

**Function of the carbon border tax in climate
policy and compatibility with WTO law.**

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Summary

In the international community, there has always been a healthy skepticism concerning any hindrance to trade. However, the climate change crisis calls for measures that might seem drastic to avoid major damages as a result of climate change.

By assessing whether a carbon border tax (CBT) as suggested by the EU is legal under WTO law, this paper finds that the CBT could fall within the exceptions of the GATT, meaning that it could be legal under WTO law. However, the question of measures combating climate change is not only compatibility with WTO regime, it should be compatible with international climate change law. This paper finds in the end as well that CBT could be an advanced version of carbon tax due to universal tax rates, scope of tax exemption, revenue usage, moreover relying on reviews of economists, it could be relatively effective measure to mitigating carbon leakage.

Keywords

Carbon Border Tax, Climate Change, European Green Deal, European Union, General Agreement on Tariffs and Trade (GATT), World Trade Organization

Foreword

This thesis was written in completion of a Master of Public International Law at the University of Oslo. This work explores the feasibility of carbon border tax in light of WTO regime and its function in climate policy.

I would like to thank my thesis supervisor Professor Catherine Banet first and foremost for her support and guidance. I would have not been able to write this thesis without her assistance. On top of that I would like to express my appreciation for her lectures in International Climate Change and Energy Law at the University of Oslo.

Secondly, I would like to thank my family members, who despite of being overwhelmed at work and risked their lives, like all doctors participating in the fight against Covid-19 found time to cheer me up. Special thank to my father, who always finds proper words to encourage me.

List of Abbreviations

CBA	Carbon border adjustment
CBT	Carbon border tax
CBDR	Common But Differentiated Responsibilities
CGE	Computable General Equilibrium
CO₂	Carbon dioxide
DSB	Dispute Settlement Body
ETR	Environmental Tax Reform
ETS	Emissions Trading Scheme
EU	European Union
GATT	General Agreement on Tariffs and Trade
GATTS	General Agreement on Trade and Services
GHG	Greenhouse gas
IPCC	Intergovernmental Panel on Climate Change
TRIPS	Agreement on Trade-Related Aspects of Intellectual Property Rights
TPP	Trans-Pacific Partnership
TTI	Transatlantic Trade and Investment Partnership
UNFCCC	United Nations Framework Convention on Climate Change
WTO	World Trade Organization

1 INTRODUCTION

1.1 Research context

‘Climate change and its adverse effects are a common concern of humanity’.¹ The reports of the Intergovernmental Panel on Climate Change state that climate change is already negatively affecting species and natural systems.² Most likely the movement of goods by vehicles, rail and vessels creates GHG emissions, moreover, the extent of economic growth and the emissions attendant to growth are often seen as a source of rise in GHG emissions. Economic growth from trade of developing countries like India and China may cause emissions increase as well. At the same time, climate change policies may be harmful to trade: climate policies may impose high costs on industry, potentially reducing the competitiveness of these industries in global economy.³ Developing countries are concerned that while developed countries became rich through carbon-intensive economies, they will not have the opportunity to help their citizens out of poverty by strictures on GHG emissions.⁴ The average world temperature has been rising over the period of time. Carbon dioxide is the main contributor to global warming along with other greenhouse gases that are danger to the climate. Its average atmospheric concentration has increase in twentieth century from around 280 parts per million to 387.⁵ Markets maximize their profits taking into account their preferences, individuals obtain their benefits of driving and flying and the cost is shifted to future generations.⁶ Climate change leads to a more vulnerable world: we are facing future where droughts, floods, heat waves, wildfires and destructed storms are expected to increase.⁷ It will affect water and food availability, energy decisions, which will have large costs in economic and human security.⁸ In order to achieve ‘holding the increase in the global average temperature below 2⁰C’⁹ states need to use leverages, such as taxes. Recent developments in climate change and trade brought the climate-trade nexus into new relief.¹⁰ Some

¹ United Nations Framework Convention on Climate Change (UNFCCC)

² IPCC, Climate Change 2007: Synthesis Report. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

³ Tracey Epps and Andrew Green. ‘*Reconciling Trade and Climate. How the WTO Can Help Address Climate Change.*’ University of Toronto, Canada, 2010

⁴ Ibid. [4].

⁵ World Development Report 2010

⁶ Tracey Epps and Andrew Green. ‘*Reconciling Trade and Climate. How the WTO Can Help Address Climate Change.*’ University of Toronto, Canada, 2010

⁷ Michael B. McElroy and D. James Baker. ‘Climate extremes: Recent Trends with Implications for National Security.’ Available at: http://vjel.vermontlaw.edu/files/2014/06/Baker_forprint.pdf. Accessed on 8 August 2020

⁸ Ibid.[731]

⁹ Paris Agreement (adopted 12 December 2015, entered into force 4 November 2016) UNTS Number 54113, 1.

¹⁰ Andrew Prag, Background Paper for the 39 th Round Table on Sustainable Development, ‘The Climate Challenge and Trade: Would border carbon adjustments accelerate or hinder climate action?’. Available at: <https://www.oecd.org/sd-roundtable/papersandpublications/The%20Climate%20Challenge%20and%20Trade...%20background%20paper%20RTSD39.pdf>. Accessed on 27 August 2020

countries are pursuing an ambitious policy, when trade tensions between major economies have heightened promoting unilateral tariff responses, contributing to a more regional than global approach to governing trade.¹¹ These developments have led to debates related to ‘carbon leakage’ and potential measures to address it.¹² Carbon leakage occurs when stringent climate policy, especially carbon pricing leads to emissions increasing in countries with less stringent regulation because of relocation of production or capital.¹³ As parties to the Paris Agreement engage in more ambitious mitigation effects, the need to combat leakage becomes more actual. Carbon border adjustment (CBA) is promising to do that.¹⁴ The new discussion has been risen by the European Commission’s proposal to implement a carbon border adjustment as a part of the European Green Deal.¹⁵ However, carbon border adjustments are controversial, the potential effects of its adoption will be scrutinised.¹⁶ These effects include not only mitigating carbon leakage, but also will affect economic sectors. Implementation of the carbon border adjustments could be challenged by the trading partners worried about disguised protectionism, whether in the form of disputes through the World Trade Organization (WTO) or other trade-related relation.¹⁷

Although, it is clear that action is necessary to mitigate the damages on Earth as a result of climate change, it is not entirely clear how it is to be done under the international trade law regime undertaken by the WTO. So far there is a very limited experience of CBA and this measure has been more theoretical. The California cap-and-trade system has a CBA in place for electricity, however changes in its design because of the pressure from firms contested its effectiveness.¹⁸ Another issue is a carbon pricing. If the product is eligible for the CBA, a methodology is needed to calculate its emissions content, after determining the embodied emissions calculation, a carbon price should be established.¹⁹ If companies in implementing country are regulated with carbon tax, it should be ground for the price charged to the exporting country’s companies.²⁰ In case of

¹¹ Ibid.[4]

¹² Ibid. [4]

¹³ Ibid.[4]

¹⁴ Michael A. Mehling, Harro van Asselt, Kasturi Das, Susanne Droege and Cleo Verkuijl. “*Designing Border Carbon Adjustments for Enhanced Climate Action*”. American Journal of International Law, volume 113, issue 3 (July 2019).

¹⁵ The European Commission, Communication from the Commission, “*The European Green Deal*” COM/2019/640. (2019)

¹⁶ Andrew Prag, Background Paper for the 39 th Round Table on Sustainable Development, ‘The Climate Challenge and Trade: Would border carbon adjustments accelerate or hinder climate action?’, available at: <https://www.oecd.org/sd/roundtable/papersandpublications/The%20Climate%20Challenge%20and%20Trade...%20background%20paper%20RTSD39.pdf>

f. Accessed on 27 August 2020.

¹⁷ Ibid.[4]

¹⁸ Ibid. [4]

¹⁹ Aaron Cosbey, Susanne Droege, Carolyn Fisher and Clayton Munnings. ‘Developing Guidance for Implementing Border Carbon Adjustments: Lessons, Cautions, and Research Needs from the Literature’, Review of Environmental Economics and Policy Journal, volume 13 (1), 2019

²⁰ Ibid. [16]

using cap-and-trade of implementing country, importers could be required to purchase allowances to cover their emissions.²¹ Another option is to allow importers to purchase international carbon offsets up to determined value of the adjustment.²² In order to avoid fluctuation of prices, importers should be afforded the same compliance timeframe as domestic companies.²³ Price for the CBA and compliance mechanism should keep as closely as possible to the terms faced by domestic companies.²⁴ Unfavorable treatment of foreign companies could violate GATT's national treatment provisions.²⁵

Designing a CBA requires a balancing act between three competing axes: the feasibility of administering the mechanism, adhering to international legal obligations and meeting environmental objectives such as effectiveness.²⁶ Environmental effectiveness includes: mitigating risk of carbon leakage, driving innovation for decarbonisation, encouraging other countries to adopt policies to reduce emissions and leverage to achieve multilateral climate cooperation.²⁷

The goal of this paper is to assess whether a measure such as the CBT is legal under the current WTO law and whether the CBT could be an effective measure to combat climate change, taking into account the balancing of arguments for and against it, how exporters may challenge the levy, what the possible alternatives are, and the complexity of the legal framework that is needed to evaluate whether it falls within a GATT exception and its compatibility with international climate change regime.

1.2 Ongoing discussions on feasibility of carbon border tax in Europe

Political opposition to measures aimed reducing GHG emissions rise from concerns about negative effects on the competitiveness of domestic companies.²⁸ They fear that imports from countries without similar regulations can gain cost-of-production advantages over domestic products.²⁹ A parallel concern includes risk of 'carbon leakage' – the potential undermining of the environmental effects of climate policy due to production and investment shifting to

²¹ Ibid. [16]

²² Ibid. [16]

²³ Ibid. [16]

²⁴ Ibid. [16]

²⁵ Ibid. [16]

²⁶ Johanna Lehne and Oliver Sartor. 'Navigating the politics of border carbon adjustments'. Available at <https://www.e3g.org/publications/navigating-the-politics-of-border-carbon-adjustments/>. Accessed on 6 October 2020.

²⁷ Ibid. [7]

²⁸ Madison Condon and Ada Ignaciuk. 'Border Carbon Adjustment and International Trade: A Literature Review', *OECD Working Paper No. 6*. Available at: <https://www.ssrn.com/abstract=2693236>. Accessed on 8 June, 2020

²⁹ Ibid.[4]

jurisdictions with less stringent regulation on carbon emissions.³⁰ One of the solutions of carbon leakage is extending carbon regulation to imports.³¹ It has risen myriads of academic and political debates over the years, as a part of a broader discussion about the interaction of climate and trade policy.³² The Round Table on Sustainable Development addressed the issue in 2009, trade and development issues - in 2017.³³ Different adjustments have been proposed, including levying a border tax or requiring importers to surrender a quantity of carbon permits.³⁴ These adjustments are often referred to as carbon border adjustments.³⁵ Both issues on carbon leakage and competitiveness have been central considerations in the design of border policies.³⁶ The European Commission has stated its intention to implement a ‘carbon border adjustment mechanism’ as a part of the European Green Deal strategy. The proposal aims to reduce carbon footprint of the EU to zero by 2050³⁷ and EU’s intention is to become the first carbon-neutral bloc.³⁸ Although, the European Commission has not set up price targets, for committing the goal of limiting global warming to a maximum 1.5 Degree Celsius, prices should exceed 100 euro per ton.³⁹ Taking into account this price, the competitiveness of European companies could be affected negatively, especially energy-intensive industries like plastic and rubber producers, chemical industries, mineral producers and oil refineries.⁴⁰ In order to protect them, The European Commission is trying to impose a carbon tax on imports.⁴¹

However, the proposed carbon border mechanism faces legal, political and technical barriers.

³⁰ Andrew Prag, Background Paper for the 39 th Round Table on Sustainable Development, ‘The Climate Challenge and Trade: Would border carbon adjustments accelerate or hinder climate action?’. Available at: <https://www.oecd.org/sd-roundtable/papersandpublications/The%20Climate%20Challenge%20and%20Trade...%20background%20paper%20RTSD39.pdf> Accessed on 27 August 2020

³¹ Ibid. [6]

³² Ibid. [6]

³³ Ibid. [6]

³⁴ Madison Condon and Ada Ignaciuk. ‘Border Carbon Adjustment and International Trade: A Literature Review’, *OECD Working Paper No. 6*. Available at: <https://www.ssrn.com/abstract=2693236>. Accessed on 8 June, 2020

³⁵ Ibid [4]

³⁶ Ibid [4]

³⁷ Gerben Heminga and Timme Spakman ‘EU carbon border tax: Unnecessary for now but still a good idea’. Available at: <https://think.ing.com/articles/eu-carbon-border-tax-unnecessary-for-now-but-still-a-good-idea/#:~:text=EU%20firms%20have%20to%20pay,the%20costs%20of%20imported%20intermediates.&text=However%2C%20the%20carbon%20tax%20also,efficient%20and%20reduce%20carbon%20emissions> Accessed on 18 July 2020.

³⁸ Eline Blot, Marianne Kettunen and Celine Charveriat. ‘Making trade work for EU climate policy: Carbon border adjustment or product standards’, 2020. Available at: <https://ieep.eu/publications/making-trade-work-for-eu-climate-policy-carbon-border-adjustment-or-product-standards>. Accessed on 20 May 2020

³⁹ Gerben Heminga and Timme Spakman ‘EU carbon border tax: Unnecessary for now but still a good idea’. Available at: <https://think.ing.com/articles/eu-carbon-border-tax-unnecessary-for-now-but-still-a-good-idea/#:~:text=EU%20firms%20have%20to%20pay,the%20costs%20of%20imported%20intermediates.&text=However%2C%20the%20carbon%20tax%20also,efficient%20and%20reduce%20carbon%20emissions> Accessed on 18 July 2020.

⁴⁰ Ibid. [1]

⁴¹ Ibid. [1]

1.3 Methodology and legal sources

This work, based on method of legal research, will analyse applicable international legal sources and other relevant sources related to carbon border tax in climate and trade policies. It applies both *de lege lata* and *de lege ferenda* approach to consider the possibility of carbon border tax implementation. Both primary and subsidiary sources will be examined in this work. Analysis of primary sources will include WTO⁴², GATT⁴³, GATS⁴⁴, UNFCCC⁴⁵, Agreement on Subsidies and Countervailing Measures⁴⁶, Paris Agreement⁴⁷ and the EU legislation.

This thesis mostly explores scholarly works related to International Climate Change Law and International Trade Law. General WTO regime is examined within this work in order to conclude whether carbon border tax is compatible with WTO law, in particular Article XX of GATT on General exceptions. The idea is to justify implementation of carbon border tax under the Article XX. For the clarification of this issue some relevant WTO cases will be examined. Compatibility of carbon border tax with WTO regime is also significant for the discussion since the research question includes climate policy. The EU legislation presents different EU Commission's proposal and past experiences on this issue. Supplementary sources related to economics and statistical reports will be used in thesis as well.

1.4 Structure

This work consists of 5 chapters, including introduction and conclusion.

First of all, Chapter 1 identifies the central research questions analysed in thesis. It calls for mitigating carbon leakage since carbon is the main contributor to global warming, which causes climate change. It suggests to consider the possibility of introducing carbon border tax, which could be the main leverage to combating climate change.

Chapter 2 considers European and United State's current and past proposals on adopting carbon border tax. It is mostly focused of advantages of carbon border tax, such as: mitigating carbon leakage, 'levelling the playing field', market failure and emissions' impact on human health and highlights its drawbacks like: 'eco-imperialism', international regulation of free-market trade and relatively high cost of implementation. It suggests carbon border tax design options, scope and coverage. In order to be adopted the CBT should pass political challenges and the most important

⁴² Agreement Establishing the World Trade Organization (adopted 15 April 1994, entered into force 01 January 1995)

⁴³ General Agreement on Tariffs and Trade (adopted 30 October 1947, entered into force 01 January 1948)

⁴⁴ General Agreement on Trade in Services (adopted 15 April 1994, entered into force 01 January 1995)

⁴⁵ United Nations Framework Convention on Climate Change 1992 (adopted 9 May 1992, entered into force 21 March 1994) 1771 UNTS 107

⁴⁶ Agreement on Subsidies and Countervailing Measures (adopted 15 April, entered into force 01 January 1995)

⁴⁷ Paris Agreement (adopted 12 December 2015, entered into force 4 November 2016) UNTS Number 54113, 1.

are legal challenges under the WTO regime, this part of work mentions these obstacles and proposes three alternatives that could be viable.

Chapter 3 offers a detailed analysis of the compatibility of a carbon border tax with WTO rules. This part of thesis highlights the potential conflict between CBT and GATT rules. The national treatment under the Article III of the GATT states that imported products should be treated no less favourably than 'like' domestic and Article I of the GATT sets up the second principle of 'most-favoured nation treatment', these principles are essential for founding carbon border tax. Chapter 3 shows that carbon border adjustment could be structured in a way that reduces potential violation of GATT Articles I and III, since GATT Environmental Exceptions can justify it. Aside from the GATT, Agreement on Subsidies and Countervailing Measures is examined as well the applicability of Free Trade Agreements (Plurilateral and Preferential) as an option to introducing carbon border tax avoiding potential violation of WTO regime.

Chapter 4 examines practices of carbon tax in Finland, Sweden, Denmark, Norway and Iceland, shows its pros and cons in terms of its environmental effectiveness. It compares carbon tax with the CBT and argues that carbon border tax could be an improved version of carbon tax. This part of work ensures that the CBT could be compatible with principles of international climate change law, as there could be different design options. Finally, Chapter 4 answers another main question raised in this thesis related to the function of the CBT in climate policy. This chapter concludes relying to economic assessment of various economic reviews that carbon border tax is an effective measure to mitigate carbon leakage, hence combat climate change.

The final Chapter 5 will concludes in favour of the adoption of a carbon border tax. It suggests to implement a carbon border adjustment as a measure to reduce carbon leakage, since it could be in compliance with WTO regime.

2 ROLE AND IMPLEMENTATION OF THE CARBON BORDER TAX

Climate change is real and it is happening. That is the conclusion on the Intergovernmental Panel on Climate Change's (IPCC) special report 'Global Warming of 1,5 °C'. The report calls for action since delayed action only makes the climate change crisis worse.⁴⁸ This call for action was received by the European Union resulting in the suggestion of a Green Deal.⁴⁹ Amongst others, it contains an idea for a carbon border tax (CBT). The proposal from European Commission has revived the discussion on the possibility of adopting the CBT. However, there have been several attempts to introduce the CBT in different countries, which serve as useful experiences.

2.1 Current proposals and past experiences with the CBT

2.1.1 Objectives of the carbon border tax

Carbon border tax has two central functions: to level the playing field among competing producers, and to create political leverage for more ambitious climate action across countries.⁵⁰

Mitigation policies in a country that is highly integrated in international goods will have an impact on trade flows. A regulatory burden on domestic products in the form of an explicit carbon price form a tax or an emissions trading system, places competitive pressure on producers if they are not able to pass through the attendant costs. In this case imported goods can increase market share if they are cheaper. The international market share of domestic producers may decline if competitors in those markets do not face similar mitigation burden. The CBA can counteract these impacts by levelling the playing field. The second objective of the CBA is to pressure on climate laggards. The CBA is conditioned on climate performance and it can like sanctions shift the strategic calculation of laggard countries and force them to adopt more robust climate action. To achieve this twin objective, the CBA should be carefully designed to leave no doubt that they exclude protectionist motivations.⁵¹

2.1.2 The European Commission's most recent proposal for the carbon border tax as a part of the European Green Deal

The European Green Deal is a response and a commitment to tackling the increasing negative

⁴⁸ IPCC, 'Summary for Policymakers' in 'Global Warming of 1.5°C'. (2018)

⁴⁹ The European Commission, Communication from the Commission, "The European Green Deal" COM/2019/640. (2019)

⁵⁰ Michael A. Mehling, Harro van Asselt, Kasturi Das, Susanne Droege and Cleo Verkuijl. "Designing Border Carbon Adjustments for Enhanced Climate Action". American Journal of International Law, volume 113, issue 3 (July 2019).

⁵¹ Ibid. [441]

impacts of climate change.⁵² The President of the European Commission, Ursula von der Leyen, considers promoting action on climate change and allowing the EU to become the world's first climate-neutral continent as one of the greatest challenges and opportunities of our time.⁵³ Intending to respond to this challenge, the European Commission published a final communication on the 11th of December 2019, setting out the European Green Deal for the European Union and the citizens of the Union.⁵⁴ This Green Deal is seeking not only to increase the European Union's greenhouse gas (GHG) emission reduction target by 2030 from 40% to at least 50% compared with 1990 levels⁵⁵ but also to make the EU carbon neutral by 2050.⁵⁶ The European Commission will adopt a new, more ambitious strategy on adaptation to climate change, and one of the major proposals is to implement a carbon border adjustment mechanism, for selected sectors, to reduce risk of carbon leakage.

The final proposals on both drafts will be presented in 2021, together with a revision of the EU's GHG allowance system.⁵⁷

Furthermore, on 17 June 2020 the European Commission presented its White Paper 'on levelling the playing field as regards foreign subsidies', which aims of new regulatory framework built around three 'modules'. Module 1 is a general instrument addressing foreign subsidies causing distortions in the internal market. Module 2 addresses specifically distortions caused by foreign subsidies facilitating the acquisition of EU companies. The last Module 3 focuses on foreign subsidies in the context of EU public procurement procedure. The European Commission President Ursula von der Leyen had announced her wish to develop tools and policies to tackle better the distortive effects of foreign state ownership and subsidies in the internal market. The new instrument would have to be applied non-discriminatory as regards subsidies granted in all third countries.⁵⁸

2.1.3 Past European and United States' proposals for the carbon border tax

There have been three proposals for the carbon border adjustment at the European level.

In 2007 the European Commission introduced a form of CBA as a part of the proposed EU ETS

⁵² The European Commission, Communication from the Commission, "*The European Green Deal*" COM/2019/640. (2019)

⁵³ Ursula von der Leyen, *A Union that strives for more – My Agenda for Europe*, page 5.

⁵⁴ The European Commission, Communication from the Commission, "*The European Green Deal*" COM/2019/640. (2019)

⁵⁵ Ibid.

⁵⁶ Anna Dias, Stéphanie Seeuws, Agnieszka Nosowicz. "*EU Border Carbon Adjustment and the WTO: Hand in Hand Towards Tackling Climate Change*", *Global Trade and Customs Journal*, Volume 15, page 1 (2020).

⁵⁷ Jeannette Berseth, "*Forslag til ny klimalov i EU*", 2020

⁵⁸ The European Commission releases a White Paper on foreign subsidies. Available at: <https://www.steptoeinternationalcomplianceblog.com/2020/06/the-european-commission-releases-a-white-paper-on-foreign-subsidies-in-the-single-market/> Accessed on 5 July 2020

reform for its third phase (2013-2020)⁵⁹ included a new Article 29 (replacing Article 29 of the 2003 ETS Directive) which set out a ‘Future Allowance Import Requirement’ (FAIR). It would have applied to products, which exposed to risks of carbon leakage or unfair international competition trade partners commit to ‘binding and verifiable action to reduce greenhouse gas emissions comparable to the action taken by the Community’ (European Commission, 2007:Article 29.1).⁶⁰ In compliance with Article 29.2 calculation of the CBA for imports would have taken the equivalent of the goods’ average emissions in the EU, subtracted free allocation for its products and multiplied it with the weight of imported products.⁶¹ In Article 29.5, the Commission suggested an export adjustment through allowances and it would have been possible to meet FAIR obligation with these allowances, eligible offset credits issued under the Kyoto Protocol.⁶² In the end, the 2007 FAIR Proposal have not been adopted.

Two other proposals were initiated by France in 2009 and in 2016, following the signing of the Paris Agreement.⁶³ The 2009 proposal was described as ‘carbon inclusion’ mechanism that brought imports into the compliance of the scheme and required them to purchase allowances for production phase emissions.⁶⁴ This proposal was to address carbon leakage and contribute to global GHG emission reductions.⁶⁵ Current paper was developed to on a carbon inclusion mechanism for imports, export adjustments were not mentioned.⁶⁶ The proposal made references to the requirement for WTO compatibility with carbon inclusion mechanism, recommending two options to trigger the obligation to purchase allowances for imports.⁶⁷ First option was to cover states that would fail to cooperate in international climate agreement, deemed sufficiently ambitious by the EU.⁶⁸ The main criteria for satisfactory agreement was participation of

⁵⁹ Andrew Prag, Background Paper for the 39 th Round Table on Sustainable Development, ‘The Climate Challenge and Trade: Would border carbon adjustments accelerate or hinder climate action?’. Available at: <https://www.oecd.org/sd/roundtable/papersandpublications/The%20Climate%20Challenge%20and%20Trade...%20background%20paper%20RTSD39.pdf>. Accessed on 27 August 2020.

⁶⁰ Michael A. Mehling, Harro van Asselt, Kasturi Das, Susanne Droege and Cleo Verkuijl. “*Designing Border Carbon Adjustments for Enhanced Climate Action*”. American Journal of International Law, volume 113, issue 3 (July 2019).

⁶¹ Ibid. [449]

⁶² Ibid. [449]

⁶³ Andrew Prag, Background Paper for the 39 th Round Table on Sustainable Development, ‘The Climate Challenge and Trade: Would border carbon adjustments accelerate or hinder climate action?’. Available at: <https://www.oecd.org/sd/roundtable/papersandpublications/The%20Climate%20Challenge%20and%20Trade...%20background%20paper%20RTSD39.pdf>. Accessed on 27 August 2020

⁶⁴ Andrew Prag, Background Paper for the 39 th Round Table on Sustainable Development, ‘The Climate Challenge and Trade: Would border carbon adjustments accelerate or hinder climate action?’. Available at: <https://www.oecd.org/sd/roundtable/papersandpublications/The%20Climate%20Challenge%20and%20Trade...%20background%20paper%20RTSD39.pdf>. Accessed on 27 August 2020.

⁶⁵ Michael A. Mehling, Harro van Asselt, Kasturi Das, Susanne Droege and Cleo Verkuijl. “*Designing Border Carbon Adjustments for Enhanced Climate Action*”. American Journal of International Law, volume 113, issue 3 (July 2019).

⁶⁶ Ibid. [450]

⁶⁷ Ibid. [450]

⁶⁸ Ibid. [450]

developed economies in mitigation efforts.⁶⁹ Another option would have instead of products from countries without comparable approach to pricing emissions from relevant sectors.⁷⁰ Nevertheless, this proposal did not evolve into a formal legal proposal from the European Commission. The 2016 proposal was focused on cement sector, following previous initiative to cover cement importers in the EU ETS. Although, it moved forward to become an amendment to the draft EU ETS reform for the fourth phase, was voted down by the European Parliament.

Three national proposals have been put forward in the United States: the first was as part of the Low Carbon Economy Act in 2007, the second in 2009 was included in the Waxman-Markey bill known as the American Clean Energy and Security Act, the most recent 2019 Energy Innovation and Carbon Divided Act also includes a border adjustment measure in conjunction with a form of carbon tax, which very clearly aiming to allow justification under the exception of GATT Article XXb.⁷¹

The Low Carbon Economy Act targeted 2020, the adopting date was moved up in following bills, the American Clean Energy and Security Act failed to reach a vote in the Senate.⁷² Several further bills related to climate change were proposed, few had the scope and non of them political support. Several bills were on introduction of carbon tax. In 2017 the Climate Leadership Council released a proposal ‘The Conservative Case for Carbon Dividents’ for the introduction of the carbon tax, which would have been accompanied by the CBA for the carbon content of imports and exports.⁷³

2.1.4 Carbon border adjustment in practice: the Californian experience

This section examines California’s experience with including electricity imports in cap-and-trade program. Such an inclusion of electricity imports demonstrates a rare example of carbon border adjustment.⁷⁴ In September 2006 Arnold Schwarzenegger signed Assembly Bill (AB) 32⁷⁵ that directed the Air Resources Board (ARB) to reduce emissions to 1990 levels by 2020.⁷⁶ In October

⁶⁹ Ibid. [450]

⁷⁰ Ibid. [450]

⁷¹ Andrew Prag, Background Paper for the 39 th Round Table on Sustainable Development, ‘The Climate Challenge and Trade: Would border carbon adjustments accelerate or hinder climate action?’. Available at: <https://www.oecd.org/sd-roundtable/papersandpublications/The%20Climate%20Challenge%20and%20Trade...%20background%20paper%20RTSD39.pdf>. Accessed on 27 August 2020

⁷² Michael A. Mehling, Harro van Asselt, Kasturi Das, Susanne Droege and Cleo Verkuijl. “*Designing Border Carbon Adjustments for Enhanced Climate Action*”. American Journal of International Law, volume 113, issue 3 (July 2019).

⁷³ Ibid. [454]

⁷⁴ Stefan U. Pauer. Including electricity imports in California’s cap-and-trade program: A case study of a border carbon adjustment in practice. The Electricity journal. Volume 31, issue 10, December 2018

⁷⁵ The Global Warming Solutions Act of 2006 or Assembly Bill (AB) 32

⁷⁶ Stefan U. Pauer. Including electricity imports in California’s cap-and-trade program: A case study of a border carbon adjustment in practice. The Electricity journal. Volume 31, issue 10, December 2018

2011 the ARB adopted cap-and-trade program.⁷⁷ California's cap-and-trade system places the point of regulation on the first deliverer of electricity in electricity sector.⁷⁸ Two kinds of entities covered under this definition: operators of electricity generators and electricity importers. The compliance entities are required to surrender emission allowances both for electricity generated in state and electricity that imported out of state.⁷⁹ Thus, California applies carbon border adjustment on electricity imports in its cap-and-trade program.⁸⁰

CBA in California is the only in practice, operating at the sub-national level. Cap-and-trade system in California is covering around 85% of all GHG state's emissions⁸¹. The key factor in the design of CBA was the risk of resource shuffling. Resource shuffling can be described as a 'form of leakage [that] produces the false appearance of emission reductions without reducing net emissions to the atmosphere'⁸²

The original legislative proposal was designed to prevent contractual shuffling, but political compromise led to a weaker restriction on shuffling practice. The compromise process after the cap-and-trade system came into operation continued. Leakage due to shuffling is significant and could lead to emissions abatement. That is similar if the system did not cover electricity imports at all.⁸³ In 2017 the California legislature considered the possibility to extend the emissions trading framework beyond 2020, however in the end, introduced Assembly Bill 398, authorizing the continuation of the California emission trading system from 2021 to 2030.⁸⁴

Carbon border adjustment didn't become effective as originally intended but only in weakened form.⁸⁵

⁷⁷ Ibid. [39]

⁷⁸ Ibid [39]

⁷⁹ Ibid [39]

⁸⁰ Ibid. [39]

⁸¹ Andrew Prag, Background Paper for the 39 th Round Table on Sustainable Development, 'The Climate Challenge and Trade: Would border carbon adjustments accelerate or hinder climate action?'. Available at: <https://www.oecd.org/sd/roundtable/papersandpublications/The%20Climate%20Challenge%20and%20Trade...%20background%20paper%20RTSD39.pdf>. Accessed on 27 August 2020

⁸² Danny Cullenward, 'Leakage in California's Carbon Market' (2014) 27:9. The Electricity Journal 36 at 37 [Cullenward, 'Leakage'] as cited in Stefan U. Pauer. Including electricity imports in California's cap-and-trade program: A case study of a border carbon adjustment in practice. The Electricity journal. Volume 31, issue 10, December 2018

⁸³ Ibid. [14-15]

⁸⁴ Michael A. Mehling, Harro van Asselt, Kasturi Das, Susanne Droege and Cleo Verkuijl. "Designing Border Carbon Adjustments for Enhanced Climate Action". American Journal of International Law, volume 113, issue 3 (July 2019).

⁸⁵ Stefan U. Pauer. Including electricity imports in California's cap-and-trade program: A case study of a border carbon adjustment in practice. The Electricity journal. Volume 31, issue 10, December 2018

2.2 Pros and Cons of the CBT

2.2.1 Key arguments for the CBT

The CBT is already debated as a border adjustment mechanism. When analyzing the feasibility of the CBT it is important to be aware that there is a range of arguments both for and against it. The general conflict regarding the CBT is how to balance regulation, to combat climate change and the general idea of free trade, as expressed in WTO law. The following paragraphs give insight into some of the key arguments for and against the CBT as a measure for combating climate change. The CBT hits a central nerve in the international community since it could potentially limit free trade.

2.2.1.1 Carbon leakage

The CBT addresses the carbon leakage problem within climate change mitigation at its core.⁸⁶ Carbon leakage is the displacement of emissions that occurs when companies transfer production to countries that have less stringent requirements for GHG emissions.⁸⁷ The CBT is intended to target certain selected sectors, such as iron and steelmaking.⁸⁸

Carbon leakage is one measure of effectiveness of unilateral policies to reduce CO₂ emissions, which is very important because there are concerns about effectiveness of unilateral action, by the country acting alone in Environmental Tax Reform (ETR) or in the EU acting as a bloc in case when there is potential for carbon-intensive production to mitigate outside the country taking action. Ex ante analysis is mostly applied on carbon leakage and is about prospective leakage from policies which are being considered or which are just coming into force, using Computable General Equilibrium (CGE) models based on 1 year's data. Such analysis concerns future effects without immediate check against actual outcomes.⁸⁹

Ex ante studies focusing on heavy industry in EU predict relatively high rates of leakage: 55% in the iron and steel sector, and 40%-70% in the cement sector according to [Reinaud \(2008\)](#). When CBA emissions benchmarks are based on best available technologies, carbon leakage is reduced in the cement, steel and electricity sectors.⁹⁰

⁸⁶ Frédéric Simon, "Jury is still out' on EU's carbon border tax, Hogan says", 2020

⁸⁷ Michael A. Mehling, Harro van Asselt, Kasturi Das, Susanne Droege and Cleo Verkuijl. "Designing Border Carbon Adjustments for Enhanced Climate Action". *American Journal of International Law*, volume 113, issue 3 (July 2019).

⁸⁸ Jeannette Berseth, "Forslag til ny klimalov i EU", 2020 and Frédéric Simon, "Jury is still out' on EU's carbon border tax, Hogan says", 2020.

⁸⁹ Terry Barker, Sudhir Junankar, Hector Pollitt, Philip Summerton. 'Carbon leakage from unilateral Environmental Tax Reforms in Europe, 1995-2005'.

⁹⁰ Madison Condon and Ada Ignaciuk. 'Border Carbon Adjustment and International Trade: A Literature Review', *OECD Working Paper No. 6*. Available at: <https://www.ssrn.com/abstract=2693236>. Accessed on 8 June 2020.

2.2.1.2 ‘Leveling the playing field’

The European Commission President von der Leyen has highlighted a CBT as “a key tool” to “ensure that EU companies can compete on a level playing field” with countries outside of the EU that do not regulate CO₂ emissions from industry.⁹¹ Similarly, the French President Emmanuel Macron has characterized a carbon tax at the EU’s borders as “indispensable” for a fair ecological transition.⁹² The idea is that the CBT has to be introduced to protect EU industries against climate and environmental dumping.⁹³ By leveling the playing field, the CBT will also help create political leverage for more ambitious international climate action.⁹⁴ It could also be a powerful incentive for the countries to participate in multilateral negotiations and reach a green deal.

The potential policy mechanism for levelling the playing field and reducing carbon leakage is a border tax on imports from foreign energy-intensive industries – a ‘carbon tariff’.⁹⁵

2.2.1.3 Climate change as a market failure

While the free trade-argument is essential under the WTO law, it is also important to be aware that the whole climate change problem defies the classic market understanding. This problem has resulted in the climate crisis being called “the greatest and widest ranging market failure ever seen”.⁹⁶ The general idea is that the price on the free market should mirror the cost of the product. However, due to the nature of climate change it does not happen at the moment for products that are a burden on the climate.

It is difficult to assess whether there is a major economic deficit or if completely free trade will be able to solve climate change itself. However, in the WTO Agreement⁹⁷ preamble, it was recognized that it is important to ensure effective use of the world’s resources, meaning that the trade-off between international trade and environmental law is already recognised by the WTO. Similarly, the UNFCCC states that measures to combat climate change must not be disguised trade restrictions.⁹⁸ Recognizing the link between international trade and environmental law is crucial to exercising the necessary balance of the free markets and implementing measures that counteract climate change as a global issue.

⁹¹ Frédéric Simon, “*Jury is still out’ on EU’s carbon border tax, Hogan says*”, 2020

⁹² Michael A. Mehling, Harro van Asselt, Kasturi Das, Susanne Droege and Cleo Verkuijl. “*Designing Border Carbon Adjustments for Enhanced Climate Action*”. American Journal of International Law, volume 113, issue 3 (July 2019).

⁹³ Frédéric Simon, “*Jury is still out’ on EU’s carbon border tax, Hogan says*”, 2020.

⁹⁴ Michael A. Mehling, Harro van Asselt, Kasturi Das, Susanne Droege and Cleo Verkuijl. “*Designing Border Carbon Adjustments for Enhanced Climate Action*”. American Journal of International Law, volume 113, issue 3 (July 2019).

⁹⁵ Paul-Erik Veel. ‘Carbon Tariffs and the WTO: An Evaluation of Feasible Policies’. *Journal of International Economic Law*. Volume 12, issue 3, 2009. DOI:10.1093/jiel/jgp031.

⁹⁶ Tracey Epps and Andrew Green, “*Reconciling Trade and Climate*” (Edward Elgar, 2010), page 18

⁹⁷ ‘*Agreement Establishing the World Trade Organization*’ (1994).

⁹⁸ ‘*United Nations Framework Convention on Climate Change*’ (1992), article 3(5)

2.2.1.4 Carbon dioxide emissions' impact on human health and climate change

As level of CO₂ continue increasing, it will have significant effects on human. Although humans and animals are able to deal with elevated levels of CO₂ in the short-term, it may lead to chronic inflammation, kidney failure, bone atrophy and loss of brain function. Existing researches indicates that as ambient CO₂ increases, there will be increase in cancers, neurological disorders and other conditions.

Currently the level of threatening for survival CO₂ level in the ambient atmosphere remains unknown. The need to reduce CO₂ emissions and global awareness would further strengthen.⁹⁹

Adverse effects of climate change will threaten human rights, including right to life, health and food. If the activities related to climate change affect human rights, that practices may be illegal. Human rights identify duties to respect, protect and fulfil. The duty of states to respect is a duty not be engaged in actions that contribute to climate change, for example, emissions of CO₂ from government activities.¹⁰⁰ The duty to protect requires states to prevent non-governmental actors from infringing on human rights, for example, the Convention on the Elimination of Racial Discrimination requires states to protect individuals against private discrimination through future generations.¹⁰¹ Some cases were considered the human rights implications of climate change: *Gabčíkovo-Nagymaros* case, where judge recognized the protection of environment as a 'sine qua non' and another landmark decision related to *Lopez Ostra* case held that 'severe environmental pollution may affect individuals' well-being and rights.¹⁰²

2.2.2 Key arguments against the CBT

2.2.2.1 International regulation of free-market trade

There is a general agreement that free trade is essential to ensure sustainable development in both developed and developing countries. This is evident in the WTO rules where limits to trade generally require justification. This is also an argument against the CBT or similar measures. The measure itself requires a further assessment to see if it falls within the scope of WTO law and, if this is the case, if it falls within any exceptions. It is important to be aware that the general idea of the CBT could be harmful to international trade.¹⁰³ The CBT – is a trade barrier, that could be

⁹⁹Phil Bierwirth, 'Carbon dioxide toxicity and climate change: a major unapprehended risk for human health, DOI:10.13140/RG.2.2.16787.48168

¹⁰⁰ Daniel Bodansky, Jutta Brunnée, and Lavanya Rajamani, 'Intersections between International Climate Change Law and Other Areas of International Law', in *International Climate Change Law* (Oxford University Press, 2017), page 6

¹⁰¹ Ibid. [6]

¹⁰² Ibid. [5]

¹⁰³ Julian Wettengel, "US keeps wary eye on EU carbon border tax plans", 2020.

misused for the protectionism. Taxes at the border could be employed to make foreign products more expensive relative to domestic. Some developing countries like India already have an intention to challenge at the WTO any CBA.¹⁰⁴

The challenges regarding trade are both the overarching free trade problem of restricting access to a market and also the concrete problem that it can be problematic for the trade relationship between countries. Not surprisingly, business groups have been reluctant to back a CBT, fearing it could trigger a trade war.¹⁰⁵ However, restriction of the free market is not that controversial, as it is perfectly possible under the WTO law. The EU will face challenges related to the design of the CBT regulations, in regards to constructing the regulation in a way that complies with the WTO legislation.

2.2.2.2 ‘Eco-imperialism’

Regulatory measures similar to the CBT have been described as ‘eco-imperialism’¹⁰⁶, as developed countries, in general, are more well developed concerning limiting carbon emission in production, leaving the products of developing countries behind in the international trade market as they do not have the same market access as their counterparts produced in developed countries.

2.2.2.3 High cost of implementation

There is also an issues of identifying the goods and sectors to be covered. Broad coverage would lead to potential reduction of leakage, however including more sectors may impose larger transaction costs.

Additional argument against the CBT could be a high cost of implementation. Assuming that the CBT would take a form of tax on GHG, a tax would be levied on imports from countries without equivalent domestic climate-change-mitigation regulations. Products exported to these countries could benefit from a tax exemption. It would limit the loss of competitiveness to domestic companies and might work against decreasing GHG emissions as domestic exporters would not intend to make their production process less carbon-intensive.¹⁰⁷

¹⁰⁴ Madison Condon and Ada Ignaciuk. ‘*Border Carbon Adjustment and International Trade: A Literature Review*’, *OECD Working Paper No. 6*. Available at: <https://www.ssrn.com/abstract=2693236> Accessed on 8 June, 2020

¹⁰⁵ Frédéric Simon, “*Jury is still out’ on EU’s carbon border tax, Hogan says*”, 2020.

¹⁰⁶ Daniel Bodansky, Jutta Brunnée, and Lavanya Rajamani, ‘*Intersections between International Climate Change Law and Other Areas of International Law*’, in *International Climate Change Law* (Oxford University Press, 2017).,

¹⁰⁷ Madison Condon and Ada Ignaciuk. ‘*Border Carbon Adjustment and International Trade: A Literature Review*’, *OECD Working Paper No. 6*. Available at: <https://www.ssrn.com/abstract=2693236>. Accessed on 8 June 2020.

2.2.2.4 An efficient measure ?

The EU will have to ensure that the CBT is the most efficient measure possible for the EU to adopt the objectives set out in the Green Deal. Some academics have doubted that the CBT is the right tool, as some suggest that it will not reduce the overall emissions.¹⁰⁸ Von der Leyen admits that developing the legislative framework of the CBT “is not an easy part, but it is something we have to take on”.¹⁰⁹ The EU will have to make sure that the CBT is implemented in a way that takes into account the concerns of those in opposition to the measure. If the implementation is a success it could greatly benefit the global emissions. However, if the implementation fails, a worst-case scenario could end up hurting the emission efficiency of the EU production sector, as trade to the EU could be reduced.¹¹⁰

2.3 Carbon border tax design options

A carbon tax directly sets a price on carbon by defining an explicit tax rate GHG emissions or – more commonly – on carbon content of fossil fuels, i.e. a price per tCOe.¹¹¹ This will apply a charge on goods imported into EU, based on emissions emitted during their production, ensuring that price of imports reflects their carbon content in a more precise fashion.¹¹²

The European Commission has presented a consultation on a new climate neutral law and launched two hearings. The first deals with the revision of the Energy Taxation Directive and the second hearing concerns the forthcoming work on proposal for the CBT. The idea is that the CBT will counteract carbon leakage by imposing a CO₂ price on imports of certain goods from countries outside the EU.¹¹³ Carbon leakage is an increase in carbon dioxide emissions outside the countries, which take domestic mitigation action divided by the reduction in the emissions of these countries.¹¹⁴ The CBT targets certain selected sectors like steel.

¹⁰⁸ Georg Zachmann and Ben McWilliams, ‘*A European Carbon Border Tax: Much Pain, Little Gain*’, Policy Contribution, no. 5 (March 2020), page 2

¹⁰⁹ Frédéric Simon, “*Jury is still out’ on EU’s carbon border tax, Hogan says*”, 2020.

¹¹⁰ Ibid. [3]

¹¹¹ The World Bank – *Carbon Pricing Dashboard*. Available at <https://carbonpricingdashboard.worldbank.org/what-carbon-pricing>. Accessed on March 25th, 2020.

¹¹² Georg Zachmann and Ben McWilliams, ‘*A European Carbon Border Tax: Much Pain, Little Gain*’, Policy Contribution, no. 5, page 1 (March 2020).

¹¹³ Jeannette Berseth, “*Forslag til ny klimalov i EU*”, 2020

¹¹⁴ IPCC, *Climate Change 2007*

Another design alternative

The CBA could be focused on border adjustments applied on imports in conjunction with domestic pricing instruments, such as carbon tax and emission trading system.¹¹⁵ Assuming that the CBA is arranged as a tax, a charge on imported goods that is equivalent to the carbon payment that would have been made had the goods been produced domestically should be levied. Such an adjustment may also offer relief to exported goods by rebating domestic carbon payments and ensure that domestic exporters are not disadvantaged in internal markets.¹¹⁶ In case of implementation of the CBA in conjunction with carbon tax, it would be allowed under trade law, it meets certain criteria¹¹⁷ as will be discussed further in the thesis.

Scope and Coverage

Although, economic research suggested to apply CBA on imports and exports, it could increase its effectiveness in preventing carbon leakage, it should be limited to imports.¹¹⁸ It will eschew setting an incentive for domestic producers to increase carbon intensity of exports, which could result in an emission increase.¹¹⁹ Narrow in scope CBA (at least at the beginning) is more administratively and legally feasible: limiting CBA to imports may help balance the trade-offs inherent to CBA design while delivering environmental impact.¹²⁰ An imports-only CBA will capture much of the benefits, while an exports-only offering rebates or exemptions for domestic production to overseas markets could be appropriate for some sectors in terms of leakage protections, but remains unexplored.¹²¹

Including only products from sectors with high carbon cost and trade exposure reduces the administrative and technical burden of CBA, while still giving environmental benefits.¹²² In case if CBA covers only sectors where inclusion affords clear environmental benefits, it will help to meet the requirements set out in Article XX of the GATT.¹²³

¹¹⁵ Michael A. Mehling, Harro van Asselt, Kasturi Das, Susanne Droege and Cleo Verkuijl. “*Designing Border Carbon Adjustments for Enhanced Climate Action*”. American Journal of International Law, volume 113, issue 3 (July 2019).

¹¹⁶ Aaron Cosbey, Susanne Droege, Carolyn Fisher and Clayton Munnings. ‘Developing Guidance for Implementing Border Carbon Adjustments: Lessons, Cautions, and Research Needs from the Literature’, Review of Environmental Economics and Policy Journal, volume 13 (1), 2019

¹¹⁷ Ibid. [7]

¹¹⁸ Michael A. Mehling, Harro van Asselt, Kasturi Das, Susanne Droege and Cleo Verkuijl. “*Designing Border Carbon Adjustments for Enhanced Climate Action*”. American Journal of International Law, volume 113, issue 3 (July 2019).

¹¹⁹ Ibid [474]

¹²⁰ William Acworth, Christopher Kardish, Kai Kellner. ‘Carbon Leakage and Deep Decarbonization’. Available at: https://icapcarbonaction.com/index.php?option=com_attach&task=download&id=691. Accessed on 16 October 2020.

¹²¹ Ibid.[18]

¹²² Ibid. [474]

¹²³ Ibid. [474]

The CBA should for sectoral focus and avoid exempting entire states which are based on country-specific attributes to ensure observance of Article I of the GATT.¹²⁴ Differentiation should be based on differences in carbon content of products, not in their country of origin.¹²⁵

2.4 Legal challenges and alternatives

2.4.1 Challenging the CBT

As previously mentioned, the adoption of the CBT would be challenged by trade partners of the EU and will probably face legal and economic disputes, which could be interpreted as protectionism, and challenged under the WTO rules.

Essentially, the CBT could be challenged in two ways. First, it would be possible to challenge the CBT within the WTO system. A member of WTO can not determine unilaterally that precise measure is illegal, it may contest another member's domestic measures as a violation of WTO regime by bringing a challenge to the Dispute Settlement Body.¹²⁶ Following consultations, and at the request of the member which complains, the DSB establishes a panel to adjudicate the merits of the case. If a panel finds that CBA measure violate WTO regime and it is successfully appealed to the Appellate Body, then the country in violation would be obliged to bring the CBA measure in compliance with its WTO obligations.¹²⁷ In case if the losing party does not bring the measure in compliance, then the challenger may seek compensation¹²⁸. If two parties can not reach agreement on compensation, the winning party may seek authorization from DSB to suspend trade concessions or other WTO obligations against the member in violation pending removal of the WTO such measure.¹²⁹

The second way is economic and political. The introduction of the CBT could result in companies actively trying to avoid the EU market, with or without any political pressure. Instead, those companies could focus on other markets in the world. Countries could also counter the CBT by making similar restrictions on import from the EU market, which could result in a trade war.¹³⁰ Faced with the CBT, the EU's trading partners may return to unilateral retribution. The export loses would affect China, Russia, India and the US and it may lead to punishment of the EU by putting prohibitive duties.

¹²⁴ Ibid. [474]

¹²⁵ Ibid. [475]

¹²⁶ Madison Condon and Ada Ignaciuk. 'Border Carbon Adjustment and International Trade: A Literature Review', *OECD Working Paper No. 6*, Available at: <https://www.ssrn.com/abstract=2693236>. Accessed on 28 August 2020.

¹²⁷ Ibid. [17]

¹²⁸ Ibid. [17]

¹²⁹ Ibid. [17]

¹³⁰ Zack Colman, "Europe threatens U.S. with carbon tariffs to combat climate change"

The EU already experienced countermeasures in 2012 when tried to include international flights in the EU ETS. China, India, Russia, Brazil, Mexico, Japan, South Africa and the US urged the EU to leave the handling of international aviation emissions to International Civil Aviation Organization. Their joint retaliation measures include international dispute settlement, restricting their markets for EU carriers and imposing additional measures on them. Such a response show how strong the countermeasures could be if the EU put a carbon levy on imports. China put its order 55 Airbus planes on hold, additionally Germany and France, which are the manufacturers of these planes became very cautious. Finally, the European Commission had to postpone the proposal and assigned the International Civil Aviation Organization to seek for the viable solution.¹³¹

The implementation of CBT is only one of the options to avoid carbon leakage.¹³²

2.4.2 Alternatives to the CBT

Most likely that the CBT would be challenged by the trade partners of the EU, it is relevant to examine the different alternatives to the CBT, and evaluate whether or not these alternatives would be viable and in that case if they would be as effective. This part of the paper examines three alternatives to the CBT.

2.4.2.1 Global agreement on the regulation of carbon emissions

Setting up a global agreement on the regulation of carbon emission in sectors with high risk of carbon leakage could be an alternative to the CBT. It could be possible to work on reaching agreement on a multilateral agreement between the major countries of the world, and the countries without regulations on carbon emissions. Reaching a global, or nearly global, agreement on the regulation of carbon emission in the sectors which are at high risk of carbon leakage would possibly eliminate the need for the CBT. Such regulation could help eliminate the risk of carbon leakage rendering the CBT unnecessary. Several countries have before reached an agreement on environmental regulations, latest we have the Paris Agreement, where 189 Parties of the 197 Parties to the UNFCCC has ratified this agreement¹³³. The main objective of the Paris Agreement is to strengthen the global response to climate change by keeping the global temperature increase below 2 degrees Celsius, compared to pre-industrial levels¹³⁴. This

¹³¹ Eva Palackova, 'Saving face and facing climate change: Are border adjustments a viable option to stop carbon leakage?', DOI: 10.1 177/1781685819881372

¹³² Ibid. [153]

¹³³ United Nations, Paris Agreement – Status of Ratification

¹³⁴ United Nations, Paris Agreement: Essential elements

alternative could be viable, but seeing as it requires global or near global participation the likelihood of reaching a global agreement on carbon emission standards, which are strict enough to satisfy the EU and hereby eliminating the need for the CBT does not seem likely.

2.4.2.2 Implementing a general carbon tax

A general carbon tax, where the producer, exporter or importer is to pay a specific amount of money per ton of carbon dioxide, would have a similar effect as the CBT. Seeing as the products produced in the EU, with high environmental standards and stringent carbon regulations, would have to pay a smaller tax, based on the fact that these products would emit less carbon than products produced in countries with more lenient carbon regulation.¹³⁵ Seeing as a general carbon taxation would not differentiate between nationally produced products and imported products, such a taxation or levy would be in compliance with the GATT because imported products would not be subject, directly or indirectly, to internal taxes or other internal charges of any kind, other than those who apply to like domestic products.

Nevertheless, this kind of instrument would have a larger effect on products produced in countries with more lenient regulation on carbon emissions, since these products would likely result in larger emission of carbon than products produced inside the EU under the stringent EU regulation of carbon emissions. Many countries have already implemented a carbon tax in their domestic territory and as an example Britain has since the implementation of a national carbon tax seen a fall in the emission of GHG¹³⁶. A general carbon tax could be a viable alternative to the CBT, and the implementation of this would also entail an income from the taxation, which could help mitigate problems related to climate change. The downside is that producers situated in the EU could lose competitive standing on the market due to rising prices of exports¹³⁷. Currently the EU ETS grants free carbon allowances to the steel, mining and cement sectors until 2030 because these sectors are in high risk of carbon leakage¹³⁸. If a carbon tax is implemented these exceptions would no longer be available why producers within the EU could risk losing the existing financial support and in exchange have to pay a tax on their products, which could be challenged under the WTO rules and could result in retaliation from the trading partners of the EU including the US¹³⁹.

¹³⁵ European Union, *The United states and the EU*

¹³⁶ Kimberly Amadeo, *Carbon tax, its purpose, and how it works, How a Carbon Tax Can Solve Climate Change*

¹³⁷ Francesco Guarascio & Jonas Ekblom, "Explainer: What an EU carbon border tax might look like and who would be hit"

¹³⁸ Ibid. [2]

¹³⁹ Ibid. [2]

2.4.2.3 Imposing carbon levies to energy-intensive trade exposed industries proportionally to their output.

Granting free allowances to the relevant firms under a cap-and-trade scheme or by refunding part of the proceeds of the carbon tax can help limit emissions. Such a scheme is equivalent in its economic impacts to imposing a carbon price and subsidizing domestic production. It thus corrects part of the problem, as it favors local, presumably cleaner production, and it will alleviate the competitive loss at the same time. That is done at a cost: the subsidy effect reduces the price of energy-intensive goods for domestic consumers, resulting in a loss of efficiency. Finally, in countries with high fiscal pressure the best way to improve the competitiveness of energy-intensive and trade-exposed industries may be to recycle carbon levy revenues through reduced distortive tax. Since most such firms are also capital intensive, lower capital taxes offset higher energy prices in an efficient way.¹⁴⁰

2.4.2.4 Provision of exemptions

Provision of a wholesale exemption equivalent to modifying the emissions benchmarks to zero could be another alternative to the CBT. However, exemptions based on a measure of climate action by a trading partner could be considered as attempts to exert leverage over it, which is incompatible with the GATT. The exemptions may be justified under the exception provisions of the GATT if contribute to protection of the environment. Five possible exemptions could be considered: exempting countries that implement a national emissions cap, exempting countries that take ‘adequate’ national actions other than national caps, exempting sectors from countries that implement a sectoral cap, exempting least developed countries and low-income countries and exempting countries by means of administrative flexibility.¹⁴¹ However, these exemptions should be incorporated into CBA regime with caution, since they could be useful if they these mechanisms are more simple administratively in comparison with carbon border adjustment modifications to avoid double charging.¹⁴²

¹⁴⁰ Fay, Marianne, Stephane Hallegatte, Adrien Camille Vogt-Schilb, Julie Rozenberg, Ulf Gerrit Narloch, Thomas Michael Kerr, *Decarbonizing development : three steps to a zero-carbon future* (2015)

¹⁴¹ Aaron Cosbey, Susanne Droege, Carolyn Fisher and Clayton Munnings. ‘Developing Guidance for Implementing Border Carbon Adjustments: Lessons, Cautions, and Research Needs from the Literature’, *Review of Environmental Economics and Policy Journal*, volume 13 (1), 2019

¹⁴² *Ibid.* [17]

3 COMPATIBILITY OF THE CARBON BORDER TAX WITH WTO REGIME

Different policies aimed at reducing CO₂ emissions could be developed: in particular, the CBT is intended to address and challenge the unfavorable consequences of climate change. However, it should not be ignored that the existence of multilateral international agreements encourages nations to take care of the planet and environment, but also limits their scope of legal autonomy to take action in different areas - including policies to take urgent action on climate change.

The precise construction of the CBT, proposed by the European Commission is not entirely clear, and there is a high chance that it will conflict with either article I or III of the GATT. Therefore, it will be assessed in the following if the CBT could fall within the scope of the exceptions of GATT, art. XX. It is important to analyze if a CBT policy can be legally issued without contradicting WTO law and risking being sued for that breach. Last but not least, it is highly important to evaluate if the GATT's Article XX exceptions can be used to justify CBT.

Two of these exceptions are particularly relevant for environment-related measures, namely those contained in Articles XX(b) and XX(g) of the GATT. If the EU wants to use the environmental exceptions to defend the CBT, the EU has two hurdles to clear.

Firstly, the EU must establish the provisional justification for using Article XX by showing that sub-paragraphs apply. Secondly, the EU must then establish that the measure in question does not contravene the lead paragraph, known as the chapeau of Article XX, quoted above, meaning that it must not be arbitrary, unjustifiable, or a disguised restriction on trade. At the same time, it is also important to reflect on whether CBT is the right instrument. As the think-tank Bruegel states: "The EU will have to choose between more efficient but highly complex and politically risky approaches, and almost ineffective but easily implementable mainly symbolic solutions".¹⁴³

Although the CBT could be compatible with WTO rules, it could face judicial challenges before WTO, will depend on complex preconditions that will imply a trade-off between political feasibility and effectiveness, which will be discussed in this chapter.¹⁴⁴

3.1 The CBT and WTO law

3.1.1 The main principles of WTO

The WTO main principles can be found in three agreements: 1) The General Agreement on Tariffs

¹⁴³ Jeannette Berseth, "Forslag til ny klimalov i EU", 2020 and Michael A. Mehling and others, "Designing Border Carbon Adjustments for Enhanced Climate Action", 2019.

¹⁴⁴ Georg Zachmann and Ben McWilliams, 'A European Carbon Border Tax: Much Pain, Little Gain', Policy Contribution, no. 5, page 1 (March 2020).

and Trade (GATT), for international trade in goods; 2) the General Agreement on Trade in Services (GATS); and 3) the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS). There are five principles related to the articles in these three agreements that are of particular importance.

The first principle of the WTO is trade without discrimination, (a member country cannot discriminate against another member country concerning trade).¹⁴⁵

The implementation of the CBT could be seen as a discriminative measure between EU and non-EU member states.

The second principle, freer trade through negotiation, is emphasized by for example Article XXVIII bis of the GATT – Tariff Negotiations. Lowering trade barriers is one of the most obvious means of encouraging trade.¹⁴⁶ The barriers concerned include customs duties (or tariffs) and measures such as import bans or quotas that restrict quantities selectively.¹⁴⁷

The third principle, predictability in trade, is important because the promise of stability and predictability in trade gives businesses a clearer view of their future opportunities.¹⁴⁸ While new taxes are not unpredictable, the EU needs to ensure that there is certainty in how the CBT will work and what areas will be taxed.

The fourth principle, promoting fair competition, ties into the first principle of non-discrimination. The WTO institution describes itself as “a system of rules dedicated to open, fair and undistorted competition.”¹⁴⁹ This is relevant, as the later discussion will show, concerning how the CBT will be implemented, and who it will affect.

The last principle is: encouraging development and economic reform in developing countries.¹⁵⁰ The WTO system contributes to development, but developing countries need more flexibility in the time they take to implement the system’s agreements.¹⁵¹ Article XVIII of the GATT provides for governmental assistance to economic development.¹⁵² Similarly, Article IV of the GATS provides for increasing participation of developing countries.¹⁵³ An enactment of the CBT could leave developing countries at a disadvantage as it may take longer for them to abide by the CBT regulations as supposed to other countries. The CBT may be more costly for them, give them less flexibility, and impede their development and economic reform.

¹⁴⁵ Agreement Establishing the World Trade Organization, *Principles of the Trading system*

¹⁴⁶ Agreement Establishing the World Trade Organization, General Agreement on Tariffs and Trade (1947)

¹⁴⁷ *Ibid.*

¹⁴⁸ *Ibid.*

¹⁴⁹ *Ibid.*

¹⁵⁰ *Ibid.*

¹⁵¹ *Ibid.*

¹⁵² Agreement Establishing the World Trade Organization, General Agreement on Tariffs and Trade (1947)

¹⁵³ Agreement Establishing the World Trade Organization, General Agreement on Trade in Services (1995)

3.1.2 Conflict with the GATT rules and environmental related GATT exceptions

Two principles established under the GATT are important for the CBT. First is the national treatment, under Article III of the GATT, which requires that imported products should be treated no less favourably than ‘like’ domestic. Article I of the GATT establishes the second, ‘most-favoured-nation treatment’, it holds that a border tax must not discriminate among imports from WTO member economies.

The term ‘like product’ is not defined in the GATT, its ambiguity has given rise to important WTO cases over the years.¹⁵⁴ The question is whether products produced in climate-friendly manner, for example in compliance with standards of Kyoto Protocol and carbon-intensive goods are ‘like products’.¹⁵⁵

The ‘most favoured-nation treatment’ principle requires the imposition of the CBT on all WTO members and its not possible to exempt countries because they, for example, are engaged in an international agreement, or are the least developed.¹⁵⁶ The CBT could breach Article I of the GATT if it calls for special treatment for some countries. Similarly, differences in the assumed levels of embodied carbon in imports, based on variables specific of the country of export could also violate ‘most favoured-nation treatment’.¹⁵⁷

In cases where a Member’s national measure is found to be inconsistent with the GATT rules, a Member defending the measure can seek justification under the exceptions listed in Article XX of the GATT. In this context, GATT Article XX on General Exceptions lays out some specific instances in which WTO members may be exempted from GATT rules. Two exceptions are of particular relevance to the protection of the environment: paragraphs (b) and (g).¹⁵⁸ Paragraphs (b) and (g) of Article XX allow WTO members to adopt policies that discriminate, deny national treatment or are otherwise inconsistent with WTO principles.¹⁵⁹ There are several cases from the 1990s, including the 1991 Tuna-Dolphin case, as well as the *Shrimp-Turtle* case of 1996 which are relevant and set precedent or guidance for any future litigation on CBT.

¹⁵⁴ Madison Condon and Ada Ignaciuk. ‘*Border Carbon Adjustment and International Trade: A Literature Review*’, *OECD Working Paper No. 6*. Available at: <https://www.ssrn.com/abstract=2693236>. Accessed on 8 June, 2020

¹⁵⁵ Kristine Kaufmann and Rolf H. Weber. ‘Carbon related border tax adjustment: mitigating climate change or restricting international trade?’, DOI:10.1017/S1474745611000292.

¹⁵⁶ Stephanie Monjon and Philippe Quirion. ‘A border adjustment for the EU ETS: reconciling WTO rules and capacity to tackle carbon leakage’. DOI: 10.1080/14693062.2011.601907

¹⁵⁷ Aaron Cosbey, Susanne Droege, Carolyn Fisher and Clayton Munnings. ‘Developing Guidance for Implementing Border Carbon Adjustments: Lessons, Cautions, and Research Needs from the Literature’, *Review of Environmental Economics and Policy Journal*, volume 13 (1), 2019

¹⁵⁸ Agreement Establishing the World Trade Organization, General Agreement on Tariffs and Trade (1947)

¹⁵⁹ Bruce Nueling, *The Shrimp-Turtle Case: Implications for Article XX of GATT and the Trade and Environment Debate*, *Loyola of Los Angeles International and Comparative Law Review* (1999), page 13

In *Tuna-Dolphin I*, regarding US restrictions on import of Mexican tuna, the Dispute Panel found that generally, GATT Article XX did not apply to this case because GATT only covered regulations affecting products and did not apply to process and production methods.¹⁶⁰ As a result, the Panel obligated the US to treat tuna produced by Mexico no less favourably than tuna produced by the US because they were “like” products and required equal treatment.¹⁶¹ Additionally, the Panel suggested that Article XX (g) is limited to measures taken to conserve only domestic natural resources.¹⁶² At the time of this case, the Panel rejected the notion that a GATT party could use trade measures to press foreign governments to modify their policies.¹⁶³

Later, in *Tuna-Dolphin II*, which involved trade disputes between the US and the EEC, the panel still rejected the notion that a GATT party could use trade measures to press foreign governments to modify policies for any reason.¹⁶⁴ For both exceptions the panel ruled in favour of the United States concerning the dispute over jurisdiction.¹⁶⁵ The panel could not find any content with the GATT that alluded to the exhaustible resource needing conservation or protection, having to be within the jurisdictional territory of the country enforcing the measure.¹⁶⁶

Finally, in 1996, the *Shrimp-Turtle* case was litigated. The dispute panel for this case found that economic consideration and equitability (in other words, non-discrimination) was more important than the environmental implications and found this case did not fall within one of the Article XX exceptions.¹⁶⁷ In 1998, the Appellate Body reversed the dispute panel’s findings.¹⁶⁸ They pointed out how badly a job the dispute panel had done in analyzing the case under the GATT environmental exceptions and that the dispute panel’s reasoning was flawed in numerous ways.¹⁶⁹ Although the Appellate Body’s opinion was somewhat overbroad and did not specify the exact cases that could fall under the Article XX exceptions in the future, they did invoke an evolving international norms principle and said that Article XX will evolve with principles of international environmental law over time, and that it can be used to protect broad environmental interests.¹⁷⁰ The earlier opinion of the *Tuna-Dolphin II* case was also rejected by stating trade measures are

¹⁶⁰ Ibid. [19]

¹⁶¹ Ibid. [21]

¹⁶² Ibid. [21]

¹⁶³ Ibid. [22]

¹⁶⁴ Tuna- Dolphin II. Available at: [https://en.wikipedia.org/wiki/Tuna-Dolphin_GATT_Case_\(I_and_II\)#Tuna-Dolphin_II_case](https://en.wikipedia.org/wiki/Tuna-Dolphin_GATT_Case_(I_and_II)#Tuna-Dolphin_II_case). Accessed on April 2, 2020.

¹⁶⁵ Ibid.

¹⁶⁶ Ibid.

¹⁶⁷ Bruce Nueling, The Shrimp-Turtle Case: Implications for Article XX of GATT and the Trade and Environment Debate, *Loyola of Los Angeles International and Comparative Law Review* (1999), page 32

¹⁶⁸ Ibid.[32]

¹⁶⁹ Ibid.

¹⁷⁰ Ibid.

justified under Article XX if they seek to encourage other countries to change their environmental policies.¹⁷¹

This case was both discouraging and encouraging to environmental scientists because although it was vague on many continuous existing questions, it also gave way to expand on broad environmental interests.¹⁷²

3.2 Applicability of GATT, Article XX (b)

Protection of human, animal, or plant life or health according to Article XX(b) GATT justifies potential GATT violations. In *Brazil-Retreated Tyres* case, Brazil justified its import bans as measure to protect environment, health and human life.¹⁷³

Subparagraph (b) requires the country to show that the measure is “necessary” to protect the environment. To assess whether a measure is necessary a panel must, in a process of weighing and balancing, take different factors into account: (1) the relative importance of the objective of the measure, (2) the contribution of the measure to the objective pursued and (3) whether other reasonable and less trade-restricting alternatives are available, defining “reasonable” by consideration of factors such as the measure’s cost and the administrative capacity to implement it.¹⁷⁴

Factor one is fulfilled because combating climate change is of significant importance, and factor two is fulfilled because the CBT could help ensure a decrease of GHG, especially in heavier industries. However, there are doubts as to whether CBT is the most efficient measure. As mentioned earlier, a global agreement on carbon emission and/or the implementation of a general carbon tax could be alternatives to CBT. However, while these would be efficient measures, they are very dependent on a green political environment and it would take time to implement and adopt such measures that are deemed to be seen as controversial. This must be taken into consideration. There is clear evidence that the consequence of GHG emissions damages the environment and human health, meaning that limiting GHG emissions should fall within the scope of art. XX(g).¹⁷⁵

¹⁷¹ Ibid.

¹⁷² Ibid.

¹⁷³ Khristine Kaufmann and Rolf H.Weber. ‘Carbon related border tax adjustment: mitigating climate change or restricting international trade?’, DOI:10.1017/S1474745611000292.

¹⁷⁴ International Institute for Sustainable Development & United Nations. Environment Programme. *Trade and Green Economy: A Handbook* (2014).

¹⁷⁵ Daniel Bodansky, Jutta Brunnée, and Lavanya Rajamani, ‘Intersections between International Climate Change Law and Other Areas of International Law’, in *International Climate Change Law* (Oxford University Press, 2017).

3.3 Applicability of GATT, Article XX (g)

A member claiming an exception under subparagraph (g) of Article XX must demonstrate first that its measure is aimed at the conservation of “exhaustible natural resources.” Second, the measure must have been accompanied by domestic-level restrictions on management, production or consumption of the resource to be conserved. Finally, the measure employed must be “relating to” the conservation goal. That is, the measure itself, including the administrative procedures that implement it, must show a rational relationship to the conservation ends being sought.

For the CBT to fall within the exception, it must relate to the protection of an exhaustible natural resource. In the *US-Gasoline* appeal case, the WTO dispute board found that ‘clean air’ falls within the scope of art. XX(g)¹⁷⁶, while dismissing the argument because it did not fulfill the requirements under the chapeau.¹⁷⁷ Similarly, it can be argued that an atmosphere that can sustain life on earth without major environmental damages, is an exhaustible resource. Similarly, in the *Shrimp/Turtle* case, it was stated that art. XX(g) must be understood in the light of contemporary concerns from the international community concerning conserving the environment.¹⁷⁸

Moreover, much of the case law in this area is from the 1990s, meaning that if the cases were repeated today, they might have an outcome that would also encourage other countries to try to mitigate the consequences of climate change, due to the legal evolution of the WTO’s dispute board. As mentioned, the CBT is directly aimed at combating carbon leakage. Carbon leakage can lead to an increase of total emissions that in turn damage a wide range of natural resources, depending on e.g. forms of production and risk of pollution. Whether the CBT would fall within the exception, could to some degree depend on whether it is understood more as effective protectionism or environmentalism, or even protectionism masked as environmentalism.

3.4 Applicability of GATT, Article XX’s chapeau

As stated above, although a measure is considered provisionally justified if it is covered by any of the exceptions previously analyzed, it must still pass the test imposed by Article XX’s chapeau. That is, the measure should not be applied in a way that makes it an instrument of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade.

¹⁷⁶ Ibid. [21]

¹⁷⁷ Agreement Establishing the World Trade Organization, *Venezuela, Brazil versus US: Gasoline*

¹⁷⁸ Daniel Bodansky, Jutta Brunnée, and Lavanya Rajamani, ‘*Intersections between International Climate Change Law and Other Areas of International Law*’, in *International Climate Change Law* (Oxford University Press, 2017).

The CBT will directly affect emitters of GHG, most probably in line with a proposed threshold set by the EU. However, the details are still to be finalized. A clear threshold would in effect make the CBT a more predictable and reasonable tool. Also, the justification should be clear concerning combating climate change.

However, it is important to be aware that there are conflicting opinions on whether this, in reality, is a disguised restriction on international trade. As mentioned earlier, trade restrictions on environmental grounds can be seen as ‘eco-imperialism’, proportionally hitting developing countries harder than developed countries. It might be helpful and necessary to look at the CBT in a bigger picture of other measures to come, as the CBT might be followed by other initiatives, such as the transfer of green energy technologies and support for sectors in developing countries that focus on lowering GHG emissions.

3.5 Applicability of the Agreement on Subsidies and Countervailing measures

The WTO Agreement on Subsidies and Countervailing Measures contains rules that could be incompatible with the CBT, in particular applying the CBT to exports could be considered as a subsidy, and possibly a prohibited export subsidy.¹⁷⁹ In compliance with Article 1 of the Agreement, a subsidy is a financial contribution by a government that confers a benefit.¹⁸⁰ Export-oriented CBT could be qualified as a financial contribution and prohibited subsidy ‘contingent, in law or in fact, whether solely or as one of several conditions, upon export performance’ according to Article 3.1 (a). Although, Annex I (g) of the Agreement on Subsidies and Countervailing Measures contains exemption or remission of indirect taxes for exports ‘not in excess of those levied in respect of the production and distribution of like products when sold for domestic consumption’ is allowed.¹⁸¹ Following this, two issues arise: first, ensuring that the remission is ‘not in excess’ of taxes accrued could be challenging for the CBT linked to an emission trading system due to fluctuating prices on carbon market, which could make possible overcompensation.¹⁸² Secondly, export CBT could discourage emission reductions in export-oriented sectors, thus undermine the reason of this measure.¹⁸³

¹⁷⁹ Michael A. Mehling, Harro van Asselt, Kasturi Das, Susanne Droege and Cleo Verkuijl. “*Designing Border Carbon Adjustments for Enhanced Climate Action*”. American Journal of International Law, volume 113, issue 3 (July 2019).

¹⁸⁰ Agreement on Subsidies and Countervailing Measures (adopted 15 April 1994, entered into force 01 January 1995).

¹⁸¹ Agreement on Subsidies and Countervailing Measures, Annex I, item (g)

¹⁸² Michael A. Mehling, Harro van Asselt, Kasturi Das, Susanne Droege and Cleo Verkuijl. “*Designing Border Carbon Adjustments for Enhanced Climate Action*”. American Journal of International Law, volume 113, issue 3 (July 2019).

¹⁸³ Ibid. [471]

3.6 Applicability of the Free Trade Agreements

Another way to introduce carbon border tax avoiding potential conflicts with WTO rules, would be to establish it through Free Trade Agreements: plurilateral or preferential.

3.6.1 Plurilateral WTO agreements

In compliance with Article II.3 of the WTO Agreements, it is allowed to WTO members to conclude issue-specific agreements that create obligations and rights for their signatories only.¹⁸⁴ Annex 4 agreements are different from other plurilaterals which extend benefits to all WTO members on MFN basis and would allow to deviate from MFT obligations, moreover such agreements can be issue-specific and narrow in focus.¹⁸⁵ Plurilateral agreements have to be approved by WTO members, thus can not be challenged in a WTO dispute for inconsistency with multilateral trade rules.¹⁸⁶ However, it would require consensus of the WTO Ministerial Conference.

3.6.2 Preferential trade agreements

Article XXIV of the GATT and Article V of the GATS allow WTO members to create free trade zones, allowing them to deviate from non-discrimination obligations. Preferential trade agreements do not require unanimous approval from WTO membership in comparison with plurilaterals. Unlike plurilaterals, preferential trade agreements could be challenged before a WTO panel. It is important to keep in mind that preferential trade agreements are often lengthy and cumbersome in negotiation and ratification process, for instance conclusion of the Trans-Pacific Partnership (TPP) and the EU-Canada Comprehensive Economic and Trade Agreement (CETA), which took over five years to negotiate, as well as by US-EU negotiations for the Transatlantic Trade and Investment Partnership (TTIP).¹⁸⁷

In light of above discussion, CBT most likely has a chance of meeting the requirements of Article XX (b) and in particular has higher chance to be feasible under the Article XX (g).¹⁸⁸ However,

¹⁸⁴ Sonja Hawkins, 'Carbon Market Clubs under the Paris Climate Regime: Climate and Trade Policy Considerations'. Available at: http://ictsd.iisd.org/sites/default/files/research/carbon_market_clubs_under_the_paris_climate_regime.pdf. Accessed on 28 August 2020.

¹⁸⁵ Ibid. [16]

¹⁸⁶ Ibid. [16]

¹⁸⁷ Ibid. [17]

¹⁸⁸ Michael A. Mehling, Harro van Asselt, Kasturi Das, Susanne Droege and Cleo Verkuijl. "Designing Border Carbon Adjustments for Enhanced Climate Action". American Journal of International Law, volume 113, issue 3 (July 2019).

in both cases the measure will need to pass the requirements of the chapeau of Article XX. Another option for introducing the CBT could be establishing it through the Free Trade Agreements.¹⁸⁹

¹⁸⁹ Ibid.[468]

4 THE CARBON BORDER TAX AS AN EFFECTIVE MEASURE TO COMBATING CLIMATE CHANGE

There is no uniform global carbon tax so far and most likely that an agreement on such tax will be reached soon. Industrial companies in the EU have to buy emission certificates for every metric ton of CO₂ they emit, these emissions are traded on the Emission Trading System (ETS). Carbon taxes have been introduced in many parts of the world, however, the taxes in the EU are the most extensive ones. The imported goods do not fulfil the EU's CO₂ emission standards as a result. To deal with this incompatibility, the European Commission seeks to impose the CBT. Such tax, on top of contributing to the fight against of global warming, would be an additional source of revenues to green economy.¹⁹⁰

Carbon taxes are relatively recent phenomenon. They were first introduced in the 1990 in Finland, Sweden, Norway and Denmark. These carbon taxes coincided with rising concern for global warming, however the motivation for the introduction of carbon taxes also related to the economic situations in these countries.¹⁹¹

This chapter is mostly focused on the experience of Scandinavian countries in carbon taxation. These Nordic countries exemplify that at first glance national carbon taxes reduce carbon dioxide and greenhouse gas emissions, accelerate switching to renewable energy and encourage other countries to adopt policies to reduce emissions, at the same time it is important to keep in mind that national carbon taxes have some drawbacks. A thorough analysis of pros and cons of national carbon taxes is crucial for understanding the significance of implementing the CBT.

4.1 Use of revenue

It was mentioned earlier that CBT is an effective option to alleviate carbon leakage that threatens to undermine aggregate emission reductions and the effectiveness of collective climate action.¹⁹² Carbon leakage can occur through the number of channels: the competitiveness channel, the

¹⁹⁰ Gerben Hieminga and Timme Spakman. 'EU carbon border tax: Unnecessary for now but still a good idea'. Available at: <https://think.ing.com/articles/eu-carbon-border-tax-unnecessary-for-now-but-still-a-good-idea/#:~:text=EU%20firms%20have%20to%20pay,the%20costs%20of%20imported%20intermediates.&text=However%2C%20the%20carbon%20tax%20also,efficient%20and%20reduce%20carbon%20emissions>. Accessed on 18 July 2020,

¹⁹¹ Stefan E. Weishaar. 'Introducing carbon taxes-issues and barriers'. DOI:<https://doi-org.ezproxy.uio.no/10.4337/9781788973366>

¹⁹² Michael A. Mehling, Harro van Asselt, Kasturi Das, Susanne Droege and Cleo Verkuijl. "Designing Border Carbon Adjustments for Enhanced Climate Action". American Journal of International Law, volume 113, issue 3 (July 2019).

energy market channel, the income channel and the technology spillovers channel.¹⁹³ However, the CBT cannot completely eliminate leakage, because it only addresses the competitiveness channel.¹⁹⁴

Apart from mitigating carbon leakage, any revenue collected through the application of the CBT could be used to further its environmental objective and benefit developing countries affected by it. Revenue could be partially or entirely allocated to developing countries to support domestic climate change mitigation and adaptation efforts. It could strengthen the nexus to legitimate policy objectives required under the GATT Article XX(b) and Article XX(g) as well.¹⁹⁵

Dedicating the revenue toward objectives that assist developing countries serves two purposes: it respects the principles of the CBDR and demonstrates that the purpose of the CBT is to avoid leakage, but not provide protection for domestic producers.¹⁹⁶ Revenues could be refunded to the exporting country directly or through the clean technology transfer, for instance. The implementing country could earmark the revenue to funds for climate change mitigation or contribute to mitigation and adaptation projects. Any of these options could fall under the GATT exceptions by demonstrating the CBT's environmental objectives.¹⁹⁷

4.2 Examples of carbon tax implementation in Scandinavian countries

4.2.1 Practices in Finland

Carbon taxes were one of the first measures used to combating climate change by reducing emissions.¹⁹⁸ Finland was the first country in 1990 introduced carbon tax levied on all energy products such as light fuel oil, heavy fuel oil, coal and natural gas. The Finnish carbon tax was motivated by both fiscal and environmental considerations.¹⁹⁹

¹⁹³ Aaron Cosbey, Susanne Droege, Carolyn Fisher and Clayton Munnings. 'Developing Guidance for Implementing Border Carbon Adjustments: Lessons, Cautions, and Research Needs from the Literature', *Review of Environmental Economics and Policy Journal*, volume 13 (1), 2019

¹⁹⁴ *Ibid.* [6]

¹⁹⁵ Michael A. Mehling, Harro van Asselt, Kasturi Das, Susanne Droege and Cleo Verkuijl. "*Designing Border Carbon Adjustments for Enhanced Climate Action*". *American Journal of International Law*, volume 113, issue 3 (July 2019).

¹⁹⁶ Aaron Cosbey, Susanne Droege, Carolyn Fisher and Clayton Munnings. 'Developing Guidance for Implementing Border Carbon Adjustments: Lessons, Cautions, and Research Needs from the Literature', *Review of Environmental Economics and Policy Journal*, volume 13 (1), 2019

¹⁹⁷ *Ibid.* [19]

¹⁹⁸ Mojtaba Khastar, Alireza Aslani and Mehdi Nejati. 'How does carbon tax affect welfare and emission reduction in Finland'. *Energy Reports*, Volume 6, 2020

DOI: <https://doi.org/10.1016/j.egy.2020.03.001>

¹⁹⁹ Stefan E. Weishaar. 'Introducing carbon taxes-issues and barriers'. *Innovation Addressing Climate Change Challenges*. 2018, pages 3-18, DOI:<https://doi-org.ezproxy.uio.no/10.4337/9781788973366>

The income from the appliance of carbon tax could be used in different purposes: this income could be directed to support carbon reduction programs, it could be devoted to income tax cuts and also could be dedicated to supplementing the government budget. The approach chosen by Finland is to add this income into government budget, also it this income will be used to cut the income tax. This country is using a hybrid method to spend carbon tax income, called ‘the tax-shifting packages’.²⁰⁰ However, his measures could cover a little portion of negative impact on welfare in Finland.²⁰¹ It should be stated that the implementation of carbon taxes in Finland will reduce the level of welfare.²⁰²

It could be noted that carbon tax had a positive effect on the trade balance of Finland and a higher exportation level is achieved.²⁰³ Its due to the specific coverage of Finnish industries. Different counties have distinct industries that is why the carbon tax has different effects in various countries.²⁰⁴ Carbon tax leads to the growth of fossil fuel prices, it encourages industries to use fuels with lower emission.²⁰⁵ In compliance with the estimations of the Finnish government, CO₂ emissions were reduced by around 4 million metric tones between the years 1990 and 1998.²⁰⁶ It could be pointed out that carbon tax has been successful in reducing the country’s carbon emissions.²⁰⁷

4.2.2 Practices in Sweden

Sweden introduced taxes on gasoline in 1994, further taxes on mineral oils, coal, diesel and liquid petroleum gas followed.²⁰⁸ In 1991 Sweden introduced a tax on carbon emissions, the tax was a part of a fiscal reform process aimed at reducing labour taxes by increasing environmental taxes.²⁰⁹

²⁰⁰ Mojtaba Khastar, Alireza Aslani, Mehdi Nejati, Kaveh Bekhrad and Marja Naaranoja. ‘Evaluation of the carbon tax effects on the structure of Finninsh industries: A computable general equilibrium analysis’. *Sustainable Energy Technologies and Assessments*, Volume 37, 2020

DOI: <https://doi-org.ezproxy.uio.no/10.1016/j.seta.2019.100611>

²⁰¹ Mojtaba Khastar, Alireza Aslani and Mehdi Nejati. ‘How does carbon tax affect welfare end emission reduction in Finland’. *Energy Reports*, Volume 6, 2020

DOI: <https://doi.org/10.1016/j.egyr.2020.03.001>

²⁰² Ibid.[742]

²⁰³ Mojtaba Khastar, Alireza Aslani, Mehdi Nejati, Kaveh Bekhrad and Marja Naaranoja. ‘Evaluation of the carbon tax effects on the structure of Finninsh industries: A computable general equilibrium analysis’. *A computable general equilibrium analysis*. *Sustainable Energy Technologies and Assessments*, Volume 37, 2020.

DOI:<https://doi-org.ezproxy.uio.no/10.1016/j.seta.2019.100611>

²⁰⁴ Ibid.

²⁰⁵ Ibid.

²⁰⁶ Gökşin Bavbek. ‘Carbon Taxation Policy Case Studies’. Available at:

http://www.iklimekonomisi.org/uploads/rapor/9417862-edam_turkeycarbontax_october2016.pdf. Accessed on 14 October 2020.

²⁰⁷ Ibid. [4]

²⁰⁸ Stefan E. Weishaar. ‘Introducing carbon taxes-issues and barriers’. *Innovation Addressing Climate Change Challenges*.2018, pg 3-18, DOI:<https://doi-org.ezproxy.uio.no/10.4337/9781788973366>

²⁰⁹ Ibid.

After implementation of carbon tax on transport fuels, CO₂ emissions declined almost 11 percent per year.²¹⁰ Although, environmental taxes are unpopular among Swedish citizens.²¹¹ If tax increases, then the fuel prices increase too. It affects the part of the population living in remote areas.²¹² Adopting a carbon tax in other countries can be expected to have similar effects as in Sweden, nevertheless Sweden case can not be seen as representative in a global context.²¹³

4.2.3 Practices in Denmark

Carbon tax was introduced in Denmark in early 1990s. It was not intended to increase the overall price on energy, but to stimulate consumption of less CO₂ intensive resources.²¹⁴

The political support for introducing carbon tax was granted by earmarking parts of the tax proceeds for improvements of districts heating system.²¹⁵ Such an improvement and expansion of heating was positive in gaining support of the unions as it promised employment opportunities. Another explanation of political support is that carbon tax favoured the investments in natural gas market.²¹⁶

First, carbon tax was levied on household in 1992 and the rising energy taxes in household sector and carbon tax reduced the overall energy consumption immediately.²¹⁷

4.2.4 Practices in Norway

Implemented in 1991, the Norwegian carbon taxes are among the highest in the world, measured in per ton CO₂.²¹⁸ The Norwegian carbon taxes increase fossil fuel prices, that influences emissions directly and indirectly. The direct effects are energy efficiency and substitution. The indirect come through overall cost transfers, labour market adjustments and industry competition.

²¹⁰ Julius J. Andersson. 'Carbon Taxes and CO₂ Emissions: Sweden as a Case Study'. *American Economic Journal: Economic Policy*. 2019. Volume 11(4). Pg 1-30. DOI: 10.1257/pol.20170144

²¹¹ Sverker C. Jagers and Henrik Hammar. 'Environmental taxation for good and for bad: the efficiency and legitimacy of Sweden's carbon tax'. *Environmental Politics*. 2009, Volume 218(2), pg 18-237. DOI: 10.1080/09644010802682601

²¹² Ibid.

²¹³ Henrik Hammar and Magnus Sjöström. 'Accounting for behavioural effects of increases in the carbon dioxide (CO₂) tax in revenue estimation in Sweden'. *Energy Policy*. 2011, Volume 39, pg 6672-6676.

DOI: <https://doi-org.ezproxy.uio.no/10.1016/j.enpol.2011.06.014>

²¹⁴ Stefan E. Weishaar. 'Introducing carbon taxes-issues and barriers'. *Innovation Addressing Climate Change Challenges*. 2018, pg 3-18, DOI: <https://doi-org.ezproxy.uio.no/10.4337/9781788973366>

²¹⁵ Ibid.

²¹⁶ Ibid.

²¹⁷ The Danish ecological council. 'Successful environmental taxes in Denmark'. Available at:

https://green-budget.eu/wp-content/uploads/The-most-successful-environmental-taxes-in-Denmark-2_FINAL.pdf. Accessed on 22 July 2020

²¹⁸ Annegrete Bruvoll and Bodil Merethe Larsen. 'Greenhouse gas emissions in Norway: do carbon taxes work?'. *Energy Policy*. Volume 32(4), pg. 493-505. DOI: 10.1016/S0301-4215(03)00151-4.

Price changes influence the choice of more or less energy-efficient technologies. Over the period of time, general technological progress pulls towards more energy-efficient technologies. The price changes further influence the total production and emissions. Carbon tax and technological progress pull towards lower emissions per GDP unit.²¹⁹ Despite of considerable taxes and price increases, carbon tax effect has been modest: average emissions per unit GDP was reduced by 12 percent over the period from 1990 to 1999.²²⁰ Such an effect is partly related to the exemption from the carbon tax for a broad range of fossil fuel intensive industries due to concern about competitiveness.²²¹

4.2.5 Practices in Iceland

Iceland implemented a carbon tax on liquid fossil fuels with a tax rate indexed to 50% of the EU ETS price in January 2010.²²² It was a part of Icelandic state's efforts to strengthen the 'green economy'. The objectives of this strategy were: to meet emission targets under the UNFCCC and the Kyoto Protocol of no more than 10% increase in GHG emissions by 2012 relative to 1990 levels; to reduce GHG emissions by promoting the use of renewable energy; to promote climate change research and prepare for necessary climate change adaptation measures.²²³

The GHG emissions decreased by approximately 4% between 2010 and 2012.²²⁴ Current tax covers only 50% of GHG emissions, the reports from Organisation for Economic Co-operation and Development proposed Iceland to raise its carbon tax rate and expand its coverage in order to meet its GHG reduction goals.²²⁵

4.3 Theoretical analysis of carbon taxation in conjunction with the CBT

Countries like Finland, Sweden, Denmark, Norway were the first adopters of this tax and identifying the impacts and problems of carbon tax implementation in these countries will provide practical significance and caution for the countries that are to levy CO₂ tax.²²⁶

²¹⁹ Ibid.

²²⁰ Ibid.[501]

²²¹ Ibid.

²²²The World Bank. 'Carbon Tax Guide. A Handbook for Policy Makers'. Available at: <https://openknowledge.worldbank.org/bitstream/handle/10986/26300/Carbon%20Tax%20Guide%20-%20Appendix%20web%20FINAL.pdf?sequence=7&isAllowed>. Accessed on 24 July 2020.

²²³ Ibid.[44]

²²⁴ Ibid.[45]

²²⁵ Ibid.[46]

²²⁶ Boqiang Lin and Xuehui Li. 'The effect of carbon tax on per capita CO₂ emissions'. *Energy Policy*. 2011. Volume 39(9), pg.5137-5146. DOI: 10.1016/j.enpol.2011.05.050

It could be clearly seen that carbon tax has a positive effect on the trade balance, reduces overall energy consumption. In Sweden carbon dioxide emissions were reduced by 11% per year, in Iceland GHG emissions decreased by 4% and in Finland emissions were reduced as well.

There is an agreement among economists that carbon taxes are the most efficient and effective way to curb climate change and least harmful for economy.²²⁷ However, it has some defects. First of all, mitigation effect of carbon tax differs across countries, mainly it comes from different carbon tax rates, different scope of tax exemptions and different usage of tax revenues. Secondly, implementation of carbon tax in developed countries leads to immigration of carbon intensity industries to developing countries with liberal economic policies, which leads to carbon leakage.²²⁸ Most likely the CBT could be an option that could eliminate these incompatibilities and could be an improvement from national carbon tax. From one hand, the CBT increases the cost of domestic production and consumer prices and results a welfare loss.²²⁹ On the other hand, national carbon tax already distorts the domestic allocation of resources, thus imposing the CBT may correct some of these distortions if it helps restore in part the allocation of resources that would prevail without any carbon tax.²³⁰ Another benefit is that the CBT could improve domestic terms of trade if it is imposed by the large economic area.²³¹ The magnitude of the terms-of-trade gain depends on different factors, especially the magnitude of the negative impact of the CBT on the demand for fossil fuels from affected exporters in foreign countries, the size of decline in demand for fossil fuels and the supply response of this fuels producers.²³² In addition, according to three competing axes²³³ environmental effectiveness includes mitigating risk of carbon leakage. A well designed CBT decreases carbon leakage, and can therefore be expected to raise welfare in countries which unilaterally undertake climate policy.²³⁴

²²⁷ Wikipedia, Carbon tax, accessed on 1 September 2020, https://en.wikipedia.org/wiki/Carbon_tax

²²⁸ Boqiang Lin and Xuehui Li. 'The effect of carbon tax on per capita CO₂ emissions'. *Energy Policy*. 2011. Volume 39(9), pg.5137-5146. DOI: 10.1016/j.enpol.2011.05.050

²²⁹ Jean-Marc Burniaux, Jean Chateau and Roman Duval. '*Is there a case for carbon-border tax adjustment? An applied general equilibrium analysis.*' 2010, DOI: 10.1080/00036846.2012.659346

²³⁰ Ibid. [2232]

²³¹ Ibid. [2232]

²³² Ibid. [2232]

²³³ Johanna Lehne and Oliver Sartor. '*Navigating the politics of border carbon adjustments.*' Available at <https://www.e3g.org/publications/navigating-the-politics-of-border-carbon-adjustments/>. Accessed on 16 October 2020

²³⁴ European Parliament. Briefing. '*Economic assessment of Carbon Leakage and Carbon Border Adjustment*', 2020. Available at: [https://www.europarl.europa.eu/thinktank/en/document.html?reference=EXPO_BRI\(2020\)603501](https://www.europarl.europa.eu/thinktank/en/document.html?reference=EXPO_BRI(2020)603501). Accessed on 10 September 2020

4.4 Compatibility of the CBT with international climate change regime

It is important as well to ensure that the CBT complies with the principles of international climate change law, nevertheless international climate change regime offers very limited guidance.²³⁵ UNFCCC states that ‘measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade’²³⁶. The principle of ‘common but differential responsibilities and respective capabilities’²³⁷ states that it is essential to take into account the different historical contribution to climate change by developing countries, as well as the level of countries’ economic development.²³⁸ Differential treatment in climate change regime was presented by developed and developing countries. The Paris Agreement introduces new forms of differential treatment, including for Least Developed Countries and small developing states.²³⁹ Although, it does not provide any requirements for the CBT, international climate change law points to the need for introducing forms of favorable treatment for developing countries, specifically for Least Developed Countries.²⁴⁰ First of all, the CBT imposed by developed countries could avoid any requirement for developing countries to adopt the same regulatory programs, programs that have a comparable mitigation effect, or ask for resembling technology or regulatory standards.²⁴¹ Secondly, groups of developing to developing countries could be exempted from the CBT and third, revenues from the CBT could be forwarded back to developing countries.²⁴² Although, there are different ways in which design and application of the CBT could ensure conformity with the principle of common but differential responsibility, implementing some of them could not be in compliance with non-discrimination obligations under the GATT, and risk a violation of the most-favored nation requirement.²⁴³ Simultaneously, a CBT that passes the GATT, but is not in compliance with the principle of ‘common but differential responsibilities and respective capabilities’ will potentially conflict with international environmental law.²⁴⁴ Taking

²³⁵ Michael A. Mehling, Harro van Asselt, Kasturi Das, Susanne Droege and Cleo Verkuijl. “*Designing Border Carbon Adjustments for Enhanced Climate Action*”. American Journal of International Law, volume 113, issue 3 (July 2019).

²³⁶ United Nations Framework Convention on Climate Change (adopted 9 May 1992, entered into force 21 March 1994), Article 3(5)

²³⁷ United Nations Framework Convention on Climate Change (adopted 9 May 1992, entered into force 21 March 1994), Article 3(1)

²³⁸ Michael A. Mehling, Harro van Asselt, Kasturi Das, Susanne Droege and Cleo Verkuijl. “*Designing Border Carbon Adjustments for Enhanced Climate Action*”. American Journal of International Law, volume 113, issue 3 (July 2019).

²³⁹ Paris Agreement, Arts 4(6), 13(3)

²⁴⁰ Michael A. Mehling, Harro van Asselt, Kasturi Das, Susanne Droege and Cleo Verkuijl. “*Designing Border Carbon Adjustments for Enhanced Climate Action*”. American Journal of International Law, volume 113, issue 3 (July 2019).

²⁴¹ *Ibid.* [472]

²⁴² *Ibid.* [472-473]

²⁴³ *Ibid.* [474]

²⁴⁴ Bastian Ljunggren. ‘Border Carbon Adjustments – Stuck between a rock and a hard place?’. Available at: <https://www.diva-portal.org/smash/get/diva2:1390542/FULLTEXT01.pdf>. Accessed on 16 October.

into account the fact that the Appellate Body showed support for environmental trade measures, the CBT that differentiates between different countries consistently with the principle of ‘common but differential responsibilities and respective capabilities’ could potentially be accepted by the Appellate Body, however it is not certain.²⁴⁵ Consequently, it is not possible to conclude that CBT could be in compliance with both the GATT and the principle of CBDR.²⁴⁶

4.5 Economic assessment of carbon border adjustment for mitigation of carbon leakage

In the summary of the results from twelve CGE models (the model comparison exercise was organized by the Stanford Energy Modelling forum), [Böhringer, Balistreri and Rutherford \(2012\)](#) find that carbon border adjustment reduces leakage rates by about one-third (from a mean of 12 percent to 8 percent).²⁴⁷ The model incorporating competitive selection of heterogeneous firms finds higher leakage rates and greater effectiveness of the CBA according to [Balisteri and Rutherford \(2012\)](#).²⁴⁸

[Branger and Quirion \(2014b\)](#) in compliance with a meta-analysis of 35 ex ante studies found that CBA reduced estimated leakage rates from a mean of 14 percent to 8 percent and the extending the CBA to all sectors will further reduce leakage.²⁴⁹

Ex ante models show that the CBA can reduce leakage, in particular it can fully eliminate direct leakage.²⁵⁰ Results depend on the design of mechanism.²⁵¹ Another implication for applying the CBA is indirect leakage through falling prices.²⁵² It favours application of the CBA to sectors with comparable production methods across jurisdictions, where emission share from production overrides the share of emissions from energy inputs.²⁵³ Carbon border adjustment need to be treated carefully, it may provoke retaliation by non-committed countries and they may shift the burden of adjustment to poor countries.²⁵⁴

²⁴⁵ Ibid. [53]

²⁴⁶ Ibid. [53]

²⁴⁷ Aaron Cosbey, Susanne Droegge, Carolyn Fisher and Clayton Munnings. ‘Developing Guidance for Implementing Border Carbon Adjustments: Lessons, Cautions, and Research Needs from the Literature’, *Review of Environmental Economics and Policy Journal*, volume 13 (1), 2019

²⁴⁸ Ibid. [7]

²⁴⁹ Ibid.[7]

²⁵⁰ European Parliament. Briefing. ‘*Economic assessment of Carbon Leakage and Carbon Border Adjustment*’, 2020. Available at: [https://www.europarl.europa.eu/thinktank/en/document.html?reference=EXPO_BRI\(2020\)603501](https://www.europarl.europa.eu/thinktank/en/document.html?reference=EXPO_BRI(2020)603501). Accessed on 10 September 2020

²⁵¹ Ibid.[15]

²⁵² Michael A. Mehling, Harro van Asselt, Kasturi Das, Susanne Droegge and Cleo Verkuijl. “*Designing Border Carbon Adjustments for Enhanced Climate Action*”. *American Journal of International Law*, volume 113, issue 3 (July 2019).

²⁵³ Ibid.[447]

²⁵⁴ European Parliament. Briefing. ‘*Economic assessment of Carbon Leakage and Carbon Border Adjustment*’, 2020. Available at: [https://www.europarl.europa.eu/thinktank/en/document.html?reference=EXPO_BRI\(2020\)603501](https://www.europarl.europa.eu/thinktank/en/document.html?reference=EXPO_BRI(2020)603501). Accessed on 10 September 2020

In compliance with the review of [Zachman & McWilliams \(2020\)](#) on ex-ante modelling analysis, in carbon intensive sectors the rate of carbon leakage differ, mostly as a result of modelling assumptions.²⁵⁵ When carbon border adjustment is introduced to the models, its effectiveness in mitigating carbon leakage is relatively limited, since indirect carbon leakage still persists through energy prices.²⁵⁶

In light of above considerations, economists state that carbon border tax could be an effective measure to combating leakage, in particular direct leakage, despite of that the results are not so impressive and there are concerns that such an adjustment may lead to similar failing as faced by the ETS at the beginning, when overallocation of emission allowances and low carbon price reduced ETS's effectiveness in lowering GHG emissions.²⁵⁷

²⁵⁵ Eline Blot, Marianne Kettunen, Celine Charveriat. *Making trade work for EU climate policy: Carbon border adjustment or product standards*, 2020. Available at: <https://ieep.eu/publications/making-trade-work-for-eu-climate-policy-carbon-border-adjustment-or-product-standards>. Accessed on 20 May 2020

²⁵⁶ Ibid. [4]

²⁵⁷ Ibid. [4]

5 CONCLUSION

The issue of combating climate change could be solved in different ways, however, when it goes from theory to practical application it faces numerous challenges.

This work attempts to answer two main questions. First question is related to effectiveness of carbon border tax to combating climate change in particular carbon leakage as a function in climate policy. The European Union suggested to implement the CBT as a border adjustment mechanism for selected sectors to reduce carbon leakage. This part of discussion mainly focused on comparison of carbon border tax with national carbon taxes and relies on reviews of economists. It could be concluded that carbon border tax could be relatively effective measure to mitigating carbon leakage from economics perspective, in addition to being compatible with international climate change regime and could be a better option in comparison with national carbon tax, since it would have universal tax rates, scope of tax exemption and usage of revenue.

The second main question raised in this thesis is compatibility of carbon border tax with WTO regime. Compatibility with the WTO rules is possible, as suggested through GATT General Exceptions, but it will imply a trade-off between political feasibility and effectiveness and a difficult balancing of regulations and the general idea of free trade. However, restrictions to trade are no stranger to international trade law. The main arguments for the CBT are that it would address the carbon leakage problem at its core, ensure a level playing field for EU companies, and help create political leverage for an increased level of ambition in international climate action. The main argument against the levy seems to be that it possibly poses a threat to trade relations between countries and free trade in general, and when implemented might not be a sufficient tool. Exporters may challenge the levy by either claiming non-compliance with GATT and/or WTO rules or by exporting to countries outside of the EU. A carbon border tax threshold set by the EU could increase the rationality of the measure.

It would not be unreasonable to conclude that there is a chance that the suggested CBT will fall within the exceptions of GATT Article XX. If implemented, there is a high probability that the measure would be challenged by the affected countries. However, the question of what measures are suitable for combating climate change is not a strictly legal question, it is also a question of natural sciences and politics. Therefore, in the end, the feasibility is not a question of what the WTO dispute settlement board will conclude, it is a question of the actions and ambitions of the world leaders.

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