

# ***Legislative Arrangement of Carbon Tax Included in Environmental Protection Tax: A Comparison of the People's Republic of China and the United Kingdom***

**Man Ting Chan<sup>1,a,\*</sup>**

<sup>1</sup>*Birmingham Research Park, University of Birmingham, 97 Vincent Drive, Birmingham, B15 2SQ, UK*

*a. mtc103@student.bham.ac.uk*

*\*corresponding author*

**Abstract:** This research paper delves into an in-depth analysis of the legislative framework surrounding carbon taxation within the broader context of environmental protection taxes. It places a keen focus on how these policies can play a pivotal role in combatting climate change while also assessing their potential ramifications on sustainable development strategies. The paper meticulously scrutinizes the hurdles and prospects associated with the effective implementation of carbon taxes, shedding light on their systemic importance and their capacity to catalyze the production of cleaner, more sustainable fuels. In a comparative examination, this study contrasts the legislative structures governing carbon tax within the environmental protection tax regimes of the People's Republic of China and the United Kingdom. This involves a comprehensive evaluation of the legal foundations, tax bases, tax rates, and the allocation of tax revenues in both jurisdictions. Ultimately, the findings reveal distinct approaches to carbon tax legislation in these two nations. The paper not only underscores the differences but also recommends judicious legislative adaptations that can strike a harmonious balance between environmental efficacy and economic feasibility, thus fostering a sustainable future.

**Keywords:** carbon emissions, policy instrument, environmental protection, priorities

## **1. Introduction**

Carbon emissions contribute massively to climate change, affecting all our planet's inhabitants [1]. These emissions come mainly from fossil fuel combustion in transportation and industrial sectors, directly connecting with the economy. If these emissions were to be curbed, the economies would suffer. Hence, the legal minds worldwide committed to climate change reversal and sustainable development were challenged by the negative impact of climate change policies on the economies. Pricing carbon emissions can be achieved by imposing a Carbon Tax [2]. A carbon tax is an explicit form of pricing that is directly set on carbon dioxide emissions. They devised a new arrangement to curb the pressing issue of climate change by including a carbon tax in the environmental protection policy. The carbon tax is a policy instrument designed to mitigate the release of greenhouse gases by imposing a price on the carbon content of fossil fuels. The utilization of carbon tax money can be

allocated towards the support of environmental preservation initiatives and the advancement of sustainable development.

Recently, numerous nations have adopted carbon taxes as a component of their environmental strategies. As an illustration, Sweden implemented a carbon price in 1991, a policy measure that has proven effective in mitigating greenhouse gas emissions and concurrently creating fiscal gains for the government [3]. Similarly, the province of British Columbia in Canada enacted a carbon price in 2008, a policy measure that has successfully mitigated emissions and fostered clean energy alternatives concurrently.

The legislative framework for implementing carbon taxes in the context of environmental protection taxation exhibits variations across different countries. In certain instances, carbon taxes are implemented independently as individual policies, and in other circumstances, they are incorporated into more comprehensive tax schemes aimed at environmental preservation. This may be observed in China's implementation of an environmental protection tax legislation in 2018, encompassing levies on air and water pollutants and a carbon tax [4]. The primary objective of the legislation is to advance the concept of sustainable development by incentivizing corporations to decrease their emissions and allocate resources towards adopting renewable energy alternatives.

The European Union (EU) is now considering implementing a carbon tax as a component of the European Green Deal, a comprehensive initiative to achieve climate neutrality inside the EU by the year 2050. As part of this proposal, a carbon border adjustment mechanism (CBAM) is being suggested, including imposing a tax on imported commodities from countries with less stringent climate policies than the EU. The primary objective of the Carbon Border Adjustment Mechanism (CBAM) is to mitigate "carbon leakage," which refers to the phenomenon wherein firms relocate their activities to nations with less stringent climate regulations to evade the financial obligations associated with emissions.

In conclusion, incorporating a legislative framework for implementing a carbon price within the context of an environmental protection tax is a significant policy instrument in addressing and reducing the adverse impacts of climate change. The implementation of carbon taxes has the potential to effectively mitigate greenhouse gas emissions while providing governments with a source of cash to allocate towards environmental conservation efforts and the advancement of sustainable development. The application of carbon taxes exhibits variability across different nations. However, they are progressively acknowledged as a potent policy instrument for mitigating climate change.

## 2. Necessity of Carbon Tax

Implementing a carbon tax is a crucial policy instrument aimed at constraining carbon emissions and alleviating the consequences of climate change [5]. They are implementing a carbon tax that accurately reflects the social cost of carbon, which is widely regarded as a crucial policy instrument to mitigate carbon emissions. Carbon Tax is an essential policy tool to limit carbon emissions and mitigate the effects of climate change. Carbon taxes can help reduce greenhouse gas emissions while generating revenue for governments to fund environmental protection measures and promote sustainable development. Carbon taxes are intended to make visible the concealed social costs of carbon emissions, which are felt only indirectly, like more severe weather events. The revenue generated from carbon taxes can be used to fund environmental protection measures and promote sustainable development. Nevertheless, the implementation of a carbon tax governments may hesitate due to the inherent political challenges associated with introducing new levies, primarily stemming from the presence of well-established commercial interests that stand to incur financial losses.

The implementation of a carbon price is deemed imperative to effectively mitigate climate change and curtail the release of greenhouse gas emissions. Although implementing a carbon price presents certain obstacles, it is becoming widely acknowledged as a potent policy instrument for tackling the

issue of climate change. Numerous nations have incorporated carbon tax into their environmental strategies. An illustration of this may be seen in the case of Sweden, where the implementation of a carbon tax in 1991 has proven to be efficacious in mitigating the release of greenhouse gas emissions. Furthermore, this policy measure has also yielded substantial fiscal benefits for the government [6]. In a similar vein, the province of British Columbia in Canada enacted a carbon price in the year 2008. This policy has proven to be efficacious in curbing emissions while concurrently fostering the adoption of clean energy alternatives. Carbon taxes can be imposed as independent policies or integrated into more comprehensive tax schemes aimed at environmental conservation. The user's text does not provide any information to be rewritten academically. This can be observed in China's implementation of environmental protection tax legislation in 2018. This legislation encompasses imposing taxes on air and water pollution alongside introducing a carbon tax. The primary objective of the legislation is to facilitate sustainable development by incentivizing corporations to mitigate their emissions and allocate resources towards adopting environmentally friendly energy alternatives.

The European Union (EU) is considering implementing a carbon tax as a component of the European Green Deal, a comprehensive initiative designed to achieve climate neutrality in the EU by 2050. As part of this proposal, a carbon border adjustment mechanism (CBAM) is being suggested, which would entail levying a tax on imported goods from countries with less stringent climate policies than the EU. The primary objective of the CBAM is to mitigate the risk of "carbon leakage," a phenomenon wherein companies relocate their operations to jurisdictions with less rigorous climate regulations to evade emissions-related costs.

### **3. Comparison of Regulations on Carbon Tax in China and the UK**

The legislative framework for implementing carbon taxes in the context of environmental protection tax exhibits variations across different countries. China is recognized as the foremost contributor to global greenhouse gas emissions, constituting approximately 30% of worldwide emissions [7]. The year 2018 witnessed the implementation of an environmental protection tax law in China, encompassing levies on air and water pollution and a carbon tax. The primary objective of the legislation is to advance the concept of sustainable development by incentivizing corporations to mitigate their emissions and allocate resources towards adopting environmentally friendly energy alternatives. Currently, the carbon tax rate in China stands at 5 yuan (\$0.78) per metric ton of carbon dioxide (CO<sub>2</sub>) emitted.

In 2013, the United Kingdom implemented a carbon price floor, establishing a lower limit for the cost of carbon emissions from electricity production. The prevailing rate is £18.08 (\$24.28) per metric ton of carbon dioxide emitted. The United Kingdom actively participates in the European Union Emissions Trading System (ETS). This established cap-and-trade mechanism restricts the quantity of greenhouse gases permissible for release by power plants and industrial establishments. A notable disparity between the carbon taxing strategies employed by China and the United Kingdom is the magnitude of the imposed taxes. Although comparatively modest, China's carbon tax rate has effectively mitigated emissions within specific industries. The higher carbon price floor implemented in the United Kingdom has successfully mitigated emissions stemming from electricity generation. Nevertheless, the approach has faced criticism due to its perceived inadequacy in driving substantial reductions in emissions across many sectors.

One notable distinction between China's and the United Kingdom's carbon taxing strategies is their priorities. The prioritization of economic expansion in China has raised apprehensions regarding the potential weakening or insufficient enforcement of environmental standards. Nevertheless, China has demonstrated noteworthy advancements in mitigating its emissions by implementing several measures, including setting renewable energy objectives and pledging to reach its emissions peak by 2030. In contrast, the United Kingdom has made a firm commitment to achieve a state of net-zero

emissions by the year 2050. The UK's commitment to decreasing emissions across all industries has been motivated by this ambitious aim.

International influences also influence the restrictions on carbon tax in China and the UK. China, as a nation in the process of development, encounters demand from developed countries to mitigate its emissions and actively participate in global endeavors aimed at combating climate change. Nevertheless, wealthy nations like the United Kingdom must confront the mounting demand to adopt more ambitious measures in addressing climate change, considering their historical culpability in contributing to greenhouse gas emissions. China and the UK have adopted strategies to mitigate greenhouse gas emissions using carbon taxes; nevertheless, notable distinctions exist in their methodologies. The observed disparities can be attributed to variations in their respective agendas and the influence of global influences [8].

Developed countries have significant industrialization, economic advancement, and human development. Moreover, these nations have been tremendous contributors to the overall carbon emissions on a worldwide scale. This may be attributed to their historical dependence on fossil fuels to meet their energy demands and support their economic endeavors. In 2019, the World Bank reported that countries classified as high-income contributed to almost 38% of the total global carbon dioxide (CO<sub>2</sub>) emissions. Remarkably, these nations constituted a mere 16% of the worldwide population. Hence, it can be argued that industrialized nations bear a heightened obligation and possess a higher capability to curtail their greenhouse gas emissions and address the challenges posed by climate change [9].

Implementing a carbon tax can result in elevated energy and product prices, impacting the competitiveness of industries, the income of households, and the welfare of vulnerable populations. To tackle these concerns, it may be necessary for industrialized nations to devise carbon tax plans with characteristics such as revenue neutrality, progressiveness, or compensatory measures. Conversely, these entities must navigate the international pressures and expectations from other nations, particularly those in the development process. There is a prevalent call for developed countries to assume a proactive role in establishing aggressive targets for reducing emissions and offering financial and technical support to developing countries. In addition, it is anticipated that they would exhibit their dedication and reliability in the execution of domestic carbon tax measures while also helping worldwide carbon tax goals.

Developing countries are characterized by their lack of substantial industrialization, limited economic growth, and inadequate levels of human development. Individuals in this particular group are additionally described as being very susceptible to the consequences of climate change because of their restricted access to resources and limited ability to manage and mitigate the detrimental effects effectively. In 2019, the World Bank reported that low- and middle-income nations were responsible for 62% of global carbon dioxide (CO<sub>2</sub>) emissions [10-12]. Interestingly, these countries also constituted 84% of the worldwide population. Hence, it is imperative for developing nations to prioritize the reduction of their emissions and undertake measures to adapt to the impacts of climate change.

Nevertheless, developing nations encounter distinct obstacles and prospects when it comes to the implementation of carbon taxation. On the one hand, individuals must prioritize their developmental needs and objectives above their responsibilities to reduce emissions. Implementing a carbon tax can impede economic growth and hinder poverty reduction initiatives, as it may lead to elevated energy costs and increased expenses associated with development inputs. To mitigate these issues, it may be necessary for developing nations to design carbon tax frameworks that exhibit characteristics such as revenue generation, poverty alleviation, and alignment with their development strategies. However, they must harness other nations' worldwide assistance and collaboration, particularly those economically advanced. Developing countries stand to gain advantages from financial and technical

aid by wealthy nations to facilitate their transition towards low-carbon economies. Furthermore, they can engage in the international carbon market, enabling them to exchange their emission reductions for financial gains or investment opportunities.

#### **4. What Is a Reasonable Legislative Arrangement for a Carbon Tax**

A carbon tax refers to a monetary charge levied on the combustion of fossil fuels, including but not limited to coal, oil, and gas. The primary objective of implementing this tax is to mitigate the emission of carbon dioxide and other greenhouse gases into the atmosphere, thereby addressing their significant role in exacerbating climate change. The underlying concept of a carbon tax is around the imposition of higher costs on the utilization of fossil fuels, hence incentivizing individuals and enterprises to transition towards cleaner and sustainable energy alternatives.

There are multiple methods for devising a carbon tax, with the prevailing process establishing a specific monetary value per metric ton of carbon dioxide emissions. According to economic theory, it is recommended that a carbon tax be set at a level equivalent to the social cost of carbon. This cost represents the projected present value of the environmental harm incurred over time due to the emission of an additional ton of carbon dioxide in the present day. The tax rate must be increased gradually to accurately account for the escalating harm anticipated due to climate change. A progressive rise in prices over time also indicates to emitters that they will be required to take more action and that their investments in more advanced technology will be financially viable. One of the primary difficulties associated with implementing a carbon price is accurately predicting the extent to which emissions would be reduced as a direct consequence of a specific tax rate.

An appropriate legislative framework for implementing a carbon fee would encompass several essential components. Initially, it is imperative to establish a tax rate that is sufficiently elevated to incentivize substantial reductions in greenhouse gas emissions. As per the Intergovernmental Panel on Climate Change (IPCC) findings, to restrict global warming to 1.5 degrees Celsius, it is imperative to establish a worldwide carbon price of \$135 per metric ton of carbon dioxide (CO<sub>2</sub>) by the year 2030. Nevertheless, implementing such a taxation level may encounter political challenges in certain nations. Hence, policymakers must strive for a pricing mechanism harmonizing environmental efficacy and economic viability.

Furthermore, the funds generated from the carbon tax must be allocated in a manner that yields societal benefits on a broader scale. Potential measures to address these issues include giving financial resources towards developing renewable energy initiatives, enhancing public transportation infrastructure, and providing subsidies targeting low-income people. By strategically allocating the funds, governments have the potential to mitigate adverse economic consequences of the tax and simultaneously facilitate the shift towards a low-carbon economy. Furthermore, it is also imperative to ensure that the design of the carbon price is such that it mitigates adverse effects on communities that are particularly susceptible to its consequences. One potential value of the levy is that low-income households may see a disproportionate impact due to increased energy prices. Policymakers should deliberate strategies to alleviate these repercussions, such as implementing focused rebates or allocating resources towards energy efficiency initiatives.

Ultimately, it is crucial to guarantee that the carbon tax is executed equitably and characterized by transparency. One potential approach to address this matter is establishing an autonomous regulatory entity tasked with overseeing the execution of the tax policy and guaranteeing its equitable application across various sectors of the economy. An appropriate legislative framework for a carbon tax would entail establishing a price point that strikes a harmonious equilibrium between environmental efficacy and economic viability. Additionally, the revenue generated from this tax should be allocated in manners that yield societal advantages on a comprehensive scale while concurrently mitigating



adverse consequences for susceptible demographics. Furthermore, it is imperative to guarantee equitable and transparent implementation of the tax.

## 5. Conclusion

Carbon emissions significantly contribute to climate change, primarily from fossil fuel combustion. Countries have implemented carbon taxes as part of their environmental strategies to combat this. Countries like Sweden and British Columbia have successfully implemented carbon taxes, reduced emissions, and promoted sustainable development. The legislative framework for implementing carbon taxes varies across countries, with some implemented independently and others integrated into more comprehensive tax schemes. The European Union is considering implementing a carbon tax as part of the European Green Deal, aiming for climate neutrality by 2050. The Carbon Border Adjustment Mechanism (CBAM) is being proposed to mitigate carbon leakage, where firms relocate to countries with less stringent climate regulations to avoid financial obligations. Despite political challenges, carbon taxes are increasingly recognized as a potent policy instrument for mitigating climate change. They can be imposed as independent policies or integrated into comprehensive tax schemes to incentivize corporations to reduce emissions and adopt environmentally friendly energy alternatives.

The European Union is considering implementing a carbon tax as part of the European Green Deal to achieve climate neutrality by 2050. The proposed carbon border adjustment mechanism (CBAM) aims to mitigate carbon leakage by taxing imported goods from countries with less stringent climate policies. China, the leading contributor to global greenhouse gas emissions, implemented an environmental protection tax law in 2018 with a carbon tax rate of 5 yuan (\$0.78) per metric ton of CO<sub>2</sub> emitted. The UK implemented a carbon price floor in 2013 and actively participates in the European Union Emissions Trading System. However, the UK's commitment to achieving net-zero emissions by 2050 has led to criticism. Both countries have adopted strategies to mitigate greenhouse gas emissions through carbon taxes, but their methodologies differ due to their respective agendas and global influences.

Developing countries need help implementing carbon taxation due to their lack of industrialization, limited economic growth, and inadequate human development. They are responsible for 62% of global CO<sub>2</sub> emissions and 84% of the worldwide population. To address these issues, developing nations should design carbon tax frameworks that generate revenue, alleviate poverty, and align with their development strategies. They should also seek financial and technical aid from advanced nations to facilitate their transition to low-carbon economies. A suitable legislative framework for a carbon tax should establish a high tax rate to incentivize significant emissions reductions, allocate funds for renewable energy initiatives, improve public transportation infrastructure, and provide rebates for low-income households. The tax should be executed fairly and transparently, with an autonomous regulatory entity overseeing its implementation across various sectors.

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