Section A-Research paper
ISSN 2063-5346

CARBON TAX A GREEN FINANCING MECHANISM TOWARDS ACHIEVING NET ZERO EMISSION TARGET: A COMPARATIVE STUDY

[1]Monica Pradyot, [2]Prof (Dr) Rakesh Kr. Chopra

[1]PhD Scholar and Assistant Professor, School of Law, UPES, Dehradun

monicapradyot@ddn.upes..ac.in

[2]Professor at School of Law, UPES

rchopra@ddn.upes.ac.in

DOI:10.48047/ecb/2023.12.si4.1549

Abstract

Right to live in clean and healthy environment is a fundamental right and included as an integral part of Right to Life under Article 21 of the Constitution of India, 1950. Witnessing the rise of carbon dioxide (CO2) emissions which is polluting the environment leading to climate change by affecting the current ecosystem, climate mitigation is one of the biggest challenges around the globe. India being the developing country, is one of the major contributors to global CO2 emissions. Amongst all sectors in India, automobile sector is creating majorly in air pollution leading to climate change leading to cascading effect on sustainable development. At present, there is no legislation in India that uniquely focuses on reduction of carbon emissions and climate change, although various environmental legislation focuses on pollution control and environmental restoration. Supreme Court of India in various judgements had highlighted the concept of Polluter Pays Principle, but this principle was not so effective as it never excluded the possibility of polluting the environment. To be in consonance with the Paris Agreement 2015, India have committed to achieve Net Zero Carbon Emissions by 2030 but there is no stringent law adopting the measures to attain such lofty goals. The author suggests that the implementation of carbon tax is one of the best and effective mechanism to deal with issue of climate mitigation. The paper analyses the legislation of Japan as Japan became the first Asian country to implement the carbon tax and have aimed to reduce 80% CO2 emissions by 2050. The author will also study the legal issues and challenges in implementing the carbon tax within India to achieve the global commitment of Net Zero Carbon emissions.

***Key words**: carbon emissions, climate change, carbon tax, environmental pollution, etc.*

1.0.Climate Change *Vis-À-Vis Carbon Emissions:* A Global Crisis

Climate change is one of the biggest threats to the existence of living beings and ecosystems across the world. Rapid increase in the global temperatures is due to rise in Greenhouse Gas (GHG) emissions specially carbon dioxide emissions (CO2)[1]. Climate change arose as a global agenda by late 1980s[2].

It took the international organizations more than a decade to develop a comprehensive legal framework to deal with the issue of climate change globally[3]. In order to lessen the effects of climate change, the Paris Agreement on Climate Change, which was adopted in 2015[4], set the goals of keeping the rise in the world average temperature below 2 degrees Celsius and limiting it to 1.5 degrees Celsius.

India has the highest growth rate in carbon emissions among the major global emitters, according to the Global Carbon Budget[5] report presented at the Conference of Parties 27 (COP27) climate conference held in Egypt in November 2022. Even so, India's per capita CO2 emission is still significantly lower than that of other developed and developing nations[6]. India continues to be the fourth largest global emitter after China, US, and European Union[7], is projected to increase carbon emissions 50% by 2030 due to the growing demand of fossil fuels required by automobile sector.

Amongst all energy consuming sectors, the automobile sector is biggest contributors to CO2 emissions. Both the production and use of cars contribute majorly to carbon

[1] David Hunter, James Salzman and Durwood Zaelke*, International Environmental Law and Policy,* 2nd ed., 2002, at 590.

[2] David Freestones, *The International Climate Change legal and Institutional Framework: An Overview*, in Legal Aspects of Carbon Trading: Kyoto, Copenhagen and Beyond, David Freestones et al. eds., 2009, at 5.

[3] 1992 United Nations Framework Convention on Climate Change, FCCC/INFORMAL/84 GE.05-62220 (E) 200705 was adopted at the United Nations Conference on Environment and Development (UNCED). (Available at: https://unfccc.int/resource/docs/convkp/conveng.pdf)

[4] Paris Agreement to the United Nations Framework Convention on Climate Change, 12th December 2015, T.I.A.S. No. 16-1104. (Available at: https://unfccc.int/sites/default/files/english_paris_agreement.pdf)

[5] Global Carbon Budget 2022. (Available at: https://www.globalcarbonproject.org/carbonbudget/22/files/GCP_CarbonBudget_2022.pdf)

[6] Snigdhendu Bhattacharya, Report at COP27: India Records Highest Emission Increase Among Top Global Contributors, 11th November 2022. (Available at: https://www.outlookindia.com/international/report-at-cop27-india-records-highest-emission-increase-among-top-global-contributors-news-236452)

[7] Id.

emissions and air pollution. A standard internal combustion engine vehicle emits an estimated 24 tonnes of emissions over its life cycle. The increase of motor vehicles in past few years has caused poor air quality in urban areas and has become the major contributor to the climate change.

As the economies of developing country is growing, they are manufacturing motor vehicles to provide better and convenient transportation service to the public, leading to the increase in demand for petrol. Almost 50% of the world's oil production is consumed by road vehicles[8]. Fossil fuel such as coal, petrol, diesel, etc. being a non-renewable source of energy are declining and has been phased out in most of the commercial and industrial sectors including electricity generation. Automobile sector is the one sector where fossil fuels have not yet been effectively replaced. This problem will proliferate unless some remedial action is taken.

In addition to the above problem, India has also been witnessing the shift of non-conventional fuels to most renewable source of energy for quite a decade, due to rising global demand for oil and dependency for import on other oil producing countries. The rise in demand have increased with the concept of industrialization and urbanization in the Indian economy. After the outbreak of Covid 19 Pandemic in 2020, there was a plunge in economic activity and oil demand. Also, there was total uncertainty about how severe the pandemic related economic crisis would be and how long it would last. These factors have led to huge reduction of oil prices in India. As the economy stabilizes after the pandemic, India have again started witnessing the increase of oil demand. Recently, the intense war between Russia and Ukraine as well as tension between China and Taiwan have created a fear of supply disruptions amongst the countries, including India.

To target the carbon neutral status by 2050 and to reduce the oil dependency, the automobile industry in India has introduced of Electric Vehicles (EVs) as a cleaner and sustainable option for the public. In 2021, over 400 Electric buses were sold. But adoption of EVs car as a means of personal transportation by public is very low due to various factors such as, on road cost of an EV is very expensive, charging station are not easily accessible and its model types. Another gap in the existent EV initiative is that the electricity used by

[8] Richard L. Ottinger, Elisabeth Haub, *UN Environment Guide for Energy Efficiency and Renewable Energy Laws,* School of Law at Pace University, 2016.

such vehicles is majorly generated through burning fossil fuels which is further contributing to air pollution.

As other countries are searching for alternative means of using these resources, environmental experts have also emphasized the importance of achieving carbon neutrality through clean energy. In pursuance to achieve the target, United Nation organizes an annual climate change conference to address environmental related issues. During the COP27 held in 2022, all countries have reinstated the global commitment of COP26[9] (which was held in Glasgow in 2021) towards achieving the target of net zero carbon before 2050[10] and have determined to reduce the global emissions. It's been suggested by various experts that to all countries must reduce their CO2 emissions by 45% before 2030 to reach the above target by 2050.

Before Paris Agreement, Government of India has also introduced various policies and initiatives to reduce carbon emissions, like National Action Plan on Climate Change (NAPCC)[11] which set out eight national missions in 2008 to mitigate CO2 emissions and promote energy efficiency and conservation. However, these missions are not sufficient to meet the lofty goals to reduce carbon emission which India had committed in COP27 in 2022.

Therefore, there is a need to have a stringent and efficient polices to fulfil the global commitment. For the study the researcher has used the quantitative method of research to analysis the existing literature available publicly. The researcher would like to suggest one of the most effective and efficient tools that can be implemented which is imposition of Carbon Tax on the user of fossil fuels. The carbon tax is a strategy to make users to compensate for the damage caused to environment when CO2 is released from their vehicles into the atmosphere. Looking at the other Asian countries, Japan has come out to be a leader in tackling with the carbon emissions and became the first Asian country to implement the carbon tax in 2012. Japan is a signatory to the Paris Agreement and has been active in implementing measures to reduce its CO2 emissions. It has aimed to reduce the carbon emission by 80% by 2050.

---

[9] United Nation Climate Action. Available at: https://www.un.org/en/climatechange/net-zero-coalition

[10] Yang Yu, Magdalena Radulescu, Abanum Innocent Ifelunini, Stephen Obinozie Ogwu, Joshua Chukwuma Onw and Atif Jahanger, *Achieving Carbon Neutrality Pledge through Clean Energy Transition: Linking the Role of Green Innovation and Environmental Policy in E7 Countries*, 4th September 2022.

[11] National Action Plan on Climate Change (NAPCC), Ministry of Environment, Forest and Climate Change. (Available at: https://static.pib.gov.in/WriteReadData/specificdocs/documents/2021/dec/doc202112101.pdf)

Till 2023, around 36 countries have implemented the carbon tax programmes and India being the 4th largest carbon emitter, have no explicit carbon tax regime. The carbon tax will serve the purpose to create financial disincentives to the fossil fuel users and encourage them to choose more cleaner options for their vehicles. The paper is divided into four parts. Part I discusses the historical background of carbon tax, Part II discusses the benefits and issues of carbon tax, Part II identifies the present legal legislation on carbon tax in Japan and India and role of judiciary in India. The author in Part IV provides the suggestion and recommendation to the government.

2.0. Literature Review

Anjalika Bardalai[12] described the various types of global carbon pricing mechanism and their response in the markets. It provided an understanding of importance of various carbon mechanisms such as carbon tax, emission trading system and carbon credit mechanism, that will help the government to combat the climate change and to achieve net zero targets. Yang Yu, Magdalena Radulescu, Abanum Innocent Ifelunini, Stephen Obinozie Ogwu, Joshua Chukwuma Onw and Atif Jahanger[13] assessed the contribution of environmental policy, clean energy, green innovation, and renewable energy to the E7 (Brazil, India, China, Russia, Mexico, and Indonesia) economies' achievement of carbon neutrality goals from 1990 to 2019. Ian Parry, Simon Black, and Karlygash Zhunussova[14] discussed that the carbon taxes have significant practical, environmental, and economic advantages due to ease of administration, price certainty which promotes investment, the potential to raise significant revenues, and coverage of broader emissions sources. A Report of ILO[15] discussed the current structure of automotive industry, vehicle production and sales and contribution to

[12] Anjalika Bardalai, *Global carbon pricing mechanisms and their interaction with carbon markets*, TheCityUK, May 2023. (Available at: https://www.ice.com/publicdocs/Global_carbon_pricing_mechanisms_and_their_interaction_with_carbon_markets.pdf)

[13] Yang Yu, Magdalena Radulescu, Abanum Innocent Ifelunini, Stephen Obinozie Ogwu, Joshua Chukwuma Onw and Atif Jahanger, *Achieving Carbon Neutrality Pledge through Clean Energy Transition: Linking the Role of Green Innovation and Environmental Policy in E7 Countries*, 4th September 2022.

[14] Ian Parry, Simon Black, and Karlygash Zhunussova, *Carbon Taxes or Emissions Trading Systems? Instrument Choice and Design*, IMF Staff Climate Note, International Monetary Fund, Washington, DC, July 2022.

[15] *The future of work in the automotive industry: The need to invest in people's capabilities and decent and sustainable work*, Issues paper for the Technical Meeting on the Future of Work in the Automotive Industry, ISBN 978-92-2-031863-8, Geneva, 15–19 February 2021, International Labour Office, Sectoral Policies Department, Geneva, ILO, 2020. (Available at: https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/meetingdocument/wcms_741659.pdf)

GDP and to ensure its contribution to sustainable development. Kenneth Gillingham and James H. Stock[16] analysed and reviewed the costs of various technologies and actions aimed at reducing GHG emissions. Muthukumara Mani and Fan Zhang[17] emphasized upon the importance of carbon tax which is an implicit of excise duties on petrol or diesel.

3.0.Inadequacy Of Historical Efforts to Implement Carbon Tax

The carbon tax is introduced from the concept of Polluter pays principle[18]. The polluter pays principle is one of the principles of Rio Declaration, 1992. The United Nations Framework Convention on Climate Change (UNFCCC)[19] was adopted by UN General Assembly at Earth Summit in Rio de Janeiro, Brazil in 1992 that set the limit of emission of GHG (including CO2) for all countries ratifying it. This convention was ratified by 197 countries and marked as the first global attempt to explicitly address climate change.

Finland became the first country to introduce carbon tax in 1990. Later, Norway and Sweden also implemented the carbon tax in 1991 and Denmark in 1992.

In 1997, to strengthen the UNFCCC's global commitments, Kyoto Protocol[20] was adopted (was enforced in February 2005), which was the first convention that had talked about the reduction of GHG emissions. This convention set the global targets [21], especially for all the developed countries to reduce their GHG emissions. But the treaty did not bind the developing countries like India and China who became the major contributor to carbon emissions.

---

[16] Kenneth Gillingham and James H. Stock, *The Cost of Reducing Greenhouse Gas Emissions, The Journal of Economic Perspectives*, Vol. 32, No. 4 (Fall 2018), pp. 53-72, American Economic Association. (Available: https://www.jstor.org/stable/10.2307/26513496).

[17] Muthukumara Mani and Fan Zhang, *From Carbon Subsidy to Carbon Tax: India's Green Actions, "Seize the Day",* The Economist, January 17, 2015. (Available at: https://www.indiabudget.gov.in/budget2015-2016/es2014-15/echapvol1-09.pdf)

[18] The principle was recognized firstly by the Organization for Economic Co-operation and Development (OECD) countries in *'Environment Monographs: The Polluter Pays Principle'*, OECD Analyses and Recommendations, Environment Directorate Organization for Economic Co-operation and Development, Paris, 1992. (Last Accessed on 18th July, 2022; Available at: https://one.oecd.org/document/OCDE/GD(92)81/En/pdf.)

[19] *Supra n.* 4.

[20] Kyoto Protocol to UNFCCC, Dec. 10, 1997, 37 I.L.M. 22 (1998). (Available at: https://unfccc.int/resource/docs/convkp/kpeng.pdf)

[21] Article 17 of the Kyoto Protocol provides for parties to trade in emissions to meet their obligations or benefit economically from their excess emission credits; Article 6 provides for Annex I countries to undertake joint efforts to reduce; Article 12 allows Annex I countries with obligations to reduce emissions to invest in projects in developing countries, so that they can get credits for reducing emission levels.

Keeping in view India's dependency on other countries for fossil fuel, India volunteered in the *Copenhagen Summit, 2009*[22] by committing to reduce carbon intensity by at least 25% till the year 2020 vide policy interventions as well as regulatory measures, including mandatory fuel efficiency standards for all vehicles.

The failure to reach the global commitments, Paris Agreement[23] was adopted in 2015 at Conference of Parties 21 (COP 21). Further, 196 Member States adopted the Paris Agreement and 2030 Agenda for Sustainable Development, which described 17 Sustainable Development Goals (SDGs)[24] to reduce the carbon emissions, which is the need of the hour for the human societies to live in a healthy environment.

The Paris Agreement requires all the countries to set emissions targets known as National Determined Contributions (NDC) with the aim to prevent the global average temperature from rising 2 degrees Celsius. It also aims to reach net zero emissions target by 2030.

Irrespective of the above global conventions and made applicable upon various countries, it suffered with two objections. Firstly, those who contributed carbon emission in the past were not aware of the fact that their action would cause climate change, so they are not morally responsible. Secondly, even if the polluters who had polluted the environment in past were held morally responsible, their heirs have not done anything to prevent the polluters from emitting the carbon in the environment. To overcome with the two objections, various countries have started implementing carbon tax as the most effective mechanism to combat with the climate change. The carbon tax system and its rates vary from country to country, but they are being adopted to mitigate the climate change as well as to promote more sustainable and cleaner options for the users.

As per the report of World Bank of April 2022, there were 36 implemented carbon tax programmes around the world. More than 50% of the carbon tax programmes are implemented in Europe (see Figure 1). Finland and Poland were the forerunners in implementing the carbon policy in 1990; later, other countries continued introducing carbon taxes, with some variations and revisions as per the jurisdiction. For past few decades until

[22] Copenhagen Climate Change Conference - December 2009. (Available at: https://unfccc.int/conference/copenhagen-climate-change-conference-december-2009)
[23] *Supra n.* 5.
[24] Sustainable goals, *See* https://sdgs.un.org/goals

2021, various countries have introduced the carbon tax regime giving a rise by an average of 10% a year. Uruguay implemented a new carbon tax program in January 2022[25].

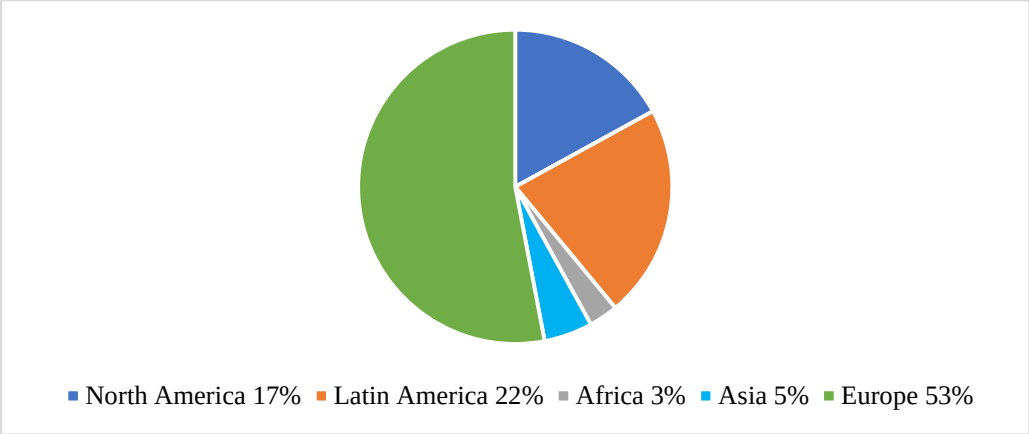

Figure 1: Implemented carbon tax schemes by region as of April 2022

According to the World Bank report[26], The tax rate system varies as per the jurisdiction of the countries and the policy of carbon reduction targets that the respective government wants to achieve. However, some countries have levied high tax rates such as Sweden (US$137.24/tonne), Liechtenstein and Switzerland (both US$101.47/tonne), Finland (US$72.83/tonne), Norway (US$69.33/tonne), and France (US$52.39/tonne).

4.0.Carbon Tax: A Green Financing Mechanism

The concept of carbon tax is genesis of the Polluter Pays Principle, which is a guiding principle of the energy transition. Carbon taxes are charged on the carbon content of fossil fuels (mainly coal, oil and natural gas) and their contribution to the problem of global warming. It is a type of Pigouvian Tax[27] which is levied on market activity that creates negative externalities for e.g., environmental pollution. In this method, the price per tonne of CO2 is pre-defined by the government, but the level of emissions is market determined because of the price. Carbon tax is imposed from the stage of production to the stage of consumption of carbon intensive fuels. It is levied directly upon the user of fossil fuels emitting CO2 and incentivize them to use cleaner and greener environmental practices. The revenue generated from collecting such tax can be used to repair the environmental damage

[25] Global carbon pricing mechanisms and their interaction with carbon markets, May 2023. (Available at: https://www.ice.com/publicdocs/Global_carbon_pricing_mechanisms_and_their_interaction_with_carbon_markets.pdf)
[26] *Supra n.* 25.
[27] Arthur Pigou was the first economist coined the tax in the early 20th century.

and fund various clean energy initiatives such as setting up a renewable energy plant and energy efficient programs.

For countries like Japan, it has come out to be the most successful mechanism for fulfilling the domestic emission reduction targets as it increases the price of fossil fuels in order to promote the low carbon intensive energy amongst the public and helps shifting to cleaner vehicles.

A Carbon tax would benefit the environment and the economy by encouraging the industries to adopt sustainable technologies. By making highly emissive source of energy more expensive, such taxes would create a push on the industries to find more greener options. Carbon tax is a progressive system of taxation and can benefit the country.

Another benefit of carbon tax is that they could raise a significant amount of revenue. As previously stated, carbon tax was first implemented in Finland and Poland during 1991, estimated global carbon tax revenues grew at the rate of 10.8%. The revenues generated from Carbon taxes may be used to fund investments for achieving the United Nations Sustainable Development Goals (SDGs). The effectiveness and credibility of carbon pricing may be improved if the revenues are utilised to pay for the clean energy projects in every country.

Third benefit behind carbon tax is that they can generate various environmental benefits at national levels such as decrease in the number of premature deaths from the exposure to carbon emission caused by fossil fuels.

5.0.Challenges to Carbon Tax Implementation

With the introduction of liberalisation, privatisation, and globalisation in 1991, India has been developing with vast but broken economy, as it has increased the opportunities to small and medium enterprises (SMEs) to expand their business in the Indian market. Based on the following reasons, it is argued that if carbon tax would be implemented, it will impact the economy of the country:

i. Carbon tax would increase the cost of production for industries which further would lead to higher price for consumers. It creates a social barrier because an increase in the carbon price will be a greater economic burden for low-income people.
ii. There is a lack of accurate date on CO2 emissions. It is difficult to design the rate of carbon tax that is effective and equitable for all types of enterprises.

iii. The distribution of revenue generated from carbon tax is also an issue. The revenue generated could be used to fund the measures on climate change mitigation and adaptation.

iv. An appropriate tax rate on carbon emission is not clearly defined. In addition to this, India's tax system is very complex which could further lead to various administrative difficulties and compliance costs.

v. The implementation of carbon tax also suffers with political barrier as it is not possible to introduce harmonized carbon taxes within the country. As a result of which carbon tax has faced strong opposition from the various production sectors.

But the above barriers can be removed if the revenues generated from such taxes are recycled back to economy. The purpose is to increase the efficiency of resource use and improve the environment by levying taxes on the goods and activities affect the environment. In country like Japan, where carbon tax is revenue neutral, other taxes such as tax on income and labour are reduced to ensure that there is no tax burden on the taxpayers. The aim behind this mechanism is to shift the tax base from good activities to bad activities which will not only reduce the help to combat climate change, but it will also create more capital and resources that can be utilized to generate employment.

6.0.Legal Framework on Carbon Tax: Japan and India's Perspective

6.1.JAPAN

The carbon tax was implemented in Japan by adding a new provision to the Act on Special Measures Concerning Taxation. Japan's carbon tax applies to fossil fuels such as petroleum, oil products, natural gas, and coal. The carbon tax operates as an additional tax over and above the Petroleum and Coal Tax[28]. The government to impose carbon tax at the stage of consumption, established a new system for collecting the tax[29]. In addition, 2003 amendment to the Petroleum and Coal Tax Act, the revenue generated from such tax was used partially to enhance government

[28] The Oil Tax was introduced in 1983 in order to create a source of money that the government could use to secure the oil supply. Oil Tax Act, Act No. 25 of 1978. The purpose of establishing the Oil Tax was discussed during the 84th Diet session. See, e.g., Finance Committee Minutes, House of Councilors, No. 12 of 84th Session (Apr. 11, 1978). In 2003, coal became subject to the tax, and the name of the Act was accordingly amended to the Oil and Coal Tax Act. Act No. 8 of 2003.

[29] General Planning Petit Committee, Comprehensive Policy/Global Environment Joint Subcommittee, Central Environment Council, Summary of Agenda Concerning Climate Change Taxation and Related Policies 17, December 2004. (Available at: http://www.env.go.jp/policy/report/h17-03/01.pdf) (in Japanese).

support for the development of energy conservation technologies and new energy sources[30]. Currently, as per Article 90-3-2 of the Act which says[31]:

From the viewpoint of promotion of anti-global-warming measures, the amount of the Petroleum and Coal Tax on crude oil, gaseous hydrocarbon, or coal is calculated by the following tax rates on basis of classification[32]:

a. *A. Crude oil and petroleum products* — *2,800 yen [US$34] per 1 kilo litre*
b. *B. Gaseous Hydrocarbons* — *1,860 yen [US$23] per 1 ton*
c. *C. Coal* — *1,370 yen [US$17] per 1 ton*

Currently there two environment related taxes in Japan, Vehicle tax and energy tax. Japan's Carbon tax i.e., 'Tax for climate change mitigation', falls under Energy Tax. Japan applies energy tax at three levels[33].

i. Custom duty imposed on imported or extracted fossil fuels (like crude oil and petroleum),
ii. taxes applied to transportation fuels (Gasoline tax, Diesel Oil delivery tax and Aviation Fuel tax), and
iii. taxes levied on electric power generation (Electric Power Development Promotion tax)[34]

The tax rate per unit quantity is set such that the overall carbon tax burden on each product equates to JPY 2,89/ t-Co2 ($2.65). Japan's carbon tax is revenue neutral. Revenue generated gets redirected to supplement renewable energy projects and to enhance energy-savings measures[35].

[30] Sekitan e no kazei ni tsuite, *Regarding Taxation on Coal*, Agency for Natural Resources and Energy (2003), (Available at: http://www.enecho.meti.go.jp/info/coal/leaflet_coaltax030926.pdf) (in Japanese).
[31] Umeda Sayuri, Japan: Carbon Tax, December 2012, Law Library of Congress, LL File No. 2013-008750 LRA-D-PUB-000006. (Available at: https://heinonline.org/HOL/Page?handle=hein.llcr/locaelc0001&id=1&collection=llcr&index=)
[32] *Supra n.* 31.
[33] Hemangi Gokhale, Japan's carbon tax policy: Limitations and policy suggestions, Current research in Environmental sustainability, Volume 3, 2021, 100082. (Available at: https://www.sciencedirect.com/science/article/pii/S266604902100058X)
[34] Id.
[35] Id.

While carbon tax gets applied to all fossil fuels covered under the Petroleum and Coal Tax, Japanese government extends several exemptions and refund measures on carbon tax rates for certain fossil fuel products used in energy intensive industries. To reduce the burden of carbon tax on covered industries and sectors, carbon tax rate was set to increase gradually over three and a half years[36].

Since the implementation of carbon tax in 2012, Japan has made steady progress in reducing its CO2 emissions also addressing the climate change. With substantial changes to domestic CO2 emission reductions, Japan is close to meet its 2030 commitment under the Paris Agreement.

6.2. INDIA

Currently, India does not levy an explicit carbon tax. The Excise tax of India includes carbon tax which is made up to 54.7% of emissions in 2021.

The government has introduced Clean Energy Cess in 2010, with an aim to incentivise the use of clean fuels by increasing the cost of coal and use the revenue collected from such cess to fund clean energy projects. After the introduction of Goods and Services Tax (GST) in 2017, the Clean Energy Cess was replaced by Compensation Cess on production of coal[37].

As it is being highlighted in the report of Global Carbon Budget of COP27, India is the major contributor in the global CO2 emissions. In furtherance to this report, at the said conference, the governments of all the signatories to Paris Agreement were requested to revisit and strengthen their 2030 targets in their national climate plans and were asked to put more effective efforts to phasedown the unabated coal and phase out the inefficient fossil fuel subsidies.

India though do not have a uniform mechanism of carbon tax that can be made applicable across the country; however, state governments have levied their own taxes such as Green Cess implemented in Goa, the Eco Tax on vehicles entering Mussoorie, Sikkim Ecology Fund and Environment Cess, to capture the cost of its negative impact on the entire ecosystem. Recently, in December 2022, the parliament has also

[36] *Supra n.* 33.

[37] Krithajnya Raghunathan, *Carbon tax and its impact on India*, 27th October 2021. (Available at: https://blog.ipleaders.in/carbon-tax-and-its-impact-on-india/)

passed Energy Conservation (Amendment) Bill, 2022 that talks about fuel economy norms and carbon trading, but it has not explicitly dealt with concept of carbon tax.

7.0. Failure of India's legal system to establish climate change as a legal issue

In India, there is no comprehensive climate change litigation. National Green Tribunal (NGT), Supreme Court and High Courts of India have played a significant role in governing the environmental regulations. In various judgments, Indian judiciary have recognised *"Right to live in clean and healthy environment"* as a fundamental right and considered as an integral part of "*Right to Life and personal liberty*" under Article 21 of the Constitution of India, 1950 which was first recognized in the case of *Rural Litigation and Entitlement Kendra vs. State of Uttar Pradesh*[38], (Popularly known as *Dehradun Quarrying Case*). Also, in *M.C. Mehta vs. Union of India*[39]*(Oleum Gas Leak Case)*, the Supreme Court treated the right to live in pollution free environment as a part of fundamental right under Article 21 of the Constitution. Since *Maneka Gandhi v. Union of India*[40], the Supreme Court has time and again tried to achieve the objectives laid down under Article 48A[41] and 51A(g)[42].

The role of judiciary on climate change has majorly been seen on the following three issues[43]:

a. When the claim is based on nuisance or negligence which may raise a liability.
b. When the claim is made against a public authority challenging any action, inaction, violation of legal obligation or any other failure to control the CO2 emissions.
c. When the claim has arose out of the misleading advertising regulations and standards by the companies affecting their business performance[44].

The first two issues have been taken into account as a part of climate change but in completely different environmental context. In furtherance to the above issues, people in India can choose any of the following remedies if their environmental rights are violated[45]:

[38] AIR 1988 SC 2187.
[39] AIR 1987 SC 1086.
[40] AIR 1978 SC 597.
[41] Article 48-A of Constitution of India, 1950: Directive Principles of State Policy (PART IV).
[42] Article 51A(g) of the Constitution of India, 1950: Fundamental duties (PART IV-A).
[43] Arindam Basu, *Climate Change Litigation in India: Seeking A New Approach Through the Application of Common Law Principles*, Environmental Law & Practice Review, vol. 1, 2011, at pg. 34. (Available at: http://www.commonlii.org/in/journals/NALSAREnvLawPRw/2011/3.pdf)
[44] Id.

i. Under common law action such as Absolute Liability against the polluter such as public nuisance and negligence;
ii. Writ petition to compel the public authority to enforce the existing environmental laws;
iii. Redressal under various Environmental laws like Environment (Protection) Act, 1986, Water (Prevention and Control of Pollution) Act, 1974, Air (Prevention and Control of Pollution) Act, 1981, The Hazardous Wastes (Management and Handling) Act 1972, The Biological Diversity Act 2002; or
iv. Claim compensation under Public Liability Insurance Act, 1961or the National Environment Tribunal Act, 1995[46].

The first case on carbon emission in the Indian history was ***Taj Trapezium Case***[47]. The Supreme Court of India in this case, ordered some polluting factories to relocate themselves as Taj Mahal was being harmed by the emissions produced from those factories. Since the Court relied on an expert's report, it was extremely simple to establish a causal link between factory's emissions and the monument's destruction[48].

In ***Sukhdev Vihar Resident's welfare association v Union of India[49],*** the NGT declared the waste to energy project situated in the residential area of the applicant resulting to GHG, to be Clean Development Mechanism (CDM) project which later applied the Precautionary Principle[50].

In ***Gaurav Kumar Bansal v. Union of India & Ors***.[51], the Tribunal in its final order, did not specifically decide on its authority over the NAPCC's enforcement. Furthermore, the Tribunal ordered states to draft their own state laws and have them authorised by the Ministry of Environment, Forest and Climate Change (MoEFCC) as quickly as possible. The courts used environment terminology to justify conclusions reached for other purposes in the third

---

[45] Id.
[46] Shyam Divan, Armin Rosencranz, *Environmental Law and Policy in India: Cases, Materials And Statutes*, 2002, 2nd ed., 2002 at pg. 87.
[47] *M.C. Mehta v. Union of India, (1997) 2 SCC 353.*
[48] The court was assisted in its efforts to improve air quality around the Taj Mahal by the reports prepared by the NEERI (National Environment Engineering Research Institute), Gas Authority of India Limited (GAIL) on the supply of fuel gas to industries in the area and the study conducted by the Vardharajan Committee, which was constituted in May 1994, by the Ministry of Environment and Forest of India.
[49] ORIGINAL APPLICATION NO. 22 (THC) OF 2013 (M.A. NO. 19 OF 2014).
[50] *Supra n.* 43.
[51] Original Application No. 498 of 2014

category-two study. The Kerala High Court noted that the Kyoto Protocol "did remind the country to strive for policies and interventions to mitigate adverse effects on climate change and to encourage sustainable ways of agriculture in light of climate change circumstances," while directing the states to develop policy on the use of agricultural land for mining operations[52].

The Supreme Court of India in ***M.C. Mehta v. Union of India***[53], decided that no motor vehicle complying the BS-IV emission standard shall be sold or registered in the entire country with effect from 1st April 2020, and the same shall be replaced by BS-VI compliant vehicles. In order to reduce air pollution, some regulations were also enacted therein regarding the imposition of a ban on diesel vehicles[54].

But there is an existing gap in the judicial system with respect to climate litigation. The inability of Indian judiciary to deal such issues is another area of concern which must be adequately addressed. While we are witnessing the significant amount of judgement on carbon emissions that has increased in the recent years, it is largely focused from the perspective of public interest litigations. Strategic litigation that focuses on climate change and carbon emissions has been missing from judiciary.

8.0.Conclusion and Suggestions

Due to rise in demand of oil and its prices and increasing dependency on other nations for oil import, India used to provide subsidies on the production of fossil fuels within country. But usage of such fuels had contributed highly to CO2 emission which further had led to the climate change. The researcher suggests that to overcome with such issues, India should be more inclined towards shifting the era of subsidies to imposing the tax on the use of fossil fuels. Therefore, an introduction of new amendment in the existing environmental and energy legislation explicitly on carbon tax is a need of hour in India to combat climate change and to achieve the global commitment of net zero emissions.

[52] *Supra n.* 43.
[53] WP (C) 13029/1985
[54] Faisal Sherwani and Achal Gupta, *India: Climate Change - Indian Law and Judiciary,* 02 June 2020. (Last Accessed on 13th April, 2023; Available at: https://www.mondaq.com/india/clean-air-pollution/945304/climate-change--indian-law-and-judiciary)

It is pertinent to note that implementation of carbon tax will not only be a fiscally prudent measure but will also serve as the most effective tool to deal with the problems of climate change. Also, sustainable business models can help the industries to insure themselves from the impact of carbon tax and of social and environmental risks.

The researcher further believes that implementation of carbon tax is public driven, and we need to sensitize the citizens of India of their Fundamental Duty as stated under Article 51(A)(g) of the Constitution of India, 1950, *"to improve and protect and the environment encompassing wildlife, lakes, forests"*. Though, carbon tax has not yet been implemented by India due to the fear that it will have adverse effects on the country's economic growth. However, it is argued that a well-designed carbon tax policy can help to mitigate climate change and can also promote economic growth.

Also, while designing a policy on carbon tax, India must ensure that it is equitable and doesn't affect the low-income earner. The revenue generated from carbon tax could also be used to fund clean energy development in rural areas, which would create job opportunities and reduce poverty.

REFERENCES:

- Anjalika Bardalai, *Global carbon pricing mechanisms and their interaction with carbon markets*, TheCityUK, May 2023. (Available at: https://www.ice.com/publicdocs/Global_carbon_pricing_mechanisms_and_their_interaction_with_carbon_markets.pdf)
- Snigdhendu Bhattacharya, *Report at COP27: India Records Highest Emission Increase Among Top Global Contributors*, 11th November 2022. (Available at: https://www.outlookindia.com/international/report-at-cop27-india-records-highest-emission-increase-among-top-global-contributors-news-236452)
- Global Carbon Budget 2022. Available at: https://www.globalcarbonproject.org/carbonbudget/22/files/GCP_CarbonBudget_2022.pdf
- Yang Yu, Magdalena Radulescu, Abanum Innocent Ifelunini, Stephen Obinozie Ogwu, Joshua Chukwuma Onw and Atif Jahanger, *Achieving Carbon Neutrality Pledge through Clean Energy Transition: Linking the Role of Green Innovation and Environmental Policy in E7 Countries*, 4th September 2022.
- Ian Parry, Simon Black, and Karlygash Zhunussova, *Carbon Taxes or Emissions Trading Systems? Instrument Choice and Design*, IMF Staff Climate Note, International Monetary Fund, Washington, DC, July 2022.
- Hemangi Gokhale, Japan's carbon tax policy: Limitations and policy suggestions, Current research in Environmental sustainability, Volume 3, 2021, 100082. (Available at: https://www.sciencedirect.com/science/article/pii/S266604902100058X)
- *The future of work in the automotive industry: The need to invest in people's capabilities and decent and sustainable work*, Issues paper for the Technical Meeting on the Future of Work in the Automotive Industry, ISBN 978-92-2-031863-8, Geneva, 15–19 February 2021, International Labour Office, Sectoral Policies Department, Geneva, ILO, 2020. (Available at: https://www.ilo.org/wcmsp5/groups/public/---ed_dialogue/---sector/documents/meetingdocument/wcms_741659.pdf)
- Faisal Sherwani and Achal Gupta, *India: Climate Change - Indian Law and Judiciary,* 02 June 2020. (Available at: https://www.mondaq.com/india/clean-air-pollution/945304/climate-change--indian-law-and-judiciary)
- Madeleine Hillyer*, "What the Car Industry has Done to Help Fight Climate Change – and What it Needs to Do Next*" (WEF, 2019).
- Kenneth Gillingham and James H. Stock*, The Cost of Reducing Greenhouse Gas Emissions, The Journal of Economic Perspectives*, Vol. 32, No. 4 (Fall 2018), pp. 53-72, American Economic Association. (Available: https://www.jstor.org/stable/10.2307/26513496).
- Richard L. Ottinger, Elisabeth Haub, *UN Environment Guide for Energy Efficiency and Renewable Energy Laws,* School of Law at Pace University, 2016.

- Muthukumara Mani and Fan Zhang, *From Carbon Subsidy to Carbon Tax: India's Green Actions, "Seize the Day",* The Economist, January 17, 2015. (Available at: https://www.indiabudget.gov.in/budget2015-2016/es2014-15/echapvol1-09.pdf)
- Paris Agreement to the United Nations Framework Convention on Climate Change, 12th December 2015, T.I.A.S. No. 16-1104. (Available at: https://unfccc.int/sites/default/files/english_paris_agreement.pdf)
- Umeda Sayuri, Japan: Carbon Tax, December 2012, Law Library of Congress, LL File No. 2013-008750 LRA-D-PUB-000006. (Available at: https://heinonline.org/HOL/Page?handle=hein.llcr/locaelc0001&id=1&collection=llcr&index=)
- Arindam Basu, *Climate Change Litigation in India: Seeking A New Approach Through the Application of Common Law Principles*, Environmental Law & Practice Review, vol. 1, 2011, at pg. 34. (Available at: http://www.commonlii.org/in/journals/NALSAREnvLawPRw/2011/3.pdf)
- David Freestones, *The International Climate Change legal and Institutional Framework: An Overview*, in Legal Aspects of Carbon Trading: Kyoto, Copenhagen and Beyond, David Freestones et al. eds., 2009, at 5.
- Sekitan e no kazei ni tsuite, *Regarding Taxation on Coal*, Agency for Natural Resources and Energy (2003), (Available at: http://www.enecho.meti.go.jp/info/coal/leaflet_coaltax030926.pdf) (in Japanese).
- Shyam Divan, Armin Rosencranz, *Environmental Law and Policy in India: Cases, Materials And Statutes*, 2002, 2nd ed., 2002 at pg. 87.
- David Hunter, James Salzman and Durwood Zaelke, *International Environmental Law and Policy,* 2nd ed., 2002, at 590.
- 1992 United Nations Framework Convention on Climate Change, FCCC/INFORMAL/84 GE.05-62220 (E) 200705 was adopted at the United Nations Conference on Environment and Development (UNCED). (Available at: https://unfccc.int/resource/docs/convkp/conveng.pdf)
- United Nation Climate Action. Available at: https://www.un.org/en/climatechange/net-zero-coalition
- Copenhagen Climate Change Conference - December 2009; (Available at: https://unfccc.int/conference/copenhagen-climate-change-conference-december-2009)
- Sustainable Development goals (SDGs), See https://sdgs.un.org/goals
- National Action Plan on Climate Change (NAPCC), Ministry of Environment, Forest and Climate Change, 2008. (Available at: https://static.pib.gov.in/WriteReadData/specificdocs/documents/2021/dec/doc202112101.pdf)
- Kyoto Protocol to UNFCCC, Dec. 10, 1997, 37 I.L.M. 22 (1998) (Available at: https://unfccc.int/resource/docs/convkp/kpeng.pdf).