

## A Study of Carbon Trading and Its Advantages & Net Zero Emission

**\*Dilkhush Prajapat**

### **Abstract:**

[1] The purchasing and selling of credits that permit a business or other organization to emit a specific quantity of carbon dioxide or other greenhouse gases is known as carbon trading. Carbon credits and carbon trading are authorized by governments with the purpose of gradually reducing overall carbon emissions and reducing their contribution to climate change. Another name for carbon trading is carbon emissions trading. The sale of carbon credits is made possible via carbon trading agreements, which lower overall emissions. Numerous nations and regions have initiated carbon trading initiatives. Cap and trade, a legislative strategy that successfully decreased Sulphur pollution in the 1990s, is the model from which carbon trading is derived. Although the effectiveness of these actions to lessen the effects of global warming is still up for discussion, they do try.

At the November 2021 Glasgow COP26 climate change summit, regulations governing the global carbon market were established, bringing into effect a decision first outlined in the 2015 Paris climate agreement.

### **Understanding Carbon Trading -**

1. The cap-and-trade policies that effectively decreased Sulphur emissions in the 1990s served as the foundation for carbon trading. With the introduction of market-based incentives, this law reduced pollution without dictating specific actions. Instead, it rewarded corporations who reduced their emissions and penalized those that were unable to do so.

2. The Kyoto Protocol, a United Nations agreement to reduce climate change that went into force in 2005, served as the model for the implementation of a cap-and-trade system for carbon emissions. At the time, the proposed action aimed to lower total carbon dioxide emissions by approximately 5% below 1990 levels by 2012. The Kyoto Protocol produced a mixed bag of results, and its conditions have not yet been confirmed to extend. The fundamental tenet of the Kyoto Protocol was the obligation of industrialized nations to cut back on their CO<sub>2</sub> emissions.

The consequences of burning fossil fuels are not immediately borne by the countries that utilize

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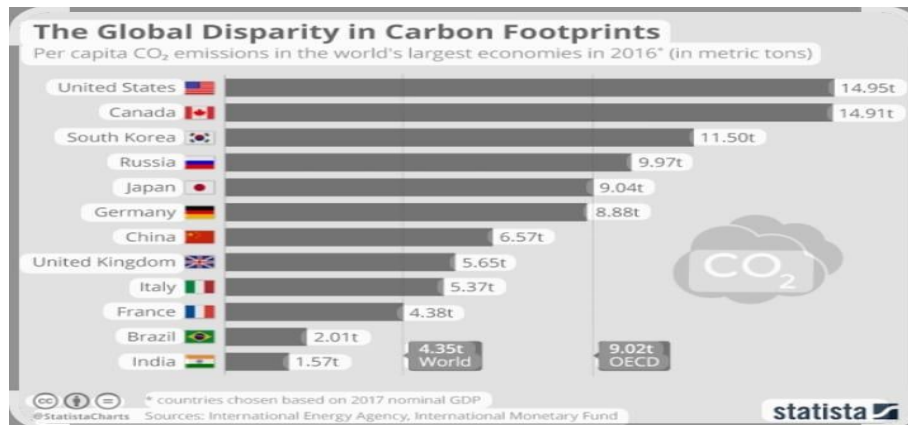
them and emit carbon dioxide. They must pay for some expenses, like the cost of fuel, but there are other expenses that are not covered by fuel prices. We refer to these as externalities. When it comes to the usage of fossil fuels, these externalities are frequently negative ones, which means that using the product has an adverse effect on other people.

### Calculating Google Search's Carbon Footprint:

[2] Many scientists and academics attempted to achieve this: use a Google search to determine the amount of CO<sub>2</sub> emissions. Times Online summarized these forecasts over the weekend as follows: According to recent research, doing two Google searches on a desktop computer can produce as much carbon dioxide as boiling a kettle for a cup of tea.

Even though millions of people use Google without thinking about the environment, boiling a kettle release approximately 15 grammes of CO<sub>2</sub>, whereas a normal search generates roughly 7 grammes. According to physicist Alex Wiesner-Gross of Harvard University, whose study on the effects of computing on the environment is about to come to an end, "Google operates huge data centers around the world that consume a lot of electricity. "Google search has definite environmental impact."

Platform	Used for measuring	Amount of CO <sub>2</sub> emissions
Email	Single mail	4.0 g of CO <sub>2</sub>
You tube	10 min. of viewing	1.0 g of CO <sub>2</sub>
Google	Single search	0.2 g of CO <sub>2</sub>
Texting	Single message	0.01 g of CO <sub>2</sub>



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**The benefits and drawbacks of carbon trading are as follows:**

1. Proponents claim that carbon trading is an affordable partial solution to the climate change issue and that it promotes the uptake of cutting-edge technology.

Two Nonetheless, there has been harsh criticism directed at carbon emissions trading. Sometimes some view it as a band-aid solution to the more significant and pressing problem of global warming.

Notwithstanding this critique, the idea of carbon trading continues to be fundamental to many plans aimed at reducing the effects of global warming and climate change.

**Local Market for Carbon Trading:**

Although there isn't a worldwide market for carbon trading, a number of regional authorities have established their own carbon credit exchange platforms. The cap-and-trade scheme is run by the state of California.

3 Together, a number of more US states and Canadian provinces established the Western Climate Initiative.

4 China finally introduced its much-awaited national emissions-trading scheme in July 2021.

5 The initiative is intended to assist the nation in reaching its 2060 carbon neutrality target, and it will initially involve 2,225 power industry enterprises. This is going to be the biggest carbon market globally.

6 As a result, the global carbon trading market is now the EU emissions trading scheme.

7 The benchmark for carbon trading is still the EU trading market.

After the Glasgow COP26, eight carbon trading agreements

The internationally integrated method outlined in the 2015 Paris Climate Agreement was first implemented when regulations for the global carbon market were finally adopted during the November 2021 COP26 climate change conference in Glasgow, after significant debate. A bilateral system and a centralized system would be part of the agreed framework, referred to as Article 6. Private and public sectors use centralized systems. The bilateral arrangement helps nations reach their emissions objectives even though it is meant to facilitate the trading of carbon offset certificates.

9 The new deal requires those who produce carbon credits to contribute 5% of their earnings to a fund that aids underdeveloped nations in combating climate change. To guarantee overall, 2% of credits will also be cancelled.

10. Concerns have been raised about the possibility of market saturation and pricing pressure resulting from the new regulations, which let participants to use credits that were produced between 2013 and 2020. Advocates of the framework assert that it provides financial incentives for nations

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and businesses to develop emission-reducing technology and programs, such planting forests and installing mechanical carbon capture devices, both of which contribute to lowering atmospheric carbon emissions. Act

### **[3] Carbon Trading or "Carbon Trading" in the Agriculture Sector:**

Due to its capacity for carbon storage as well as emission, the agriculture sector is a major player in carbon trading. While farming, the use of fertilizers, and the raising of animals are examples of agricultural activities that can release greenhouse gases into the environment, other methods like agroforestry, conservation farming, and soil carbon sequestration are able to absorb carbon from the atmosphere and store it in the soil. able to hold

India amended its Nationally Determined Contributions (NDCs) in August 2022 to comply with the United Nations Framework Convention on Climate Change (UNFCCC). As part of the updated NDCs, it is proposed to establish an extra carbon sink of 2.5–3 billion tonnes of CO<sub>2</sub> equivalent through forest and tree cover, and to achieve 50% of cumulative electricity generation from non-fossil fuel based energy sources by 2030.

The revised NDCs also call for a 45% reduction in GDP's emissions intensity by 2030 compared to 2005 levels. Along with promoting a sustainable and healthy way of living, it also discusses the need to start a large-scale movement for "Lifestyle for Environment" (LIFE - "Lifestyle for Environment").

The Energy Conservation (Amendment) Bill, 2022, which enables the establishment of a national carbon market as well as the investigation and utilization of energy sources other than fossil fuels, has been approved by Parliament. In addition, the Bill adopts a forward-looking perspective that calls for reaching Net Zero Emission by 2070.

The purchasing and selling of carbon credits is referred to as "carbon trading" in the agricultural industry. These carbon credits are produced by activities on farms and other agricultural lands that enhance carbon sequestration or lower greenhouse gas emissions.

Agroforestry, conservation tillage, and other sustainable land management methods are just a few of the numerous subjects covered by these approaches. In order to encourage farmers to adopt ecologically friendly methods and lessen the effects of climate change, the idea of carbon trading is being considered in the agricultural sector.

### **Carbon trading provide the agriculture industry:**

**Extra Income:** By selling carbon credits, farmers can earn extra money by taking part in carbon offset programs.

**Climate Change Mitigation:** By utilizing farming practices that reduce carbon emissions, soil carbon can be sequestered, hence lowering greenhouse gas emissions and lessening the impact of climate change. **Enhancement of Soil Health:** Agroforestry and conservation farming are two examples of

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carbon-sequestering agricultural techniques that can enhance soil health, leading to higher crop yields and better water retention.

**Conservation of biodiversity:** Agroforestry, one type of agriculture that stores carbon, is one technique that can assist the survival of wild species and help conserve biodiversity.

**Sustainable land use:** Carbon offset programs have the potential to encourage farmers to implement sustainable land-use practices.

**Sustainable land use:** Carbon offset programs can encourage farmers to utilize sustainable land use methods, which will help protect the environment and preserve natural resources.

**rural development:** By providing jobs and revenue in rural regions and fostering the expansion of small and medium-sized businesses in this industry, carbon trading in the agriculture sector can also aid in the development of rural communities.

**The difficulties involved in trading agriculturally trapped carbon:**

Accurate measurement and verification of carbon sequestration is difficult because soils' complex carbon cycles make it impossible to isolate the impacts of certain farming practices from other influences like soil type and weather.

**Revenue issue:** Taking into account how implementing carbon reduction techniques will affect projected increases in revenue and crop production is important.

Only if a farmer believes that the money from the sale of carbon credits would offset any crop yield loss as a result of implementing carbon mitigation techniques will he adopt them.

Insufficient and inconsistent data on agricultural methods' storage of carbon make it challenging to measure and exchange carbon credits.

**Difficult Regulation:** It is challenging for farmers and other stakeholders to engage in carbon markets due to the complex and underdeveloped regulatory structure that governs carbon trading in India.

**High Transaction Costs:** It can be costly for small farmers and other stakeholders to engage in carbon markets due to the costs involved in measuring, validating, and trading carbon credits.

**Restricted Demand:** Farmers and other stakeholders are having trouble finding customers for their carbon credits because of the current low demand for these credits coming from the agricultural sector.

**absence of awareness:** There is a dearth of knowledge among Indian farmers and other stakeholders regarding the advantages and potential of carbon trading, as well as the process of joining carbon markets.

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**The course of action:** Create an open measurement and verification process:

Developing an open method for calculating and validating the extra carbon produced by different farming techniques would be a first step toward establishing a market for sequestered carbon.

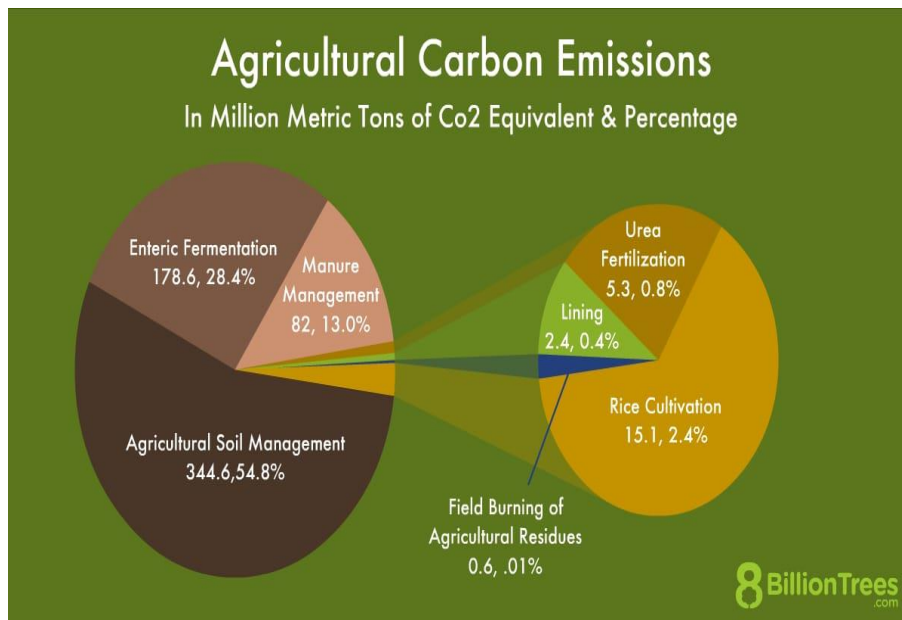
With the use of artificial intelligence (AI) and remote sensing, the quantity of carbon sequestered can be estimated.

**facilitating the trading of carbon emissions:** For farmers, the voluntary carbon market presents a challenging process when it comes to selling individual carbon credits. From this angle, group initiatives like cooperatives and farmer producer organizations (FPOs) can help them participate in the carbon trading market. These organizations can have a significant impact on farmers' ability to implement carbon mitigation methods and sell the carbon credits they have earned.

In order to help farmers participate in voluntary carbon markets, certain argon-tech businesses, such as "Boo Mitra" and "Nurture. Farm," organize farmers through middlemen.

**In order to raise awareness in farming communities:**

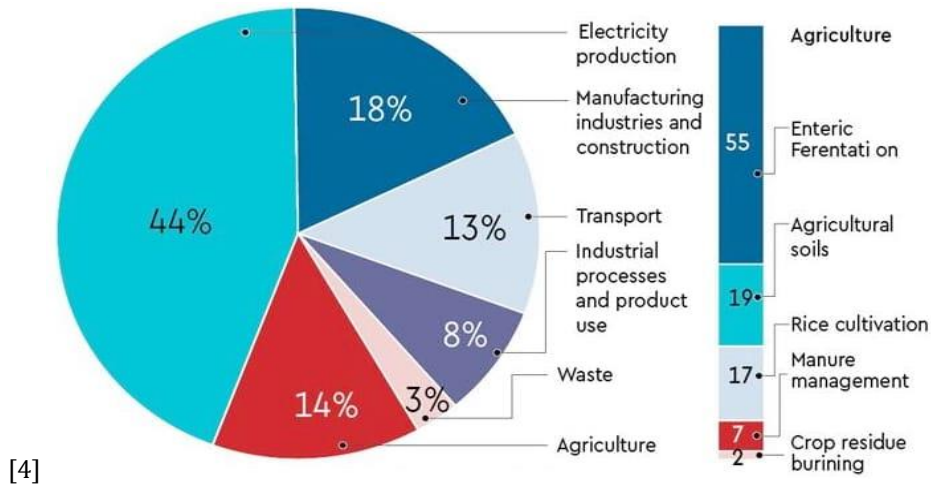
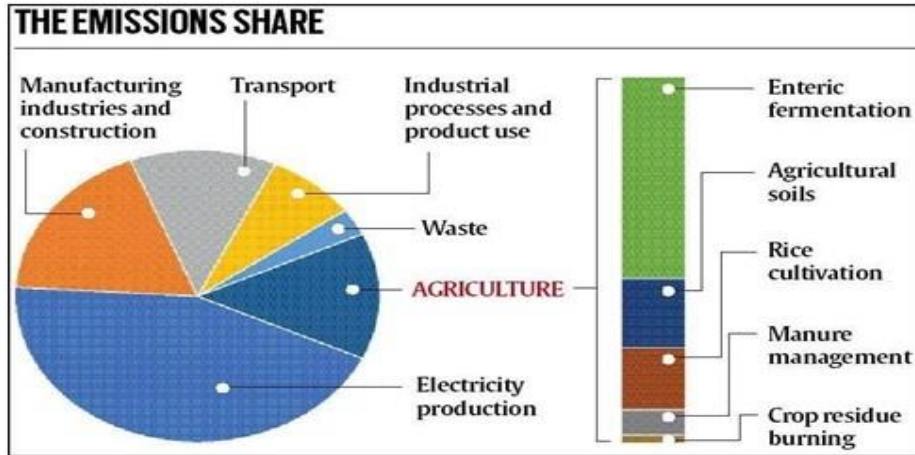
It is necessary to educate farming communities about the advantages of implementing better farming techniques and taking part in carbon markets.



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Details of carbon emissions in different fields:



[5] Regarding net zero emissions:

At the UN climate change conference, COP26, in Glasgow, Scotland, on Monday, Prime Minister Narendra Modi took part. Here, Modi made the initial announcement on when India will reach the goal of net zero emissions. India will reach net zero by 2070, according to Modi. This indicates that the global goal of 2050 is two decades ahead of the Indian ambition of reaching net zero. Nonetheless,

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Modi presented a number of justifications for India's delay and asked developed nations to assist developing ones.

It is crucial to comprehend the PM's objective of reaching net zero by 2070 in the interim. Furthermore, in light of the global objective to attain net zero by 2050, what actions will the Indian government do in the near future to accomplish this aim and why would India fall behind?

#### **How does net zero work?**

It is significant that a number of European nations, including the United States, have consistently discussed reaching the goal of net zero emissions by 2050. In order to halt climate change, all nations must attain net zero carbon emissions, or carbon neutrality. This is by no means an argument for a nation to achieve carbon neutrality, which is unachievable. Instead, net zero means that the amount of greenhouse gases emitted by any nation must remain constant in relation to its emissions.

#### **There are three ways to understand this in plain English.**

Global climate change is attributed to greenhouse gas emissions. It is this gas that is contributing to global warming worldwide due to its excessive emissions. Among these gases, nitrous oxide (NO), carbon dioxide (CO<sub>2</sub>), and methane (CH<sub>4</sub>) are the most common. In addition, several gas molecules produced by humans that contain fluorine and carbon are also classified as greenhouse gases. due to the fact that they also emit energy into the atmosphere, which eventually results in global warming. In other words, heat is produced on Earth due to excessive release of these gases.

2. One of the theories for the rise in Earth's temperature is the excessive buildup of greenhouse gases in the atmosphere. Too many greenhouse gases are building up in the atmosphere as a result of fossil fuels and molecules (chlorofluorocarbons, or CFCs) used in common electrical appliances like air conditioners and refrigerators. Nature is severely harmed by the hazardous substances they release.

3. Due to the fact that the globe cannot abruptly stop using fossil fuels and necessities of life. A goal has been established to lower their emissions in such a circumstance. This goal is only intended to be met till 2050 in many developed nations. According to him, wealthy nations must immediately cease using fossil fuels and any other substances that are harmful to the environment as they recognize their obligation. in order to decrease the emissions of greenhouse gases, mostly carbon dioxide

#### **What then is net zero's objective?**

According to scientists, carbon is necessary for human life on all levels. Carbon and other elements are also present in the composition of the human body and its surroundings. Thus, it is impossible to completely eradicate carbon emissions. However, it is possible to regulate its current emission level. In other words, a nation emits greenhouse gases based on carbon, but it also absorbs and removes these gases from the environment. It should therefore have a very small atmospheric greenhouse gas contribution. Net zero is the term for this.

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In what ways might net zero be accomplished?

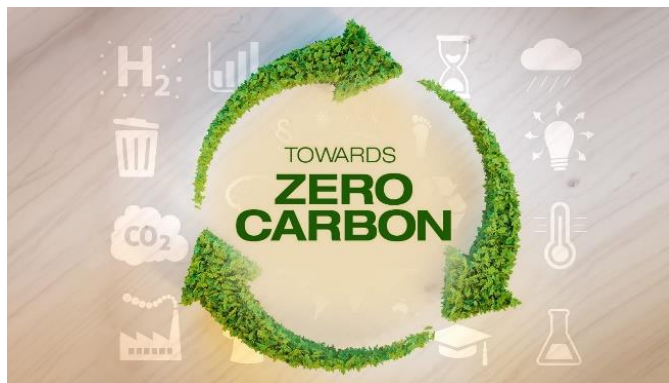
An example would help you better comprehend this. The growing global usage of CFCs in fossil fuel vehicles (automobiles, busses, ships, etc.) as well as air conditioners and refrigerators has also resulted in a rise in greenhouse gas emissions. Lush green woods can help mitigate these rising emissions. Greenhouse gas emissions can be decreased by using oxygen-releasing and carbon dioxide-absorbing trees. In addition, certain additional upcoming technologies can be used to limit emissions.

India's growing contemporary infrastructure makes maximum afforestation exceedingly challenging. For the next two decades at least, India will face significant challenges in reducing emissions, even with the preservation of forest resources. In addition, the methods for removing carbon from the atmosphere are unreliable or extremely costly. The Indian populace will find it extremely challenging to reach net zero in the upcoming years under these circumstances.

Why are India's concerns valid?

India's concerns are deemed valid in theory as well. The 2015 Paris Agreement never included a net zero goal. To demonstrate their seriousness about climate change, the participating nations merely needed to establish an infrastructure to combat it and set goals that would last for five to 10 years. Additionally, India pledged to support renewable energy sources and cut carbon emissions by 2030. This policy of India includes promoting the Solar Energy Alliance globally.

India is the only nation among the G-20 striving to reach the objectives of the Paris Agreement and the target of limiting global warming to two degrees Celsius, as several reports have already disclosed. It has been said that not even the United States of America and the European Union (EU) can stop climate change. This indicates that India is meeting its obligations in line with its population in a better way.

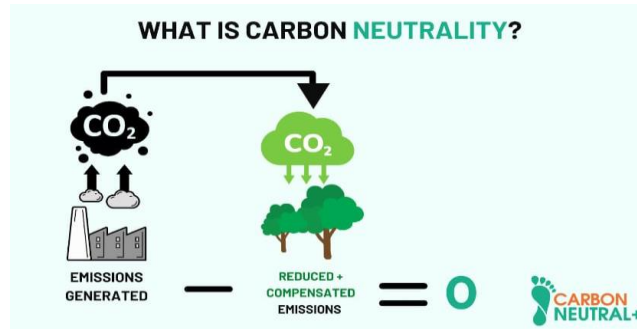


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**How can we lower our carbon emissions? elements that we can control to lower carbon emissions:**

To generate electricity in a nation like India, a lot of carbon is burned. Rather than doing this, we can add renewable energy sources like solar and wind power, as well as existing transportation infrastructure, to slow down the rate of carbon emissions. Pollution can be stopped, even if it is beneficial. For instance, he uses his own vehicle to travel to work ten kilometres from home. However, if transportation improves to the point that a person can take a city bus every five minutes, he won't need to drive himself since once someone goes there, three seats are already taken. As a result, everyone is releasing as much CO<sub>2</sub> as they can. As a result of the increased carbonation, carbon emissions are rising. A person can save money, time, and carbon emissions if the transportation system is maintained so that a city bus is available to them every five minutes.

In contrast to earlier times, when people maintained animals in their villages, they only received high-quality food and water, as well as access to the animal's excrement. Today, we observe that chemicals and a variety of medicines are utilized in farming. When it was going to rain, we used to promptly deliver it to the crops so that organic farming was carried out and there was no decrease in output. Previously, we used to let it sit on the side outside the house. What are the consequences of this and our carbon emissions? The amount is still lower. This is a component of sustainable development, and as we have seen from ancient times, the communities still carry out similar activities today. Therefore, encourage organic farming as it will lead to more prospects for employment in the agricultural, animal husbandry, and dairy industries. In light of the fact that we will have access to affordable, high-quality, and nutrient-dense food and drink, I will need to switch to organic farming. Because crops are currently yielding less produce due to numerous chemicals, which causes a significant increase in carbon emissions. In the past, the only waste material collected in Karo was cow or buffalo dung, but in the present day, various chemicals have been given. We will need to convert agriculture to organic farming since spoiling crops harms both the environment and human health.

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We all know that we use a lot of electricity, but we can cut it down as much as we'd like to because each and every homeowner can install solar panels and lights on their homes, which lowers their energy usage. Since producing electricity is the same as preserving electricity, he can produce it on his own. As a result, we will use less electricity, and the industrial regions and fields that remain will be We can generate electricity in the fields since doing so would allow us to save home electricity, reduce the quantity of carbon emissions, and save electricity overall. This is a great starting place for any of our efforts.

Keeping in mind that we are a nation similar to India and that Shanti Path was imparted to us based on our ancient tradition, we can manage our carbon emissions and fulfil our part in achieving Net Zero. Each individual may contribute uniquely by using minimum carbon at their own level, which will lower carbon emission capacity and aid in the nation's progress toward net zero.

[7] ॐ द्यौः शान्तिरन्तरिक्षं शान्तिः

पृथ्वी शान्तिरापः शान्तिरोषधयः शान्तिः

वनस्पतयः शान्तिर्विश्वे देवाः शान्तिर्ब्रह्म शान्तिः

सर्वशान्तिः शान्तिरेव शान्तिः सा मा शान्तिरेधि।।

ॐ शान्तिः शान्तिः शान्तिः।

This Yajurveda Shanti path Mantra is a prayer for preserving harmony with all of the universe's components and forces. There ought to be harmony in the sky, space, earth, water, medicine, and vegetation, according to certain beliefs. I pray for world peace, peace among the gods, peace in Brahma, peace in everyone, peace everywhere, peace, peace, and peace.

This mantra has been used to pray for world peace for all living things, plants, and the natural world, but it is particularly said by Hindus at the start and finish of religious ceremonies, rituals, yaguas, and other events. Repeat the Shanti Path mantras aloud. That is, every action taken for the world's peace and well-being was carried out in a way that prevents harm to anyone, according to the Upanishads of our Vedas. Remembering this, such an attitude has been ingrained for a very long time.

Cutting back on carbon emissions benefits your reputation, profitability, and resilience in addition to the environment. Achieving carbon negative or neutrality, however, could appear difficult or costly. You can, thankfully, reduce your carbon footprint and even make money from your emissions thanks to a number of cutting-edge inventions and technologies. Examples of how you can use these solutions to further your company's sustainability objectives are provided here.

### 1 Utilizing and capturing carbon

Carbon capture and utilization (CCU) is the process of extracting carbon dioxide (CO<sub>2</sub>) from a variety of sources, including ambient air, biogas, and industrial flue gases, and turning it into

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products that are useful, such building materials, chemicals, fuels, and plastics. In addition to generating new sources of income and lowering reliance on fossil fuels, CCU can lower the quantity of CO<sub>2</sub> discharged into the atmosphere. Examples of CCU technologies include electrochemical CO<sub>2</sub> reduction, which uses electricity to convert CO<sub>2</sub> into carbon-based chemicals, and direct air capture (DAC), which employs chemical or physical techniques to recover CO<sub>2</sub> from the air.

## **2. Energy storage and renewables**

Your company may run on clean, plentiful power from renewable energy sources like solar, wind, hydro, or biomass while using less fossil fuels and electricity from the grid. Renewable energy, however, can also be erratic and unpredictable based on the season and time of day. In order to store extra energy while supply is high and release it when demand is low, you must have dependable and effective energy storage devices. Examples of energy storage technologies include batteries, which store and release energy through chemical reactions, and hydrogen, which can be generated from water using renewable energy sources and utilized as a fuel or feedstock.

## **3 Waste management and the circular economy**

By creating goods and procedures that may be recycled, repaired, reused, or regenerated, the circular economy concept seeks to reduce waste and increase resource efficiency. Adopting the concepts of the circular economy can help you cut down on the amount of materials and energy you use, prolong the life of your products, and recover value from waste and new business prospects. Renumerating items to their original state or better and biorefining organic waste to produce biofuels, bioplastics, or bioproducts are two instances of circular economy operations.

## **4 Eco-friendly mobility and transportation**

Not only are mobility and transportation crucial to your business operations, but they also contribute significantly to your carbon emissions. As a result, you must figure out how to minimize your environmental effect while optimizing your mobility and transportation systems. Electric vehicles (EVs), which run on batteries or fuel cells rather than gasoline or diesel, and smart mobility solutions, which use digital platforms and data analytics to improve the efficiency and convenience of transport modes and services, are two examples of green transportation and mobility technologies.

## **5. Automation and digital transformation**

Automation and digital transformation promote innovation, productivity, and the reduction of carbon emissions. You may streamline your operations, raise productivity, use less energy and resources, and maximize performance by utilizing digital technologies and automation

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solutions. Artificial intelligence (AI) and cloud computing, which let you access data and apps online rather than through physical servers and devices, are two instances of digital transformation and automation technologies. AI can assist with data analysis, decision-making, and task automation.

[8] Swamiji pushed for the Ganga's water to be pure. The Ganga was not contaminated during his reign. It would be clear from his words that he loved and respected Ganga.

Are you familiar with the Ganga in Hrishikesh? That incredibly pleasant, ice-cold, and attractive Ganga water is so transparent and blue that it is possible to count the fins of fish five yards below the surface. You reminisce about your love for Ganga water, the river's splendor, how its touch may calm the mind, and how the Ganga flows past the Himalayas. Look at this place's atmosphere of sacredness. What kind of gathering of sadhus ~where else would you find a location like this? The pure air of the Ganga ecological deterioration brought on by extensive contamination of:

Swamiji was well aware of the concept of "carbon footprint." He was aware that our bodies release more carbon dioxide the more we ate. He advised bringing substantial, nutrient-dense, and easily digested food.

The advancement of science and technology has created new opportunities to improve the quality and comfort of human life. However, science and technology are being used by humans at the expense of nature in order to further their own interests. The severe environmental situation we currently face is the outcome. Swami Vivekananda advocated care and respect for the earth and everything on it in this particular context when it came to nature. Every person, society, and nation depend greatly on the abundance of nature for their prosperity, advancement, and happiness. Thus, her resources and bounties are not for one's avaricious exploitation. All creations are meant to share these.

Swami Vivekananda wished for us to emphasize the accessibility and interdisciplinarity of environmental history. ecological concerns in a concordant manner.

It is incorrect to assume that there is a natural environment that exists independently of the people who inhabit it.

The idea that the term "environment" only or mostly relates to the physical world is also incorrect.

Therefore, the environment cannot be viewed as just attractive trees and tigers, endangered species and ecosystems; rather, it is the very thing that supports human life and the advancement of agriculture and industry. Sometimes human intervention can successfully restore a healthy and sustainable balance between society and the natural world, while other times it can become the catalyst for ecological deterioration.

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According to Swamiji, development that disregards ecological issues could lead to poverty, oppression, and increased human endurance and suffering.

Food should be as fast as possible assimilated and contain the most amount of nutrients in the smallest compass. If not, it must be consumed in huge quantities, which will increase carbon dioxide emissions. Additionally, he supported the consumption of pure water that has been environmentally cleaned. "Impure food and water are the cause of all maladies," stated Swamiji.

#### **[9] Thoughts of BAPU about Environment:**

**"The Earth has enough resources for our need but not for our greed."**

– M.K. Gandhi

Gandhi's most frequently cited statement demonstrates his care for the environment and natural resources. Gandhi voiced worries about the environment and its impacts long before any international gatherings, like the Rio Earth Summit in 1992 or the Stockholm Conference in 1972, were called. Gandhi served as an inspiration for significant environmental campaigns even in India, such the Chipko movement spearheaded by Chandi Prasad Bhatt and Sunder Lal Bahuguna and the Narmada Bachao Angolan spearheaded by Baba Amte and Medha Patkar. Gandhi expressed his concerns about urbanization, mechanization, and the environment in his writings, lectures, and messages to the labour force. He was the "World's early environmentalist in vision and practice," as it is appropriate to say.

#### **Gandhi and the Urbanization Epidemic:**

Gandhi warned the world about the issues with large-scale industrialization that we are currently facing, long before any contemporary environmentalist. Gandhi predicted that mechanization would result in environmental degradation in addition to industrialization, widespread urbanization, and unemployment. Written a century ago in 1909, his groundbreaking treatise *Hind Swaraj* forewarned of the threats to the globe and environmental catastrophe that the world faces today. When sustainable growth and development are sought after, the Gandhian concept becomes even more pertinent since he placed an emphasis on mass production as opposed to mass production by the masses.

He claims that this will lead to the creation of an economic structure that can prevent environmental damage and promote sustainable growth. His concept of self-rule, or *swaraj*, makes it possible to achieve realistic, sustainable growth without sacrificing quality of life.

Gandhi stated his opinions on urbanization as follows: "It is a process of double drain from the villages." India's villages and peasants are slowly but surely dying as a result of urbanization. Ninety percent of India's inhabitants, who live in its seven million villages, can never be sustained by it

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(number of villages in 1934). He believed that eliminating cottage industries from small towns would eliminate the few opportunities that remained for making expert use of one's hands and mind. And after the handicrafts from the hamlet go, the locals are left idle for six or four months of the year, working exclusively with their livestock in the fields. Gandhi was well aware of the negative effects of environmental pollution on human health, as is documented in history. He was particularly troubled by the horrible working circumstances in which industrial workers were required to breathe in poisonous, tainted air. On May 5, 1906, he voiced these worries in Indian Opinion, writing, "Today, enlightened men are becoming more and more aware of the need for open air."

#### **NON-VIOLENCE AND RESOURCE CONSERVATION:**

"I draw all of my inspiration from nature. To date, she has never let me down. She mystifies, confounds, and exhilarates me.

— Mahatma Gandhi

Adopting Gandhi's philosophy of nonviolence at all levels of governance, from global to local, can help lessen the carbon footprints left by war and missile manufacturing. Gandhi had placed a strong emphasis on the preservation of natural resources. This directly affects the interaction between humans and the environment. In the current era, when human lifestyles are evolving toward more consumption and waste production, the significance of Gandhian philosophy is evident. This affects nature in two ways. First, the rate at which resources are being depleted has greatly accelerated; second, there is now more toxicity in the air, water, and soil.

#### **SATA, AHINSA, AND BIODIVERSITY CONSERVATION:**

Gandhi was influenced by Jainism, which views nature as a living thing and urges people to respect various life forms in order to continuously purify themselves. Reducing individual and societal greed can be accomplished through the Gandhian concepts of Satya and ahimsa. Thus, his idea of non-violence included all living things and, in both his thoughts and deeds, he personified the timeless principles of life. He emphasized that all life, whether it be a tree, plant, or cow, is eternally sacrosanct.

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