

# Climate Issues The World is Facing Today and Technological Solutions

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Climate change and global warming have been a main concern in many communities and countries around the globe for years now. Most people are aware that they have a human footprint but, most do not understand how large the human footprint can be. To combat the imprint of the human footprint, scientists have been developing technologies to possibly lessen or even reverse the human impact on the Earth.

The human population has a choice to make between mitigation and adaptation. Mitigation consists of reducing the flow of heat-trapping gases being released into the atmosphere (NASA, 2022). To stop the flow of these gases new technologies, have to be developed and used by communities to reduce or eliminate the production of greenhouse gases. If people choose to continue to burn fossil fuels humans will have to adapt to the changes of global warming. This means adjusting their lifestyle to the expected future climate of the Earth (NASA, 2022). Think about all the people who will have to move away from their homes in countries near the equator because of an inhabitability climate. Everyone and everything will start moving to the north or south of the equator just to get away from the devastating heat. This means even plants and animals will move themselves away as well. There have been studies released already on the movement of plant species to move to higher elevations in the mountains because of the change in optimal temperature for that plant species. Mitigation technologies will reduce the amount of adaptation any plant or animal species will have to consider to survive. If greenhouse gases in the atmosphere were able to be captured and not released again by human machines and industrial processes, then the climate would get back on track to its normal 'operating' cycle.

Developing countries are the biggest polluters on the planet. Developed countries have a responsibility for the development of developing countries. Data shows that developing countries are responsible for 63 percent of current carbon emissions (cgdev.org, 2022). Developing countries need the support from developed countries to give them guidance and support in choosing to implement sustainable energy saving technologies. An article from the United Nations Conference on Trade and Development states, "green sustainable technologies can open a window of opportunity for developing economies to achieve technological leapfrogging." Many new environmental laws and regulations are being implemented that cause

countries to change the technology they plan to use in the future. A developing country can skip the hardship of converting an old unsustainable infrastructure into a sustainable one by installing sustainable energy systems into the community in the first place. A barrier for developing countries is the cost of the sustainable systems. This is the area where developed countries can provide support. They can do this by researching and developing new mitigating technologies for the developing countries to use.

The development and integration of new technologies to reduce the human footprint can cause infrastructural problems for developed countries. Developed countries are finding themselves in trouble when they must integrate new sustainable technologies because they could have to create a whole new infrastructure to have the luxury of that technology. From the Department of Engineering for Environment, Land, and Infrastructures by Farooq Sher, it explains, "integrating low-carbon energy into existing energy supply systems can disrupt the current operational process," (Sher, 2021). Developing countries are able to easily integrate new technologies whereas countries with old energy infrastructures, when installing new energy systems, can disrupt the current process they have in a bad way. For example, one of the reasons why Flint is the first city to successfully install buses that can run on a fuel cell system is because the MTA bus facility integrated a hydrogen fueling station in their facility. If there were hydrogen fuel cell cars being produced customers may not be interested in buying them until there is a system or infrastructure in place that will allow them to fuel their vehicles easily. This same concept relates to electric vehicles. More people are willing to drive an electric vehicle if there is the correct infrastructure installed to support their decision in driving that type of vehicle. The US is redoing the electrical infrastructure in cities to support electric vehicles and doing that takes a lot of money that developing countries do not have.

The best way to combat global warming to make the Earth a safe place to live for future generations is to integrate technologies that will reduce and eliminate the use of greenhouse gases. Humans should not just adapt to the environmental changes. The greenhouse gases need to be reduced to be able to save the planet. One way to reduce the amount of carbon emissions is to implement sustainable technologies to massively reduce their use of fossil fuels. Developing countries need help in their development. Developing countries can create affordable technologies for developing countries to use. At the same time developed countries would be able to work on their own infrastructure to reduce their carbon emissions like the developing countries. Developing sustainable technologies may be one of the best ways to preserve the Earth for generations to come.

## References

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