

Climate Change, WTO Law, and China

Yiwen Zhang*

Combating climate change is one of the most important areas for international cooperation and negotiation. The urgency of the climate crisis requires countries, especially large carbon emitters such as China, to be more active in taking climate actions. This Note mainly focuses on the two most important trade-related climate policies for reducing carbon emissions: border carbon adjustment and low-carbon subsidies. Both policies have or would likely raise legal challenges under the existing WTO legal framework. This Note introduces the two policies, analyzes why they are disputed among WTO Members, discusses China's viewpoints, and suggests the possible actions that China can take in helping to mitigate trade policy conflicts over carbon emissions under the current WTO trade system.

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* J.D. Candidate (3L), University of California, Irvine, School of Law. This Note benefitted from the guidance of Professor Gregory Shaffer, and from the editorial team at the UC Irvine Journal of International, Transnational, and Comparative Law. I am grateful to Professor Gregory Shaffer for his mentorship and feedback during the drafting process of this Note. I would also like to thank the JITCL editorial team, especially Ann Huang and Alice Doyle, for their help and support in refining this Note.

INTRODUCTION

The COVID-19 pandemic led to a temporary reduction in global carbon dioxide emissions. In 2020, the worldwide standstill of economic and social activities led to an overall reduction in carbon dioxide emissions of 6.4%, or 2.3 billion tons.¹ However, the reduction differed among countries. Throughout the year of 2020, the United States saw its emissions decline by 12.9% and Europe by 7.7%.² China had a 10% reduction in the first three months of 2020, but only saw a decrease of 1.4% by the end of the year after the outbreak was under control and the economic activities resumed.³ Experts have predicted that global emissions will bounce back as the pandemic ends, and countries need to do more to cut emissions as trends return to their normal trajectories.⁴ Moreover, a United Nations Environment Programme report finds that the world will not meet the 1.5 degrees Celsius goal of the Paris Agreement unless carbon emissions fall by 7.6% annually between 2020 and 2030.⁵

In 1992, the United Nations Framework Convention on Climate Change (UNFCCC) was established with the objective of “stabiliz[ing] of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system.”⁶ Since then, countries have been working together in addressing climate change and reducing carbon emissions. As the largest developing country and the most populous state, China’s views and actions on climate issues have been in the spotlight for some time.

The UNFCCC objectives were operationalized in 1997 by the adoption of the Kyoto Protocol, an international treaty that China signed in 1998 and ratified in 2002. The Kyoto Protocol committed thirty-seven industrialized countries to an overall average emission reduction of five percent over five years (2008–2012) compared to 1990 levels.⁷ It is the first binding international agreement on carbon emissions reduction.⁸ However, it only binds developed countries with the principle of “common but differentiated responsibility and respective capabilities.”⁹ Developed countries were responsible for a high volume of historic emissions and urged to take the lead in reducing emissions. As a developing country and a new

1. See Jeff Tollefson, *COVID Curbed Carbon Emissions in 2020 – But Not by Much*, 589 NATURE 343, 343 (2021).

2. *Id.*

3. See *id.*; Jeff Tollefson, *How the Coronavirus Pandemic Slashed Carbon Emissions – in Five Graphs*, 582 NATURE 158, 159 (2020) [hereinafter Tollefson, *Five Graphs*].

4. Tollefson, *supra* note 1, at 343.

5. Press Release, UNEP, *Cut Global Emissions by 7.6 Percent Every Year for Next Decade to Meet 1.5°C Paris Target – UN Report* (Nov. 26, 2019).

6. United Nations Framework Convention on Climate Change, May 9, 1992, 1771 U.N.T.S. 107 [hereinafter UNFCCC].

7. Kyoto Protocol to the United Nations Framework Convention on Climate Change, Dec. 10, 1997, 37 I.L.M. 22, <https://unfccc.int/documents/2409>.

8. Robert Henson, *What is the Kyoto Protocol and Has it Made Any Difference?*, Guardian (Mar. 11, 2011), <https://www.theguardian.com/environment/2011/mar/11/kyoto-protocol> (extract from *The Rough Guide to Climate Change*).

9. UNFCCC, *supra* note 6, art. 3.1, pmbl.

economy, China was not expected to implement emission reduction in the 1990s. China also sided with other developing countries and repeatedly objected to committing its emission reduction to a binding agreement. For example, during the United Nations Climate Change Conference in Copenhagen (Copenhagen Summit) in 2009, China again refused the binding commitment and stressed that “China’s measures . . . are unconditional and they are not dependent on the reduction targets of other nations.”¹⁰

With its rapid industrialization and urbanization, China surpassed the United States as the world’s largest emitter in 2005.¹¹ Under pressure from both international criticisms and domestic discontent, the Chinese government started to take more responsibility for mitigating emissions. China’s national policy under the leadership of President Hu Jintao shifted from market economy reform to “building a harmonious society,” which included environmental protection and climate conservation.¹² Around this time, China became active in the Clean Development Mechanism (CDM) developed by the Kyoto Protocol, through which developed countries would implement emission reduction projects in developing countries.¹³ Most CDM projects in China were associated with the renewable energy sector.¹⁴ In order to attract foreign CDM projects, the National Development and Reform Commission in China established preferable rules and streamlined approval processes for projects.¹⁵ China also passed the Renewable Energy Act in 2005. The CDM projects not only brought China financial benefits but also led to technology transfers in the renewable energy sector.¹⁶

After President Xi Jinping came into power in 2013, China became even more interested and active in climate issues. During President Barack Obama’s visit to China in 2014, China reached a climate consensus with the United States and made its first-ever commitment to hit peak emissions by 2030.¹⁷ In late 2015, China signed the Paris Agreement. Towards the end of 2016, China ratified the Paris Agreement and submitted its nationally-determined contribution (NDC) to the UNFCCC, including the target of carbon emission reduction. Unlike the Kyoto Protocol, the Paris Agreement applies universally to all UNFCCC parties, including developing countries, and requires all parties to prepare, communicate, and update their NDCs

10. See Dongsheng Zang, *Green from Above: Climate Change, New Developmental Strategy, and Regulatory Choice in China*, 45 *TEX. INT’L L. J.* 201, 209 (2009); see also Jonathan Watts, *China Will Honour Commitments’ Regardless of Copenhagen Outcome*, *GUARDIAN* (Dec. 18, 2009, 8:58 AM), <https://www.theguardian.com/environment/2009/dec/18/china-wen-jiabao-copenhagen>.

11. See Qiang Wang et al., *Decomposition and Decoupling Analysis of Carbon Emissions from Economic Growth: A Comparative Study of China and the United States*, 197 *J. CLEANER PROD.* 178, 180 (2018).

12. *Put into Effect Scientific Viewpoint of Development in an All-Round Way*, *PEOPLE’S DAILY*, <http://english.peopledaily.com.cn/200412/14/eng20041214167332.html> (Dec. 15, 2004, 11:05).

13. See Zang, *supra* note 10, at 205–06; UNFCCC, *supra* note 6, art. 12.

14. Zang, *supra* note 10, at 207.

15. *Id.* at 206.

16. See Zang, *supra* note 10, at 207.

17. Mark Landler, *U.S. and China Reach Climate Accord After Months of Talks*, *NYTIMES* (Nov. 11, 2014), <https://www.nytimes.com/2014/11/12/world/asia/china-us-xi-obama-apec.html>.

regularly.¹⁸ China distanced itself from U.S. antagonism towards climate action pursued under the Trump Administration; China doubled down on its interest in climate issues and took over the leadership in international green energy development. China has since become the world's largest market for renewable energy, especially wind and solar power.

President Xi continued to pursue his policy interest in climate during the United Nations General Assembly in September 2020, where he pledged to strengthen China's climate NDC, reach carbon emissions peak by 2030, and achieve carbon neutrality by 2060 (the 30–60 goal).¹⁹ In March 2021, the National People's Congress passed the fourteenth Five Year Plan during its annual session; the policy blueprint set an eighteen percent reduction target for carbon emissions between 2021 and 2025.²⁰ On October 28, 2021, two days before the United Nations Climate Change Conference in Glasgow (COP26), China released a new NDC, reconfirming the 30–60 goal and aiming to increase the share of non-fossil sources in its energy mix to around twenty-five percent before 2030.²¹

Scholars have described the climate action in China as a “green forced from above,”²² meaning that the adoption of climate regulations in China happens within a top-down climate campaign. Since President Xi and other state officials have reaffirmed China's climate pledges on many different occasions, China is likely committed to fulfilling its 30–60 goal in combating climate issues.²³ As a domestic measure, China has subsidized renewable and electric mobility projects.²⁴ Since China launched the Belt and Road Initiative in 2013—an international infrastructure investment project—Chinese overseas investment in clean energy also skyrocketed.²⁵ China also published the “Guidance on Promoting Green Belt and Road” in 2017, encouraging more green and low-carbon constructions.²⁶ Various

18. Susanne Droege, Harro Van Asselt, Kasturi Das & Michael Mehling, *The Trade System and Climate Action: Ways Forward Under the Paris Agreement*, 13 S.C.J. INT'L L. & BUS. 195, 199–200 (2017).

19. Matt McGrath, *Climate Change: China Aims for 'Carbon Neutrality by 2060'*, BBC NEWS (Sep. 22, 2020), <https://www.bbc.com/news/science-environment-54256826>.

20. Shi Yi, *The 14th Five Year Plan Sends Mixed Message About China's Near-Term Climate Trajectory*, CHINA DIALOGUE (Mar. 8, 2021), <https://chinadialogue.net/en/energy/the-14th-five-year-plan-sends-mixed-message-about-chinas-near-term-climate-trajectory/>.

21. *Statement: China Releases New Climate Commitment Ahead of COP26*, WORLD RES. INST. (Oct. 28, 2021), <https://www.wri.org/news/statement-china-releases-new-climate-commitment-ahead-cop26>.

22. See Yi, *supra* note 20.

23. See Zang, *supra* note 10, at 205.

24. There are some indications of a subsidies policy reversal by China. See Muyu Xu & Tom Daly, *Update 2—China Lifts Renewable Power Subsidy for 2021 by Nearly 5% Y/Y*, REUTERS (Nov. 20, 2020), <https://www.reuters.com/article/china-renewables-subsidy/update-2-china-lifts-renewable-power-subsidy-for-2021-by-nearly-5-y-y-idUKL1N2I60PC>; Climate Change Tracker of China, CLIMATE ACTION TRACKER, <https://climateactiontracker.org/countries/china/2020-09-21/> (last visited Apr. 10, 2021) [hereinafter CLIMATE ACTION TRACKER].

25. Chuyu Liu & Johannes Urpelainen, *Why the United States Should Compete with China on Global Clean Energy Finance*, BROOKINGS (Jan. 7, 2021).

26. *Guidance on Promoting Green Belt and Road*, BELT & RD. PORTAL (May 8, 2017, 2:23 PM), <https://eng.yidaiyilu.gov.cn/zchj/qwfb/12479.htm>.

levels of the Chinese government have participated in this process and encouraged firms to invest in wind and solar industries overseas.²⁷

However, some climate experts have suggested that China should set a more ambitious target: to achieve a carbon peak around 2025 instead of the current 2030.²⁸ China's recent coal activities and the subsequent development of new coal plants have also raised concerns. In addition, the Climate Action Tracker has rated China's NDC as "highly insufficient."²⁹ As the largest carbon emitter and the largest clean energy producer, China can do more in reducing carbon emissions and combating climate change. There are many ways to mitigate greenhouse gas emissions, and most of them relate to either incentivizing low-carbon activities or discouraging high-carbon activities. This Note mainly focuses on two trade-related policies: border carbon adjustment and low-carbon subsidies. As shown below, both policy schemes have received criticism due to their alleged violations of World Trade Organization (WTO) law. Some WTO Members have also considered the policy schemes unfair to developing countries and ineffective in addressing climate concerns. Frequently, these questions remain unanswered within the existing WTO legal framework.

This Note introduces the concepts of border carbon adjustment (BCA) and low-carbon subsidies, discusses the reasons why they are disputed under WTO law, and suggests the possible actions China can take in mitigating greenhouse gas emissions under the current WTO trade system. There are three main types of greenhouse gases: carbon dioxide, methane, and water vapor, but this Note mainly focuses on carbon dioxide due to its centrality in media and policy debates.

This Note finds that BCA is WTO compatible as either an internal tax or an environmental exception. Despite China's concerns regarding the legitimacy, fairness, and effects of BCA on the Chinese economy, active participation in BCA building would benefit China's clean energy development and further its 30–60 carbon target. China should also make reasonable efforts to ensure that the BCA proposed is not coercive and considers local conditions in different WTO Members. This Note also finds that the WTO subsidy law is effective neither in discouraging the use of fossil fuels nor in protecting renewable energy support programs. China should be more active in negotiating new subsidy rules that regulate environmental subsidies and explicitly exempt renewable energy subsidies.

Part I of this Note discusses the border carbon adjustment, why it has been disputed among international parties, and how China has viewed it. Part II discusses the renewable energy subsidy, how WTO subsidy law is ineffective in regulating it, and what can be done next. The last section concludes.

27. Xiaomei Tan, Yingzhen Zhao, Clifford Polycarp & Jianwen Bai, *China's Overseas Investments in the Wind and Solar Industries: Trends and Drivers* 14 (World Res. Inst., Working Paper, Apr. 2013).

28. See Kevin Rudd, *The New Geopolitics of China's Climate Leadership*, CHINA DIALOGUE (Dec. 11, 2020), <https://chinadialogue.net/en/climate/the-new-geopolitics-of-chinas-climate-leadership/>.

29. See CLIMATE ACTION TRACKER, *supra* note 24.

II. BORDER CARBON ADJUSTMENT

Border carbon adjustment (BCA) is a tax duty on imports based on the amount of carbon emissions incurred in the production of goods. It responds to the competitiveness and environmental concerns that arose from countries' unilateral carbon tax.³⁰ Following the Kyoto Protocol, some WTO Members introduced more stringent climate policies to curb carbon emissions. However, the unilateral carbon costs left domestic producers in these countries at a competitive disadvantage compared to importers. Domestic demand shifted abroad to places with less stringent carbon policies. Thus, production abroad increased and caused more emissions or "carbon leakage."³¹ Since the late 2000s, the European Union has sought to develop BCA measures to address carbon migration and leakage.³² In 2009, the U.S. House of Representatives passed the Clean Energy and Security Act, which incorporated a border tax adjustment mechanism but ultimately did not receive confirmation from the Senate and the U.S. President.³³ The proposed American Opportunity Carbon Fee Act of 2014 was also intended to explore the potential of BCA. Most recently, in July 2021, the European Commission adopted a proposal for a new Carbon Border Adjustment Mechanism, which will impose a tax on imports of carbon-intensive products such as cement, fertilizers, iron, steel, aluminum, and electricity. The new mechanism is expected to enter into force in January 2026 after a three-year transition period.³⁴

Some BCA proposals exempt countries that have commensurate policies in place from the BCA tariff, thus incentivizing countries without carbon policies to create comparable domestic policies to avoid border taxation.³⁵ However, BCA proposals have also received criticism, especially among developing countries. Countries such as China have challenged the legitimacy of such policy schemes and alleged that BCA violates WTO/GATT (General Agreement on Tariffs and Trade) rules. Brazil and India challenged BCA from the fairness aspect and argued that it violates the principle of "differentiated responsibilities" under the UNFCCC.³⁶ This

30. JOOST PAUWELYN & DAVID KLEIMANN, TRADE RELATED ASPECTS OF A CARBON BORDER ADJUSTMENT MECHANISM: A LEGAL ASSESSMENT 7 (2020).

31. See Thomas Cottier & Nashina Shariff, *International Trade and Climate Change*, in RESEARCH HANDBOOK ON ENVIRONMENT, HEALTH AND THE WTO 413, 435 (Geert Van Calster & Denise Prévoost eds., 2013).

32. Harro van Asselt & Thomas Brewer, *Addressing Competitiveness and Leakage Concerns in Climate Policy: An Analysis of Border Adjustment Measures in the US and the EU*, 38 ENERGY POL'Y 42, 47, 49 (2010).

33. The terms "border carbon adjustment" (BCA), "border tax adjustment," and "carbon border adjustment" are often used interchangeably to refer to an import fee levied on carbon-intensive products. See American Clean Energy and Security Act of 2009, H.R. 2454, 111th Congress (on the passage of the bill).

34. Eur. Comm'n, *Proposal for a Regulation Establishing a Carbon Border Adjustment Mechanism*, COM (2021) 564 final (July 14, 2021) [hereinafter *CBAM Proposal*].

35. See Cottier & Shariff, *supra* note 31, at 436–37; Sarah Ladly, *Border Carbon Adjustment, WTO-Law and the Principle of Common but Differentiated Responsibilities*, 12 INT'L ENV'T AGREEMENTS 63, 67 (2012).

36. See Nathalie Bernasconi-Osterwalder & Aaron Cosbey, *Carbon and Controversy: Why We Need Global Cooperation on Border Carbon Adjustment*, INT'L INST. FOR SUSTAINABLE DEV. INSIGHT (May 18, 2021), <https://www.iisd.org/articles/carbon-border-adjustment-global-cooperation>.

Part first addresses how BCA interplays with the WTO/GATT rules. Second, it discusses other surrounding disputes and, specifically, China's opinions on BCA.

A. BCA and its Compliance with WTO/GATT Rules

Experts have debated whether BCA complies with WTO trade rules. Most of them agree that there are two main ways of creating a WTO-compliant BCA measure. First, a BCA can qualify as an internal tax under GATT Article II, Paragraph 2(a), and follow the non-discrimination requirement under Article III. Second, even if an import BCA were found discriminatory and thus illegal under Article III, GATT Article XX's environmental exceptions could still help it pass at the WTO.

1. GATT Article II, Paragraph 2(a)

First, a carbon border tax can comply with the WTO by following the requirements to qualify as an internal tax under Article II, Paragraph 2(a), and by satisfying the general non-discrimination requirement. Generally, GATT Article II prohibits countries from imposing customs duties that exceed the amount agreed in the tariff schedule.³⁷ However, Paragraph 2(a) of Article II explicitly allows countries to impose “on the importation of any product . . . a charge equivalent to an *internal tax* . . . in respect of the like domestic *product* or in respect of an *article* from which the imported product has been manufactured or produced in whole or in part.”³⁸ Paragraph 2 of Article III provides that it must be an “internal tax . . . applied, *directly or indirectly*, to . . . *products*.”³⁹ If qualified as an internal tax, such a border charge is adjustable as long as it also meets the national treatment requirement under Article III. The GATT Working Party on Border Tax Adjustment also stated that indirect taxes on products were adjustable, whereas direct taxes on employers and employees were not.⁴⁰ Since indirect taxes are broadly defined as “all taxes other than direct taxes” under the Agreement on Subsidies and Countervailing Measures (SCM Agreement), a carbon tax is likely to be qualified as an indirect tax.⁴¹

It is easy to determine whether a product itself is taxable. The trickier question is whether hidden taxes, such as taxes on energy inputs which are not physically incorporated into the final product, can be adjusted at the border; in other words, whether the energy input used in production is considered an “article” and thus tax adjustable under Article II, Paragraph 2(a). Since no case has yet been brought before the WTO on this issue, it is unclear how broadly the Appellate Body would interpret the “article.” However, the GATT has previously permitted the United

37. General Agreement on Tariffs and Trade art. II, Oct. 30, 1947, 61 Stat. A-11, 55 U.N.T.S. 194 [hereinafter GATT].

38. *Id.* at art II, ¶ 2(a).

39. *Id.* at art III, ¶ 2.

40. Matthew C. Porterfield, *Border Adjustments for Carbon Taxes, PPMs, and the WTO*, 41 U. PA. J. INT'L L. 1, 16 (2019).

41. Agreement on Subsidies and Countervailing Measures, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex I n.58, 1869 U.N.T.S. 14 [hereinafter SCM Agreement].

States to impose a tax on chemicals as well as on imports that had used such chemicals in the production, suggesting that there is no requirement for inputs that are subject to border tax to be physically incorporated into and present in the final product.⁴² Moreover, as shown earlier, Paragraph 2 of Article III explicitly allows the internal tax imposed “indirectly” on products, demonstrating the drafters’ intent to cover taxes on different stages of production.⁴³ The hidden tax is one of the areas attacked by Chinese experts when they challenge the inconsistency between BCA and the WTO national treatment requirement.

Overall, experts suggest that the nexus between the carbon tax and the products concerned is tight enough to allow adjustment.⁴⁴ A border carbon adjustment measure is likely to qualify as an internal tax under Article II, Paragraph 2(a).

2. GATT Article XX Exception

If a border measure were not permitted as a domestic carbon tax under GATT Article II, Paragraph 2(a) or if it were found to be discriminatory, it would still be justified by GATT Article XX exceptions due to environmental concerns. Paragraph (b) of Article XX justifies a border measure that is “*necessary* to protect human, animal or plant life or health,” and Paragraph (g) justifies a measure “*relating to* the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption. . . .”⁴⁵ Although some scholars have suggested that the “related to” test in Paragraph (g) requires a lower burden of proof than the “necessary” test in Paragraph (b),⁴⁶ a BCA measure can be justified through both tests.

In determining whether a measure is “necessary” under Article XX, Paragraph (b), the Appellate Body has considered possible alternatives that may be less trade restrictive but produce an equivalent contribution to the objective pursued. For example, in *Brazil—Measures Affecting Imports of Retreaded Tyres*, the Appellate Body concluded that the Brazilian ban on imported retreaded tires was necessary under Article XX, Paragraph (b), and no reasonable alternatives were less trade restrictive.⁴⁷ Many experts suggested that, although it restricts trade, a BCA measure is a relatively open and efficient option.⁴⁸ A global agreement on carbon emissions

42. See Joost Pauwelyn, *Carbon Leakage Measures and Border Tax Adjustments Under WTO Law*, in RESEARCH HANDBOOK ON ENVIRONMENT, HEALTH AND THE WTO 448, 478–79 (Geert Van Calster & Denise Prévost eds., 2013); Report of the Panel, *United States—Taxes on Petroleum and Certain Imported Substances*, ¶ 5.2.7, L/61775 (June 17, 1987) GATT B.I.S.D. (34th Supp.), at 136 (1987) [hereinafter *US—Petroleum*].

43. GATT, *supra* note 37, at art. III, ¶ 2.

44. See Pauwelyn, *supra* note 42, at 480.

45. GATT, *supra* note 37, at art. XX, ¶¶ b, g.

46. PAUWELYN & KLEIMANN, *supra* note 30, at 7.

47. Appellate Body Report, *Brazil – Measures Affecting Imports of Retreaded Tyres*, WTO Doc. WT/DS332/AB/R, (adopted Dec. 17, 2007), https://www.wto.org/english/tratop_e/dispu_e/cases_e/1pagesum_e/ds332sum_e.pdf.

48. See JOOST PAUWELYN & DAVID KLEIMANN, *supra* note 30, at 11 (“Free allowances are one option, but as they involve not imposing a carbon cost at all on certain production, this option probably does not achieve the same level of climate protection.”).

might be less restrictive than BCA, but such an agreement would rely on international political will and take a long time to implement.

At the same time, for a border measure to fall under the Article XX, Paragraph (g) exception, the Appellate Body in the *US—Shrimp* required the WTO Member to establish a “substantial relationship” between the chosen measure and the conservation of exhaustible natural resources. The threshold for proving “natural resources” is not very high: natural resource has been considered as a generic term and is not “static” in its content but is rather “by definition, evolutionary.”⁴⁹ The Appellate Body also noted that the words of Article XX, Paragraph (g), must be read “in light of contemporary concerns of the community of nations about the protection and conservation of the environment.”⁵⁰ Moreover, in *US—Gasoline*, the United States was challenged for its different treatments of domestic and imported gasolines, but the Appellate Body found that the treatment was “related to” protecting the clean air and thus fell under the scope of Article XX, Paragraph (g). With the deteriorating climate condition and the increasing international attention to emission mitigation, clean air is more likely than ever to be considered a “natural resource” under GATT Article XX, Paragraph (g). Thus, the carbon border pricing is likely to pass the “related to” test.

Even if a BCA is considered necessary or sufficiently related to the conservation of exhaustible natural resources, it must also meet the introductory clause (chapeau) of Article XX, which seeks to ensure that Article XX is not used for protectionist abuses. The clause states that the measure must “not [be] applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail,” or “a disguised restriction on international trade.”⁵¹ For instance, in *US—Shrimp*, the original U.S. restriction on imported shrimp was an economic embargo and was found to be “unjustifiable discrimination” under the chapeau.⁵² The import restriction had required all other exporting Members to “adopt essentially the same policy” as the United States and had not considered the other specific measures that other Members may have already adopted.⁵³ The United States then issued a revised guideline implementing the import restriction and allowed shrimps imported from countries with programs that were “comparable in effectiveness” to the U.S. measure. The Appellate Body concluded that the revised import restriction “allow[ed] for sufficient flexibility in the application” and could avoid constituting arbitrary or unjustifiable discrimination under the chapeau.⁵⁴ Therefore, a carbon tax on imports is likely to qualify under the chapeau if the measure is designed to

49. Appellate Body Report, *United States—Import Prohibition of Certain Shrimp and Shrimp Products*, ¶ 130, WTO Doc. WT/DS58/AB/R, (adopted Nov. 6, 1998) [*US—Shrimp*].

50. *Id.*

51. GATT, *supra* note 37, at art. XX chapeau.

52. *US—Shrimp*, *supra* note 49, at ¶ 130.

53. *Id.* at ¶ 161.

54. See Pauwelyn, *supra* note 42, at 502.

be “sufficiently flexible and takes ‘into consideration different conditions which may occur’ in different foreign countries.”⁵⁵

Interestingly, some experts believe it is better to justify a BCA under Paragraph 2(a) of Article II, as an internal tax, than under Article XX. The chapeau of Article XX may force the carbon-restricting country to consider different conditions in exporting countries and require a sufficient level of flexibility. Therefore, to obtain justification under Article XX, the carbon-restricting country may be required to impose a *graduated* border tax on imports from developing countries due to their historically low carbon emission as well as from countries that already have their own climate policies in place.⁵⁶

Overall, an appropriately designed BCA aimed at reducing carbon leakage can be WTO-compliant. It can pass GATT Articles II and III as a non-discriminatory internal tax. Even if an import BCA were found to violate the GATT rules, Article XX’s exceptions could still apply so long as the measure is sufficiently flexible and does not coerce the exporting Members under the chapeau.

B. China’s Viewpoints on BCA

China has long opposed the idea of border carbon adjustment for three main reasons. First, China has argued that BCA is not consistent with WTO/GATT rules. Particularly, the regulation of imported products based on “process or production methods” (PPMs) is said to violate the national treatment requirement. Second, China has stated that BCA potentially conflicts with the “common but differentiated responsibilities” principle established by the UNFCCC.⁵⁷ Third, China has suggested that BCA will negatively impact the Chinese export economy.

1. PPMs-Based BCA is Inconsistent with WTO Rules

Experts in China have long argued that BCA violates the WTO/GATT non-discrimination requirements.⁵⁸ As discussed above, if a BCA on imports passed Article II as an internal tax, it must also meet the national treatment requirement under Article III, meaning that the imported products should not be treated less favorably than “like” domestic products.⁵⁹ Only “like” products can be compared and subject to the Article III requirement. Experts in China have argued that in determining the “likeness” of products, countries should stick to the four factors raised by the WTO jurisprudence: physical characteristics of the products, end-use,

55. *Id.*

56. *See id.* at 503–04.

57. UNFCCC, *supra* note 6.

58. Xia Lu (夏璐), Guojifa Kuangjia Xia “Tan Guanshui” Hefa Xing Fenxi (国际法框架下“碳关税”合法性分析) [*The Legitimacy of Carbon Border Taxes Under the International Law Framework*], 7 Fazhi Yu Shehui (法制与社会) [Legal Sys. & Soc’y] 103, 103 (2010), <https://core.ac.uk/download/pdf/41434798.pdf>; *see also* Chen Jiemin (陈洁民) & Wang Qin (王勤), Tan Guanshui: Xinxing de Maoyi Baohu Xingshi (碳关税): 新型的贸易保护形式 [*Carbon Border Tax: New Trade Protectionism*], Heilongjiang Duiwai Jingmao (黑龙江对外经贸) [HLJ FOREIGN ECON. REL. TRADE] (2010), <https://core.ac.uk/download/pdf/41450597.pdf>.

59. GATT, *supra* note 37, at art. III.

consumer tastes and habits, and tariff classification.⁶⁰ Since carbon emissions are generally PPMs and cannot be found in the physical characteristics of products, experts in China have stressed that the differentiation of carbon emissions should not be the basis for “likeness” and that government should not regulate imported products based on PPMs. Accordingly, if two products were produced at different levels of carbon emissions but were otherwise the same in their end use and physical characteristics, the different treatment they received would trigger a violation of the national treatment requirement under Article III. In this case, experts in China would argue that they are “like” products and should receive the same treatment.

However, as discussed above, the phrase “directly and indirectly” under Paragraph 2 of Article III demonstrates that the drafters intended to cover not only taxes on finished products but also taxes on inputs used in different stages of the production process.⁶¹ Moreover, the WTO Panel in *US—Superfund* found that “the tax on certain chemicals, being a tax directly imposed on products, was eligible for border tax adjustment independent of the purpose it served.”⁶² Thus, the WTO Appellate Body is likely to find that low-carbon steel and high-carbon steel are “not like” and incomparable. Therefore, WTO Members can simply avoid the national treatment requirement, and the PPM issue will not make a BCA inconsistent with WTO rules.

Some critics in China have also suggested that BCA cannot pass the Article XX, Paragraph (b) environmental exception because BCA is not the least trade restrictive and thus is not “necessary” to protect human, animal or plant life, or health.⁶³ For example, export duties on carbon-intensive products could be more applicable to China.⁶⁴ Since export duties are collected by the exporting countries, such duties can assuage concerns regarding financial unfairness. As discussed earlier, there are other less restrictive options, but most of them require extra conditions such as a green political will.⁶⁵ However, even if a BCA does not satisfy the Article XX, Paragraph (b) exception, it can still meet the Article XX, Paragraph (g) exception and chapeau requirement.

2. *BCA Violates “Common but Differentiated Responsibilities”*

Another criticism that BCA often receives is that it is protectionist in nature and thus violates the principle of “common but differentiated responsibilities.”⁶⁶ According to the UNFCCC, developed countries should take the lead in combating

60. Appellate Body Report, *European Communities – Measures Affecting Asbestos & Products Containing Asbestos*, WTO Doc. WT/DS135/AB/R, (adopted Apr. 5, 2001).

61. GATT, *supra* note 37, at art. III, ¶ 2.

61. Porterfield, *supra* note 40, at 2.

62. *US—Petroleum*, *supra* note 42.

63. Lu, *supra* note 58, at 103.

64. See Fengan Jiang, *Should the WTO Allow China to Impose Export Duties Designed to Combat Climate Change*, 12 GLOBAL TRADE & CUSTS. J. 132, 136, 140 (2017) (noting that export duties are not legally available to China under WTO law, though such duties hold great potential as an interim tool for combatting carbon leakage).

65. *Id.*

66. UNFCCC, *supra* note 6, art. 3.1, pmb1.

climate change because they are responsible for the large volume of historic emissions and have more advanced technologies. BCA measures are generally implemented by developed countries, thus imposing an environmental burden on developing countries. Critics have argued that “punish[ing] developing countries for emissions through carbon border adjustments is . . . unjust,” especially because developed countries had benefited from the same forces of globalization.⁶⁷ Experts in China have held similar sentiments and have alleged that BCA fails to account for individual countries’ conditions. In December 2009, just a few days before the Copenhagen Summit, the Ministry of Commerce of China reiterated China’s opposition to any potential carbon tax imposed on countries with lenient emission policies.⁶⁸

However, as China became the largest carbon emitter in the late 2000s and is now an unmistakable power in clean energy technology, it is less and less convincing for China to continue its firm opposition against BCA with the “differentiated responsibilities” rhetoric.

In March 2021, Japan joined the European Union in discussing the idea of a carbon border tax.⁶⁹ In July 2021, the European Commission adopted a proposal for a new BCA mechanism and prepared to impose a levy on imports that did not meet carbon emission requirements.⁷⁰ In August 2021, Canada launched its exploratory consultations with the public on BCA and released a discussion paper outlining the domestic and international context of designing a BCA mechanism.⁷¹ Given the global interest in BCA, it is a great time for China to be more open to the carbon tariff discussions. In fact, if China engages with the United States and the European Union on this issue, the United States and the European Union may be more flexible in structuring the BCA than if China does not so engage in such negotiations. More flexibilities and accommodation of difference in development status will indirectly contribute to the principle of “differentiated responsibilities.”

3. BCA Would Negatively Affect Chinese Economy

Another argument against BCA relates to its negative effects on the Chinese economy. A large number of Chinese exports to the United States and the European

67. Arvind P. Ravikumar, *Carbon Border Taxes Are Unjust*, MIT TECH. REV. OPINION (July 27, 2020), <https://www.technologyreview.com/2020/07/27/1005641/carbon-border-taxes-eu-climate-change-opinion/#:~:text=As%20part%20of%20this%20deal,tax%2C%20on%20imports%20by%202023.&text=The%20argument%20in%20favor%20is,that%20develop%20low%2Dcarbon%20products>.

68. Zhongguo Chongshen Fandui Xiang Qi Chanpin Zhengshuo Tan Guanshui (中国重申反对向其产品征收碳关税) [*China Reiterated its Opposition to Carbon Border Tax*], BBC Zhongwen Wang (中文网) [BBC NEWS] (Dec. 16, 2009), https://www.bbc.com/zhongwen/trad/china/2009/12/091216_china_carbontariff.

69. *Japan and EU to Ally on Aid for Asia Decarbonization*, NIKKEI ASIA (Mar. 30, 2021, 12:00 AM), <https://asia.nikkei.com/Spotlight/Environment/Climate-Change/Japan-and-EU-to-ally-on-aid-for-Asia-decarbonization>.

70. *CBAM Proposal*, *supra* note 34.

71. *Exploring Border Carbon Adjustments for Canada*, GOV'T CAN. (Aug. 5, 2021), <https://www.canada.ca/en/department-finance/programs/consultations/2021/border-carbon-adjustments/exploring-border-carbon-adjustments-canada.html>.

Union come from high carbon-intensive industry, and these products will be levied at a high tax rate under a BCA. Thus, China's export industry will experience significant output losses. The competitiveness losses in target industries will lead to general output losses, negatively affecting China's domestic welfare.⁷² Some experts have compared China to India and argued that China would be more adversely affected by a BCA due to China's trade openness.⁷³

However, some scholars suggested that the negative effects are limited.⁷⁴ Moreover, since China is undergoing an industrial transition, a BCA would push China to adopt more stringent environmental regulations at various levels of government and corporations, facilitating its transition to a more environmentally efficient economic model.

C. Next Steps for China

As demonstrated above, China's concerns about the legitimacy of BCA are invalid. There are two ways for any BCA to pass the muster of WTO rules. A BCA measure can pass the internal tax analysis under Article II or obtain the environmental justification under Article XX. There are sufficient grounds for the PPMs-based BCA to avoid the national treatment violation under Article III. Therefore, China should be more engaged in negotiating BCA design instead of reiterating that BCA is inconsistent with WTO/GATT rules. Although BCA might cause negative effects on Chinese export industries, China can view the challenges created by BCA as an opportunity to incentivize low-carbon technology development and further China's industrial transition.

Active participation in the BCA negotiation also helps to ensure that the BCA proposed does not constitute a means of arbitrary or unjustifiable discrimination. China can engage the United States, the European Union, and other WTO Members to design a BCA that is non-coercive and sufficiently flexible by considering the different conditions and development status across countries.

III. RENEWABLE ENERGY SUBSIDIES

Apart from imposing a levy on imports that contain high carbon intensity, encouraging low-carbon subsidies also addresses climate change. Subsidizing renewable energy production and consumption encourages climate-friendly economic behaviors. Similarly, reducing the existing subsidies for fossil fuels also incentivizes producers to choose clean energy such as wind and solar power. These subsidies are subject to WTO subsidy rules, which were created to avoid trade distortions and protectionist effects. Since 2010, there has been a rising number of WTO cases related to government-sponsored green energy programs. However, the

72. Aijun Li, Aizhen Zhang, Hongbo Cai, Xingfeng Li & Shishen Peng, *How Large are the Impacts of Carbon-Motivated Border Tax Adjustments on China and How to Mitigate Them?*, 63 ENERGY POL'Y 927, 931 (2013).

73. *Id.*

74. *See, e.g.*, Ben Lockwood & John Whalley, *Carbon Motivated Border Tax Adjustments: Old Wine in Green Bottles?*, 33 WORLD ECON. 810, 816–17 (2010) (discussing the offsetting market balances to BTAs).

current WTO jurisprudence is not sufficient to guide countries in determining whether their renewable energy support program is compliant with WTO subsidy law. The increasing disputes surrounding renewable energy subsidies are also contrasted with the SCM Agreement's failure to regulate fossil fuel subsidies.

Many scholars have questioned the effectiveness of the existing WTO subsidy law in reducing carbon emission and promoting renewable energy. This section introduces the Agreement on Subsidies and Countervailing Measures and its ineffectiveness in protecting renewable energy support programs. It mainly focuses on the expiry of non-actionable subsidies and the recent WTO green energy disputes.

A. SCM Agreement

Although much of the discourse about renewable energy subsidies involves GATT and the Agreement on Trade Related Investment Measures (TRIMs), this Note mainly focuses on the SCM Agreement. The SCM Agreement defines a subsidy as a financial contribution that is made by a government or any public body and that confers a benefit upon the recipient.⁷⁵ It classifies subsidies as prohibited, actionable, or non-actionable.⁷⁶ Prohibited subsidies include export and import substitution subsidies, which are considered as inherently trade-distorting and should be "withdrawn without delay."⁷⁷ Even if subsidies are not prohibited, they can still be actionable under the SCM Agreement. In order to be actionable, the subsidy must be "*specific* to an enterprise or industry . . . and cause *adverse effects* on the interests of other members."⁷⁸ Adverse effects are established if subsidies used by a party result in injury to the domestic industry of another party, nullification or impairment, or serious prejudice.⁷⁹ A Member who was adversely affected by a specific subsidy may respond multilaterally through the WTO settlement mechanism or respond unilaterally through countervailing duties to counter the effects of subsidy.

1. Fossil Fuel Subsidies Remain Undisciplined

One of the major criticisms raised against the SCM Agreement is that it has left fossil fuel subsidies undisciplined. Although the emphasis of government subsidies has shifted from fossil fuel sources to renewables in some parts of the world,⁸⁰ there remains a continued imbalance.⁸¹ For instance, the world's direct

75. SCM Agreement, *supra* note 41, at art. 1, ¶ 1.

76. *Id.*

77. *Id.* at art. III, art. IV, ¶ 7.

78. *Id.* at art. V, art. II (emphasis added).

79. *Id.* at art. V.

80. *You Asked: How Much Does the U.S. Subsidize Renewable Energy Versus Fossil Fuels?* COLUM. CLIMATE SCH., (Sept. 23, 2019) <https://news.climate.columbia.edu/2019/09/23/energy-subsidies-renewables-fossil-fuels/> (Q&A responses by Peter Marsters).

81. MICHAEL TAYLOR, ENERGY SUBSIDIES: EVOLUTION IN THE GLOBAL ENERGY TRANSFORMATION TO 2050, INT'L RENEWABLE ENERGY AGENCY 7, 9 (2020).

subsidies for fossil fuels in 2017 were 3.1 trillion dollars, exceeding renewable energy subsidies by a factor of nineteen.⁸²

Under the SCM Agreement, Members must notify the SCM Committee of any subsidies the Members use, and the SCM Committee will examine the Member's notifications on a regular basis.⁸³ Notifications must include the form and duration of the subsidy, the average subsidy per unit, the policy objective of the subsidy, and statistical data permitting an assessment of the trade effects of the subsidy.⁸⁴ In reality, due to lack of surveillance mechanism and transparency, Members either "fail to notify their subsidies, or notify only sporadically."⁸⁵ Therefore, Members do not have an incentive to notify the SCM Committee of their fossil fuel subsidies.

The dual pricing schemes for fossil fuels made things even more complicated.⁸⁶ Under the dual pricing system, domestic fossil fuels are charged at a lower price than the exported fuels. Although the system could be found prohibited, countries could design the subsidies to ensure the preferential domestic price is not related to the export performance. Such subsidies could also be found actionable, but the dual pricing generally applies to all industries and enterprises and thus, subsidies are unlikely to be found specific. As to adverse effects, it would be hard to demonstrate that the dual pricing scheme has benefitted the energy-intensive industries disproportionately more than other industries. Therefore, fossil fuel subsidies were left undisciplined under the SCM Agreement.

2. Renewable Energy Subsidies Remain Unprotected

Apart from its inability to regulate fossil fuels subsidies, the SCM Agreement is also ineffective in addressing the dilemma faced by renewable energy subsidies. First, the SCM Agreement does not distinguish between renewable energy and non-renewable energy and treats all such subsidies as actionable as long as they meet the abovementioned requirements. This leaves renewable energy subsidies unprotected by the WTO and disincentivizes Members from developing clean energy technology. Second, there has been an increasing number of WTO cases challenging government-sponsored renewable energy programs,⁸⁷ but it is still hard to determine whether those programs violate the SCM Agreement. The combination

82. *Id.*

83. SCM Agreement, *supra* note 41, at art. XXV.

84. *Id.*

85. LIESBETH CASIER, ROBIN FRASER, MARK HALLE & ROBERT WOLFE, SHINING A LIGHT ON FOSSIL FUEL SUBSIDIES AT THE WTO, INT'L INSTITUTE FOR SUSTAINABLE DEV., GSI 5 (2014).

86. Timothy Meyer, *Energy Subsidies and the World Trade Organization*, 17 AM. SOC'Y INT'L L. INSIGHTS (2013), <https://www.asil.org/insights/volume/17/issue/22/energy-subsidies-and-world-trade-organization>.

87. See, e.g., Appellate Body Report, *Canada—Certain Measures Affecting the Renewable Energy Generation Sector/ Measures Relating to the Feed-in Tariff Program*, WTO Doc. WT/ DS412/DS426/AB/R (adopted May 24, 2013) [hereinafter *Canada—Renewable Energy/FIT Program*]; Appellate Body Report, *India—Certain Measures Relating to Solar Cells and Solar Modules*, WTO Doc. WT/DS456/AB/R (adopted Oct. 14, 2016) [India—Solar Cells]; Request for Consultations by India, *United States—Certain Measures Relating to the Renewable Energy Sector*, WTO Doc. WT/DS510/1 (Sept. 19, 2016) [hereinafter *US—Renewable Energy Sector*].

of “legal uncertainty and increased litigiousness” will discourage Members from adopting new renewable energy programs, thus slowing the climate actions.⁸⁸

B. The Expiry of Non-actionable Subsidies

Article 8 of the SCM Agreement contained a list of non-actionable subsidy types, known as “green light” subsidies.⁸⁹ These types of subsidies included subsidies for certain types of research activities, subsidies providing assistance to disadvantaged regions, and subsidies promoting the adaptation of existing facilities to new environmental requirements.⁹⁰ The provisions of Article 8 provided a potential safe harbor for the abovementioned types of subsidies, including those that had environmental benefits. Green light provisions were subject to a provisional application of five years, and “the Committee [would have] review[ed] the operation of those provisions, with a view to determining whether to extend their application, either as presently drafted or in a modified form, for a further period.”⁹¹ However, by the end of the Uruguay Round, WTO Members failed to reach a consensus to renew Article 8 or create a different list. Article 8 automatically expired at the end of 1999, and no subsidy programs have been explicitly protected as non-actionable since then.⁹² Without the safe harbor provided by green light provisions, renewable energy subsidies that are environmentally friendly now face the same rules as non-renewable energy subsidies.

Discussions about whether Article 8 was appropriately designed and why it was not renewed have been ongoing. Some commentators have argued that the intent of a subsidy should be taken into consideration when assessing its non-actionable status, but others argued that the effect of a subsidy, rather than its intent, should be considered.⁹³ The lack of consensus also resulted from the conflicting interests between developed and developing countries.⁹⁴ For example, Brazil argued that the listed non-actionable subsidies did not suit the interests of developing countries since the research and development subsidies, as well as the environmental subsidies, would mostly benefit developed countries. Other developing countries such as India, the Dominican Republic, and Pakistan held similar views with Brazil and argued that the non-actionable category was biased in favor of the developed world.⁹⁵ In contrast, Switzerland and Canada argued that developing countries also need to address environmental problems and could take

88. Sophie Wenzlau, *Renewable Energy Subsidies and the WTO*, 41 U.C. DAVIS L. REV. 337, 363 (2018).

89. Sadeq Z. Bigdeli, *Resurrecting the Dead - The Expired Non-Actionable Subsidies and the Lingering Question of Green Space*, 8 MANCHESTER J. INT'L ECON. L. 2, 2–3 (2011).

90. SCM Agreement, *supra* note 41, at art. VIII.

91. *Id.* at art. XXXI.

92. Robert Howse, *Making the WTO (Not So) Great Again: The Case Against Responding to the Trump Trade Agenda Through Reform of WTO Rules on Subsidies and State Enterprises*, 23 J. INT'L ECON. L. 371, 377 (2020).

93. CASIER, FRASER, HALLE & WOLFE, *supra* note 85, at 12.

94. See Aaron Cosbey & Petros C. Mavroidis, *A Turquoise Mess: Green Subsidies, Blue Industrial Policy and Renewable Energy: The Case for Redrafting the Subsidies Agreement of the WTO*, 17 J. INT'L ECON. L. 11, 41, 43–44 (2014).

95. Bigdeli, *supra* note 89, at 9.

advantage of non-actionable subsidies.⁹⁶ However, some developed countries also opposed to renewing the non-actionable category: the United States and New Zealand noted that no non-actionable subsidies had been notified in the five years of Article 8's application, thus questioning its utility.

Admittedly, the list of non-actionable subsidies was very narrow in scope. For example, environmental subsidies covered only a “one-time non-recurring measure” for a small percentage of the cost of adaptation to new environmental regulations and did not cover “the cost of replacing and operating the assisted investment.”⁹⁷ Some scholars criticized Article 8 and argued that it did not address any market failure and contradicted the polluter-pays principle.⁹⁸ There is also little direct evidence to suggest that the expiration has had “a serious negative impact on the ability of particular states to execute a green industrial policy.”⁹⁹

Despite doubts about Article 8's effectiveness, many scholars have also demonstrated their concerns over the expiration of non-actionable subsidies.¹⁰⁰ Since Article 8's expiry, governments have been obligated to design subsidies carefully to avoid being subject to WTO litigation or countervailing duties. Some scholars have argued that future SCM Agreement reform should address “whether a distinction between fossil fuels and renewable energy should be made and export subsidies for transfer of technology to developing countries should be allowed.”¹⁰¹ Scholars have also suggested that it is worth revisiting Article 8 and reintroducing a category of clearly defined non-actionable subsidies, which would include the renewable subsidies, so that they could be protected from both multilateral and unilateral challenges.¹⁰²

However, reviving Article 8 faces political and practical difficulties, and the division between developed and developing countries remains. For example, Venezuela submitted a proposal stating that Article 8 should be reactivated only if it is modified to ensure that structural adjustment subsidies are considered as non-actionable, which would be beneficial for developing economies. Other developing countries also proposed that, if reintroduced, Article 8 should be modified to suit their interests.

96. *Id.*

97. SCM Agreement, *supra* note 41, at art. VIII.

98. Under the polluter-pays principle, those who produce pollution should bear the cost of managing it. See Alan O. Sykes, *The Questionable Case for Subsidies Regulation: A Comparative Perspective*, 2 J. LEGAL ANALYSIS 473, 514 (2010).

99. Mark Wu, *Re-examining 'Green Light' Subsidies in the Wake of New Green Industrial Policies*, E15 EXPERT GRP. ON REINVIGORATING MFG.: NEW INDUS. POL'Y & TRADE SYS. 1, 9 (2015).

100. Robert Howse, *Do the World Trade Organization Disciplines on Domestic Subsidies Make Sense? The Case for Legalizing Some Subsidies*, in LAW AND ECONOMICS OF CONTINGENT PROTECTION IN INTERNATIONAL TRADE (KYLE BAGWELL ED., 2009); see also Luca Rubini, *Ain't Wastin' Time No More: Subsidies for Renewable Energy, the SCM Agreement Policy Space and Law Reform*, 15 J. INT'L ECON. L. 525, 562, 570–71 (2015).

101. See Cottier & Shariff, *supra* note 31, at 434.

102. Ilaria Espa & Gracia Marín Durán, *Renewable Energy Subsidies and WTO Law: Time to Rethink the Case for Reform Beyond Canada – Renewable Energy/Fit Program*, 21 J. INT'L ECON. L. 621, 628 (2018).

China can try to engage other developing countries in the discussion about reviving Article 8 and reformulating a list of non-actionable subsidies. The inclusion of renewable energy subsidies on that list would signal international support for developing and investing in clean energy. Due to China's longstanding alliance with the "third world" countries, China might be reluctant to directly stand against developing countries who oppose Article 8. Therefore, it is important to consider the interests of developing countries and their relative disadvantage in developing new technologies.

C. WTO Disputes of Renewable Energy Subsidies

As mentioned earlier, the renewable energy market has been growing in recent years, thus attracting direct and indirect subsidization. Without Article 8's protection, renewable energy subsidies have faced an increasing number of WTO disputes in the past decade; in contrast, not even a single case has been initiated against fossil fuel subsidies. Some experts argued that fossil fuel subsidies are often national policies that consider WTO rules in their design, but many renewable energy subsidies are designed by local policymakers who are less aware of WTO subsidy rules.¹⁰³ Others suggested that it is easier to establish the "specificity" requirement for renewable energy subsidies because "renewable energy as a sector constitutes only a specific portion of overall energy market," and that it is thus easier to find renewable energy subsidies actionable.¹⁰⁴ As discussed earlier, only "specific" subsidies can be actionable under the SCM Agreement.¹⁰⁵ In contrast, fossil fuel subsidies are often available to all enterprises throughout the economy, and so, countries are less likely to establish the "specificity" requirement.

The first trade dispute related to renewable energy subsidies was brought by Japan and the European Union against Ontario, Canada's Feed-in Tariff (FIT) Program in 2010.¹⁰⁶ The FIT Program was intended to "increase [the] capacity of [the] renewable energy supply to ensure adequate generation and reduce emissions" and "provide incentives for investment in renewable energy technologies."¹⁰⁷ If the wind and solar photovoltaic electricity generation projects wished to receive the above-market purchase price guaranteed in the FIT Program, the producers had to use domestically produced equipment. The question was whether the Ontario's FIT Program violated any WTO subsidy law.

A feed-in tariff is a performance-based incentive that provides energy producers a guaranteed, above-market price. Experts have noted that FIT programs

103. Meyer, *supra* note 86.

104. Henok Birhanu Asmelash, *Energy Subsidies and the WTO Dispute Settlement System: Why Only Renewable Energy Subsidies Are Challenged*, 18 J. INT'L ECON. L. 261, 273 (2015).

105. SCM Agreement, *supra* note 41, at art. II.

106. *Canada—Renewable Energy/FIT Program*, *supra* note 87.

107. Sherzod Shadikhodjaev, *Renewable Energy and Government Support: Time to "Green" the SCM Agreement*, 14 WORLD TRADE REV. 479, 485–86 (2015) (quoting *Canada—Renewable Energy/FIT Program*, *supra* note 87, at ¶ 7.65) (alterations added).

are the most popular renewable energy subsidy programs in the world.¹⁰⁸ Governments often require producers to meet domestic content requirements (LCRs) in order to participate in FIT programs.¹⁰⁹ Thus, renewable energy producers must use a percentage of domestically produced inputs in their production. These subsidies are likely to be challenged as a prohibited subsidy under the SCM Agreement and a discriminatory measure under the GATT and TRIMS. The limited WTO cases on the renewable energy issue are consistent to show that LCRs will violate the national treatment requirement under the GATT and TRIMS.¹¹⁰ However, it is still unclear whether these programs would certainly violate the SCM Agreement. This Note mainly focuses on the potential violation of the SCM Agreement.

In *Canada—Certain Measures Affecting the Renewable Energy Sector and Canada—Measures Relating to the FIT* (collectively, *Canada—Renewable Energy/FIT Program*), Japan and the European Union challenged Ontario's FIT Program as a prohibited subsidy under the SCM Agreement because the subsidy's benefits were contingent upon the use of domestically-produced equipment for renewable energy generation facilities over imported equipment.¹¹¹ The Appellate Body found that the FIT Program was a financial distribution in the form of a government purchase of goods.¹¹² In determining whether the above-market purchase price guaranteed in the FIT Program constituted a "benefit" to renewable energy producers, the Appellate Body considered the relevant market for benefit comparison to be the market for wind- and solar-generated electricity instead of the market for all types of electricity.¹¹³ It narrowed the relevant market and made the benchmark prices more targeted. As a result, the Appellate Body concluded that there was insufficient factual evidence on record to determine whether Ontario's FIT Program conferred a benefit or to determine whether the FIT Program was a prohibited subsidy. The ruling in *Canada—Renewable Energy/FIT Program* arguably rendered it harder for a Member to establish the "benefit" requirement and thus gave climate-friendly FIT programs some flexibility and protection from the WTO subsidy law.¹¹⁴ However, experts also noted that the *Canada—Renewable Energy/FIT Program* ruling did not offer FITs a "safe haven" and policymakers should not expect that the "legal acrobatics" in this case will be repeated.¹¹⁵ Therefore, renewable energy support programs such as FITs are still very likely to be found as prohibited under the SCM Agreement when attached with LCRs.

In 2013, the United States alleged that India's Jawaharlal Nehru National Solar Mission (NSM) Program violated the same provisions at issue in *Canada—Renewable*

108. UNEP, FEED-IN TARIFFS AS POLICY INSTRUMENT FOR PROMOTING RENEWABLE ENERGIES AND GREEN ECONOMIES IN DEVELOPING COUNTRIES 15 (2012).

109. Asmelash, *supra* note 104, at 273.

110. See Espa & Durán, *supra* note 102, at 631.

111. *Canada—Renewable Energy/FIT Program*, *supra* note 87.

112. See Espa Durán, *supra* note 102, at 633.

113. *Id.*

114. *Id.* at 634.

115. *Id.*; see also Cosbey & Mavroidis, *supra* note 94, at 28.

Energy/FIT Program, including the SCM Agreement.¹¹⁶ The NSM Program required solar power developers in India to purchase and use solar cells and modules of domestic origin in order to receive certain benefits through long-term tariff rates for electricity. However, the Appellate Body did not analyze the disputed measure under the SCM Agreement, and the United States withdrew its SCM Agreement claim. Shortly thereafter, India also challenged the United States at the WTO and identified multiple government-sponsored renewable energy programs across the country that allegedly were prohibited under the SCM Agreement.¹¹⁷

China's government-sponsored renewable energy programs also received similar challenges from various WTO Members.¹¹⁸ In late 2010, the United Steelworkers Union filed a petition under Section 301 with the United States Trade Representative against China's support of its clean energy sector and requested that the government initiate dispute settlement proceedings at the WTO. In February 2011, the United States challenged the Special Fund for Wind Power Equipment Manufacturing (Special Fund) at the WTO. The Special Fund was government grants awarded to wind turbine manufacturers contingent on the use of domestic over imported parts. During the WTO consultations, the United States argued that the subsidies were inconsistent with Article 3 of the SCM Agreement and were thus prohibited. A few months later, China voluntarily terminated its subsidies to wind power firms. Since the WTO had never concluded that the Special Fund constituted a "subsidy" under the SCM Agreement, China's swift concession in this case was likely due to factors other than the alleged infringement of the SCM Agreement.¹¹⁹ Still, experts in China argued that the United States took the anti-subsidy actions on the Chinese renewable energy sector, which along with the proposed carbon tariff on Chinese carbon-intensity products, constituted a "double dilemma" for China.¹²⁰ Subsequently, in 2012 and 2013, the U.S. Department of Commerce imposed anti-dumping and countervailing duties on Chinese imports of wind towers and silicon solar panels due to the alleged unfair subsidies they received from the government.¹²¹

Meanwhile, in late 2012, the European Commission initiated investigations into the imports of Chinese solar panels and their key components, and later imposed anti-dumping and countervailing duties.¹²² In response, China requested WTO consultations with the European Union, Italy, and Greece, and argued that

116. Appellate Body Report, *India — Certain Measures Relating to Solar Cells and Solar Modules*, WTO Doc. WT/DS456/AB/R, (adopted Oct. 14, 2016) [hereinafter *India — Solar Cells*].

117. *US—Renewable Energy Sector*, *supra* note 87.

118. Wenzlau, *supra* note 88, at 353–54.

119. *Id.* at 318.

120. Xiong Ling (熊灵) & Zhou Maorong (周茂荣), WTO Shijiao Xia Mei Ke Zaisheng Nengyuan Butie Zhengce Bijiao Fenxi (视角下中美可再生能源补贴政策比较分析) [*Comparative Analysis of Renewable Energy Subsidies in US and China — A WTO Perspective*], 5 Guoji Shangwu Yanjiu (国际商务研究) [INT'L. BUS. RES.] 13 (2011), https://ibr.suibe.edu.cn/ch/reader/create_pdf.aspx?file_no=20110503&flag=1&year_id=2011&quarter_id=5.

121. Meyer, *supra* note 86.

122. Wenzlau, *supra* note 88, at 354–55.

the LCRs attached to the FIT programs throughout the European Union were inconsistent with Article 3 of the SCM Agreement. It is worth noting that China's active response echoed experts' opinions that China moved from being a "rule taker" to a "rule shaker" in the WTO system around 2010.¹²³ By the time when China brought a legal claim against EU FIT programs, China was no longer a reluctant participant in the WTO system but became an active player that hoped to use the system in its favor.

As shown above, although many government-sponsored renewable energy programs were *alleged* to be prohibited under the SCM Agreement, there has not been a complete discussion regarding why and how a subsidy is prohibited or actionable under the SCM Agreement. Along with the legal uncertainty, there is also an "increased litigiousness" such that countries are more willing to challenge the green programs of other Members under the subsidy law.¹²⁴ The combination of the WTO legal uncertainty and increased litigiousness among Members will increase the hidden costs of investing in renewable energy and will discourage Members from subsidizing new renewable energy technologies. Ultimately, these factors will weaken efforts to combat climate change.

As both a complainant and a respondent in disputes related to renewable energy subsidies, China should have a deep understanding that international cooperation in renewable energy development is necessary for reducing carbon emissions. Increased litigiousness is an obstacle to climate cooperation and WTO Members should reach a consensus on this issue. In contrast with China's reluctance in negotiating a carbon tariff, its active involvement in renewable energy support programs provides China a potential bargaining chip over other WTO Members such as the United States: China can argue for constraints on applying anti-dumping and countervailing duties on Chinese green energy imports in exchange for agreeing to an appropriately designed BCA.

In designing subsidy programs, China should avoid domestic content requirements because of the non-discrimination obligations under the GATT. Similarly, even without clear jurisprudence, LCRs are more likely to be found prohibited under the SCM Agreement. As discussed earlier, the Appellate Body in *Canada—Renewable Energy/FIT Program* adopted a narrow interpretation of the relevant market and rendered it harder for Members to prove a prohibited subsidy under the SCM Agreement. However, it is not realistic for China to rely on this little leeway to obtain full subsidy protection.

This part of the discussion also re-emphasizes the importance of negotiating new SCM rules to explicitly exempt renewable energy subsidies. China should be more involved in this discussion in resolving the legal uncertainty. It would be ideal

123. Henry Gao, *China's Ascent in Global Trade Governance: From Rule Taker to Rule Shaker, and Maybe Rule Maker?*, in MAKING GLOBAL TRADE GOVERNANCE WORK FOR DEVELOPMENT 153, 162, 167–172 (Carolyn Deere-Birkbeck ed., 2011).

124. Wenzlau, *supra* note 88, at 363.

if the exemption includes a non-exhaustive list of renewable energy subsidies, including FIT programs.

CONCLUSION

For the past decades, China has played an important role in shaping the international climate agenda. With President Xi's 30–60 carbon goal, China is now becoming more interested in combating climate change and participating in the UNFCCC conversation. The international atmosphere is also supportive for China's involvement: The United States rejoined the Paris Agreement after the Biden Administration came to power and has increasingly engaged with China's climate action efforts since then. In April 2021, U.S. climate envoy John Kerry and China's climate envoy Xie Zhenhua met in Shanghai where they issued the Joint Statement Addressing the Climate Crisis.¹²⁵ During the Glasgow Climate Change Conference in November 2021, China and the United States announced the U.S.-China Joint Glasgow Declaration on Enhancing Climate Action in the 2020s, which was considered as a positive sign and “proved increasing tensions between the two nations need not prevent progress on climate change.”¹²⁶ Additionally, 197 countries agreed to adopt the Glasgow Climate Pact, which reaffirms the 1.5 degrees Paris Agreement target and pledges countries to phase down the use of unabated coal. Thus, the international atmosphere makes this a great time for China to get more involved in the negotiation and conversation.

Meanwhile, as the largest carbon emitter and largest clean energy investor, China is under tremendous domestic and international pressure to reduce emissions. China should be more open to border carbon adjustment, which this Note has shown to be consistent with the WTO/GATT rules either as an internal tax or as an environmental exception. During the negotiation, China could urge the carbon-restricting Members to design a border measure that is sufficiently flexible and accommodates the differences among countries. Moreover, China has made tremendous renewable energy investments. In order to obtain more protection from the WTO subsidy law, China should advocate for revisiting the green light provisions in the SCM Agreement and explicitly exempting renewable energy subsidies from the SCM regulation. It will not be an easy task for China, especially given the current strategic rivalry and diplomatic tension between China and the United States, the two largest economies and carbon emitters in the world. However, it is worth trying given what is at stake for the planet, and thus for their respective citizens.

125. *Statement: China Releases New Climate Commitment Ahead of COP26*, WORLD RES. INST. (Oct. 28, 2021), <https://www.wri.org/news/statement-china-releases-new-climate-commitment-ahead-cop26>.

126. *Id.*