

Manuscript ID:
IJRSEAS-2026-030203



Quick Response Code:



Website: <https://eesrd.us>



Creative Commons
(CC BY-NC-SA 4.0)

DOI: 10.5281/zenodo.20266767

DOI Link:
<https://doi.org/10.5281/zenodo.20266767>

Volume: 3

Issue: 2

Pp. 12-14

Month: April

Year: 2026

E-ISSN: 3066-0637

Submitted: 05 Mar. 2026

Revised: 15 Mar. 2026

Accepted: 06 Apr. 2026

Published: 30 Apr. 2026

Address for correspondence:

Dr. Manisha Sharma
Assistant Professor, School of
Liberal Arts and Human Sciences
Auro University
Email:
acrosstomanisha@gmail.com

How to cite this article:

Sharma, M. (2026). Technology,
Law, and Climate Governance:
Policy Approaches in Developed
and Developing Economies.
International Journal of Research
Studies on Environment, Earth, and
Allied Sciences, 3(2), 12–14.
<https://doi.org/10.5281/zenodo.20266767>

Technology, Law, and Climate Governance: Policy Approaches in Developed and Developing Economies

Dr. Manisha Sharma

Assistant Professor, School of Liberal Arts and Human Sciences Auro University

Abstract

As stated by Elon Musk, it is very important to take the environmental factors into consideration for the world to succeed and the government should take an active action towards it. Technology should be developed to solve such problems and not act as a contributing factor to problems. The topic of study in this chapter is technology and climate governance. In the simplest words, this subject could be explained as the formation of a government's law binding rules and regulations to protect its climate, keeping the development and technological advancements of the economy in mind. The main agenda of this research is to understand various laws enforced by multiple major economies in order to protect the climate. Additionally, there will be discussions of global incidents (like the Volkswagen cheat device) including a debate of how the approach of a developed economy differs from the developing economies in regards to harm done to the environment and how they plan on recovering the damage done. We will be understanding the topics of technology, climate and governance in detail and how are they relevant with each other, how the governments react to climate sensitivity, technology and laws. The paper also contains a section of recommendations or minor changes that could be made by the governments to contribute towards sustainability more effectively.

Keywords: Sustainable developmental laws, climate laws, technological advancements, earth system, climate crisis and public administration.

Introduction

The topic of our research is "Technology and Climate Governance." It is important to understand the three words technology, climate and governance. Given below are the meaning of the words according to Oxford:

- Technology means "the scientific knowledge and/or equipment that is needed for a particular industry."
- Climate means "the normal weather conditions of a particular region"
- Governance means "the action or manner of governing a state, organization"

In simplified language, one can understand climate governance as a concept to as the actions a government takes or a government transforms its policies to protect the region's climate.

Regardless, it is a necessary to look at the topic of technology in this case. Technology plays a major role in our day-to-day life and climate change (be it power generation, transportation or manufacturing goods). Technology has been deeply engraved in every individual's life and it is not so difficult to understand the topic.

By topic technology and climate governance we can now interpret it as the laws, actions or rules imposed or empowered by the government to protect the climate from the rising influence of technology. In simpler words, they are the laws, restrictions or schemes that a government introduces for the rising effects of technology or industrialization to protect the climate and prevent climate change.

The main objective of this research paper is to understand strict climate laws of different economies and how technology has benefitted or worked to their disadvantage. We will also go through a few case studies to understand how different economies react differently. There are three kind of economies – developed, developing and underdeveloped judged based on the GDP of a country.

It should also be taken into consideration that climate has been growing on people in this modern age. The upcoming generation has become more and more conscious about sustainability and climate change. The concept of Corporate Social Responsibility (CSR) has been spreading widely with the upcoming generations.

Literature Review

As the industrial revolution began to flourish rapidly, so did the standard of living and dependency on coal in United States. This exploited the natural resource.

Until 1962 there was no environmental consciousness until a lady named Rachel Carson wrote a book named Silent Spring. Within the same decade, the US legislatures took an action towards protecting the planet (under president Nixon). They introduced the National Environmental Policy Act (NEPA) in 1970. Under this policy, the general public learns about a project and its impact on the environment, they review it and the government has the power to accept or reject the upcoming project or a company's major decision depending on how much impact it has on the climate. It has worked against Mountain Valley pipeline project.

As the weather in Germany began to reach extremes where the summers got hotter and the winters colder, Germany decided to reach its goal of carbon neutrality by 2050. They introduced the Climate Change Act where there have been listed the commitments the country will follow each year to reduce their carbon foot-print and reach their ultimate goal.

Developing countries like India, China and South Africa have always argued that as industrial revolution started off very late in their economies, they will not be obliged to follow the climate laws as the harm they have caused to the environment in comparison to the developed economies is comparatively smaller. So, they will continue as they will be in need of capital in order to follow the given principle which can happen only when they have surplus amount of money to invest to go green.

However, it is undeniable with the rising global warming with an average increase of temperature by 1 to 2 degrees every year, these countries are taking action and gradually taking their pace to support greenhouse non-emissions. Like favouring sustainable start-ups and promoting renewable electricity generation.

While underdeveloped economies already suffer from financial problems, they are also largely vulnerable to climate change. For instance, Nepal. They have been trying to introduce and practice laws which could protect the environment but due to lack of financial resources and destruction caused by floods, they find it difficult to follow them.

After reading this piece of information, it can be understood that while developed countries have played a major role in carbon emission, they are held responsible for a large part of carbon footprint. Their laws are strict as they have the finances to back them up. In case of developing countries, they are partially held responsible and partially the victims for climate change. Lastly, underdeveloped countries are the victims and are unable to respond to climate change as they run their economies based on other country's support.

Findings and Discussions

In 2015, Volkswagen created a cheat software in 11 million engine cars which would show 40 times lesser emissions than it originally did. When the American public found about it, they protested which led to a compensation of about 14 billion dollars to the US government under Clean Air Act and 500 dollars to every consumer who bought it. On the other hand, the Indian government had not been compensated with a single penny even after being deceived as they did not have strict air laws as US.

There have been disasters like the great oil spill in the Gulf of Mexico which happened to kill 11 workers and the entire ecosystem in the 1,300 miles. The CEO defended it saying it is just like a drop of water in the vast ocean. At the end, they paid a compensation of 20 billion dollars under the oil pollution act.

The Indian government has been focusing on solar energy generation recently. This has been discussed widely in the G20 summit as well. This is one of the major steps taken by India to reduce carbon emission. With rising technology, use of solar energy is easy and possible. The government has been providing subsidies for support. *PM Surya Ghar Muft Bijli Yojna* provided subsidy up to 40% for solar panel producing 3kW and 60% for 2kW with additional benefits of installation. On the other hand, the European Union and United Kingdom seems to be the biggest market interested in this field. This innovation has helped India progress keeping mother earth in mind. However, it cannot be ignored this would not be as successful if the government had not given it a push.

Under the Water Pollution Act (1974) the textile industries are bound to put up Effluent Treatment Plant (ETP) for pollution control. As the wastewaters released from this industry holds a lot of hazardous chemicals and heavy metals. This is a vital step towards the protection of natural resources and protecting the people.

From these discussions we understand that having a strong government influence in a sector can influence the economy to a huge extent to protect its climate. Strict climate laws can help protect an economy from being explained as understood in the case of Volkswagen.

Conclusion

The researcher believes, technology is a tool which helped scale businesses at the cost of the environment and it is essential to understand, technology is to make life easy and not cause more problems to find new solutions. For instance, introduction of industries to have mass clothing production led to greater problems like water contamination. To solve this problem, they introduced water treatment plants. Technology if creates new problems is not wise.

The limitations of this research paper is, the paper is very brief. There are a lot of climate policies that have been left undiscussed in the agricultural, mining and other fields. Each country's climate regulation varies depending on the sources. Though the major policy formation have been discussed briefly, each policy can be understood in detail. The reason for formation and its implications.

The researcher would like to recommend that the governments have been making policies and changes from their extent. However, policies on paper would not be helpful to the general public till they make use of it to the fullest. In order to reach the general public, they must start a channel be it on radio or television in order to educate the people of how they could make use of those policies and how they could apply for it. There have been initiatives and subsidies provided by different countries for sustainable innovation and ideas, however if the general public is made aware of that, they are likely to receive the benefit of the same.

Throughout this research paper, we have understood the concept of technology and climate governance and why it is important. We have understood how different kind of economies approach climate change through their laws. As businesses operate to earn profits, it is the government that looks after the general public and preserve the environment.

Apart from this, we have read about different case studies on negative note like the cheat-code of Volkswagen and The Great Oil Spill. On a positive note, we learnt about countries relying more on solar energy and introduction of ETP (Effluent Treatment Plant) in the textile industry.

In conclusion, this research paper gives us a brief understanding of the broad topic of how governance plays a role in preventing climate change while keeping the growth and technology in an economy alive. It plays a major role in this aspect. We have understood that through different examples and history of different economies.

Acknowledgment

I would like to express my sincere gratitude to all those who have supported and guided me in the completion of this research paper titled "Technology, Law, and Climate Governance: Policy Approaches in Developed and Developing Economies."

I am especially thankful to my institution, Auro University, for providing a conducive academic environment and necessary resources for this study. I extend my heartfelt thanks to my colleagues and mentors for their valuable suggestions, encouragement, and constructive feedback throughout the research process.

Financial support and sponsorship

Nil.

Conflicts of interest

The authors declare that there are no conflicts of interest regarding the publication of this paper.

References

1. Bundesumweltministerium. (2021, February 25). *The German Climate Change Act and Carbon Price explained (English subtitles)* [Video]. YouTube. <https://www.youtube.com/watch?v=08jWnQVaiBs>
2. CBS Evening News. (2015, September 22). *Volkswagen's emission scandal worsens* [Video]. YouTube. <https://www.youtube.com/watch?v=EXnQHRRvHk>
3. *Deepwater Horizon – BP Gulf of America oil spill | US EPA*. (2025, February 6). US EPA. <https://www.epa.gov/enforcement/deepwater-horizon-bp-gulf-america-oil-spill#:~:text=On%20April%2020%2C%202010%2C%20the,of%20marine%20oil%20drilling%20operations.>
4. Hindustan Times. (2019, October 28). *The Big Picture: Climate change and India* [Video]. YouTube. <https://www.youtube.com/watch?v=O-6simMi5xk>
5. *National Portal for Rooftop Solar - Ministry of New and Renewable Energy*. (n.d.). <https://pmsuryaghar.gov.in/#/>
6. *Textile effluents environmental impact and treatment solutions*. (2024, December 4). Registerkaro. <https://www.registerkaro.in/post/textile-effluents-environmental-impact-and-treatment-solutions>
7. *The National Environmental Policy Act explained*. (n.d.). YouTube. <https://www.youtube.com/shorts/POByhbJHAMQ>
8. The Verge. (2015, September 24). *Volkswagen's diesel scandal, explained* [Video]. YouTube. <https://www.youtube.com/watch?v=CQ4irwe3ZDk>
9. *UN list of least developed countries*. (n.d.). UN Trade and Development (UNCTAD). <https://unctad.org/topic/least-developed-countries/list>