted in droughts that covered wide areas of North America, Southern Europe, Southern and Central Asia. Droughts are still there in some areas since 2004 including the Western America. Pests are spreading to forests that were the coldest place previously for their survivals but now this is the best place for their survival. Drought, pests and heat have increased the probability of forest fires, and almost every year forests see fire in different parts of the world. In 2004, Alaska had the severest fire which surpassed all previous records (Forchhammer& Post, 2000).

Global warming has the most alarming effect in form rising level impacts. During the 20th century, the world sea level has risen by an average of 4 to 8 inches that are ten times from the past 3000 years. This rise in sea level is still continued, and the world may see further higher risks of Tsunami in coming years and all due to global warming (Mirza, 2002).

Mountain snowpack makes the most important reservoir of fresh water. The snowpack has diminished about 16% over the past 50 years. In almost every part of the world, glaciers are melting in response to the global warming that has created water shortages and also a threat to tourism. According to Forchhammer & Post, (2000) in Glacier National Park in Montana, two-thirds

of the ice has been melted since 1850 which is a choking threat to the park. The environmentalists have the opinion that if the global warming is not being controlled; the world's glaciers will disappear by 2030 (Forchhammer & Post, 2000).

Coral damage has been observed strongly in past 25 years around the globe, and this may lead to coral death. In 1997-98, a severe coral bleaching were observed which killed almost 1000 years old corals. Such mass bleaching is due to the high temperatures (Forchhammer & Post, 2000).

Different species ranging from fishes to trees have been observed changing their natural habitats. Scientists have observed that 80% of living species are moving towards higher altitudes. This change in natural habitat may disrupt the ecosystem and economies of the world like disappearance of entire fishing industry.

Higher temperature has adverse effects on health. High temperature has accelerated the maturation of disease-causing agents or organisms transmitting diseases especially mosquitoes and rodents. High temperatures have lengthened the season during which mosquitoes are active, and this has already been observed in Canada. Tropical diseases are another common form of diseases including malaria, dengue fever and yellow fever as well.

Mitigation Strategies

Numerous renewable energy resources and environmental friendly chemicals are available to overcome the pollution issue created by the industries including thermal power plants. Modern technologies have introduced the concept of biodiesel, solar, wind and so forth. These renewable sources get

the attention in all over the world. The solar energy is a gifted renewable energy source to substitute the traditional energy options. The installation cost of such power plant is higher than coal-fired plants, but sustainable running cost makes it attractive. They are not only economical but also environmental friendly (Reddy et al., 2013).

. According to Reddy et al., (2013) solar thermal power plants have minimized their drawbacks and widely accepted at commercial scale. They pointed out after different case studies that solar thermal power plants installed in Delhi and Jodhpur in a sunny condition of Indian climate provided a techno-economic model by reducing their pollution impact on global warming (Reddy et al., 2013)

Modern technologies have introduced different mitigation strategies and equipment to minimize the emissions of industries. For instance, rising of stack height is not an appropriate solution and such filters are available which can be installed within the stacks to absorb pollutants. Scrubbers and cyclones are available to control the plume generated from industries. In addition, desulfurization of coal can be done to reduce the flue gases and to make the coal environmental friendly. The cultivated area of forests needs to be increased rather than unregulated cutting of trees. As a matter of facts, plantation is very viable and economical solution that can not only reduce the greenhouse gases but enhance the aesthetic appearance in urban areas and industrial zones. The formulation and implementations of environmental rules and regulation need to be improved on the globe. The present rules and regulations are not properly implemented in developing and under developing countries due to economic issues. International organizations and

developed nations should provide economical technologies to these countries to play their role in reducing greenhouse impact on global warming (Bunten et al., 2014).

Conclusion

Since global warming is an alarming issue resulting in severe damage to health, economies, agriculture and ecosystem. The phenomenon of global warming is associated with many factors, but the human activities have played a vital role in making the average global temperature higher than usual. Industrial revolution is the main cause of global warming. Many countries are building industrial plants to increase their economic growth without mitigation strategies for pollution. This has increased the global temperature of the surroundings resulting in severe damage to our ecosystem along with human health. Modern technologies and equipment can facilitate in minimizing the global warming apart from effective rule and regulations.

Climate change is a complex mechanism, but we have made this mechanism abnormal by spoiling different sources of energy and making them uneven for the atmosphere . If special attention has not been given to this serious issue, many more damages may be observed worldwide. The need of the day is to limit all those activities which result in global warming, and such precautionary measures must be taken worldwide. This is only possible if all communities and sectors of life work together to come up with strong measures that could be implemented worldwide on equal priority basis.

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