

The effects of climate change cannot be overemphasized and we have all felt the impact on us one way or the other but what is important is finding an everlasting solution to climate change which is one of the major problems that mankind is currently facing. The solutions to climate change are not farfetched and they include the following:

Awareness about the damage being done involuntarily to our climate. Most of the people that cause a change in climate are not aware of the amount of damage that they are doing to our ecosystem. So, the government, its agencies and knowledgeable individuals should create awareness about what is happening to our climate. They should know that what they are doing to our ecosystem involuntarily is a great harm to mankind at large. If this awareness is duly established in our society through seminars, workshops, challenges and competitions, much of the problem would be solved.

Adoption of recycling. Production of materials from scratch, especially mining and extraction of raw materials lead to a great deal of gaseous emissions. Recycling is a method of converting used waste to new ones. This avoids greenhouse gas emissions that would result from extracting or mining virgin materials. In addition, manufacturing products from recycled materials typically requires less energy than making products from virgin materials. Unauthorized waste disposal should be penalized and recycling should be encouraged as it is more climate friendly than incineration. Recycling should also be done in such a way that there is minimal emission of greenhouse gases by the process.

Agriculture and afforestation. Agriculture is the planting of crops and rearing of animals for mans' use. By agriculture here, I am trying to imply the cultivation of crops. A major way of removing carbon dioxide from the atmosphere is photosynthesis which is carried out by green plants. Photosynthesis is the method of production of food by green plants by the use of chlorophyll in the presence of sunlight, during this process, carbon dioxide is used up. By encouraging agriculture and enforcing rules on afforestation, we can increase the amount of carbon dioxide removing systems in our environment and therefore reduce climate change.

Another way of solving the problem of climate change is adoption of a substitute for natural gas, i.e. biogas, Biogas is a mixture of gases obtained from anaerobic fermentation of biomass wastes in the presence of highly pH sensitive microbes that are mainly bacteria. There is a growing global demand for more efficient heat, power, transport and food production, all of which processes are still largely reliant on fossil fuels. However, biogas is obtained from anaerobic digestion of bio-wastes. In places such as Denmark, Germany, Belgium and France, anaerobic digestion has been implemented for waste processing, with the resulting biogas used for process heating, on-site electrical generation among others, thus, this way, we get rid of waste and at the same time, we are getting a more efficient source of heat and energy. Biogas generation and utilization should be a choice in the entire nation because of its ability to address environmental protection against increasing CO₂ and CH₄ (methane) emissions, energy security, and economic growth, amongst others.

Since emissions from exhaust pipes of automobiles are a major cause of climate change, there should also be a system that we can use to ensure the complete combustion of these fuels so that the emissions from these systems are minimalized. A catalytic converter is a device used to reduce the emissions from an internal combustion engine (used in most modern day automobiles and vehicles). Not enough oxygen is available to oxidize the carbon fuel in these engines completely into carbon dioxide and water; thus toxic by-products are produced. Catalytic converters are used in exhaust systems to provide a site for the oxidation and reduction of toxic by-products (like nitrogen oxides, carbon monoxide, and hydrocarbons) of fuel into less hazardous substances such as reduced carbon dioxide, water vapor, and nitrogen gas.

At the end of the last Ice Age 14,000 years ago, the level of carbon dioxide in the air increased about 50%. Scientists believe this may explain some of the rise in global temperatures that occurred at that time. Following this global the atmospheric carbon dioxide concentration remained fairly constant at about 280 parts per million until the end of the 18th century. Since then, man-made of carbon dioxide from burning , deforestation, waste incineration and the manufacture of cement have upset the balance between natural sources and sinks of carbon dioxide. Consequently, the of carbon dioxide in the air has increased to about 370 parts per million, and is continuing to increase at a rate of about 1.2 parts per million each year. This level of carbon dioxide is higher than at any other time in the last 160,000 years.

On October 6, 2018, the Intergovernmental Panel on Climate Change (IPCC) issued a special report titled Global Warming of 1.5 °C. Essentially, the report analyzes the impacts of a 1.5°C increase in global average temperature above pre-industrial levels, and details what should be done to limit global warming to 1.5°C.

The report concludes that the adverse impacts associated with a global warming of 1.5°C would be more manageable than the impacts of a 2°C warming, and that the 1.5°C limit is indeed possible — though far from easy. According to the report, human activities are estimated to have caused approximately 1°C of global warming. At the current rate of warming, the global temperature rise should reach the 1.5°C threshold between 2030 and 2052. However, the report also says that the additional 0.5°C increase could be avoided by drastically reducing greenhouse gas (GHG) emissions in the next 10 years.

To that end, global anthropogenic carbon dioxide (CO₂) emissions would have to be reduced by about 45 percent by 2030 from the 2010 levels, and all CO₂ emissions would have to be balanced by anthropogenic CO₂ removals by 2050. As the reports notes, achieving the 1.5°C target requires transitions in energy, land, urban, infrastructures and industrial systems of an unprecedented scale. But, in return, the climate-related risks to health, livelihoods, food security, water supply, human security and economic growth would be significantly reduced.

Carbon dioxide released by mankind into the atmosphere today will influence its atmosphere in the years to come, since the time taken for carbon dioxide to adjust to changes in sources or sinks is in the order of 50 to 200 years. The Intergovernmental Panel of Climate Change science experts, has estimated that to just stabilize concentrations at present day levels would require a massive 60% reduction of global carbon dioxide . In addition, because of the rather slow response of the global climate, even if we took action today to limit carbon dioxide emissions, mankind has already been committed to a certain amount of climate change over the next 50 years. The challenge for future generations will be to prevent further global climate change from taking place.