

# Supporting the Transition to Climate-Neutral Production: An Evaluation Under the Agreement on Subsidies and Countervailing Measures

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## ABSTRACT

To reach climate neutrality, carbon emissions from the production of basic materials need to be curtailed. When governments encourage this transition by adopting support measures, the measures must comply with the Agreement on Subsidies and Countervailing Measures. This article analyzes three selected support schemes under the Agreement on Subsidies and Countervailing Measures: (i) free allocation under emissions trading systems to operators of installations at risk of carbon leakage; (ii) the combination of a charge on carbon-intensive materials with free allocation; and (iii) carbon contracts for difference, under which governments cover the incremental costs of climate-neutral production processes relative to conventional processes. The analysis reveals that the current regime of free allocation is vulnerable to challenges under the Agreement on Subsidies and Countervailing Measures. By contrast, the combination of free allocation and a charge on carbon-intensive materials would ensure consistent carbon pricing and thus would not amount to a subsidy under the Agreement on Subsidies and Countervailing Measures. In a similar vein, the carbon contracts for difference could be designed so that they would not confer a benefit and hence not constitute a subsidy.

## I. INTRODUCTION

Governments around the globe increasingly promise to reach climate neutrality by mid-century.<sup>1</sup> The production of basic materials such as steel, cement clinker, aluminum, pulp, paper,

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<sup>1</sup> See Net Zero Tracker, <https://zerotracker.net> (visited 22 November 2022).

and plastic is responsible for roughly two-thirds of all greenhouse gas industrial emissions and 25% of total global emissions.<sup>2</sup> Reducing these emissions plays a central role in reaching climate neutrality. Governments can encourage emissions reductions both through carbon pricing, in particular carbon taxes and emissions trading, and through financial support for the deployment of emerging climate-neutral technologies, such as hydrogen-based steel production or cement production with carbon capture and sequestration.

Compliance of such support measures with World Trade Organization (WTO) law in general and the Agreement on Subsidies and Countervailing Measures (SCM Agreement),<sup>3</sup> in particular, is crucial for the transition to climate neutrality. By abiding by internationally agreed trade rules, governments limit adverse economic impacts on their trading partners, thereby contributing to strengthening international climate cooperation. Moreover, doing so avoids lengthy disputes, countervailing measures, and other counter-measures taken by injured WTO Members. Finally, compliance with world trade law creates a credible and stable legal framework that supports the large-scale investments necessary for climate neutrality.

Both financial support for the deployment of climate-neutral technologies and carbon pricing raise intricate questions regarding the SCM Agreement. This is immediately apparent when governments grant financial support for the rollout of climate-neutral production technologies. For carbon pricing, by contrast, concerns arise not from the pricing mechanism itself but from support measures aimed at preventing carbon leakage. Carbon leakage occurs when, due to carbon pricing, carbon-intensive production is shifted to jurisdictions with no or lower carbon prices and global emissions remain unchanged or even increase.<sup>4</sup> So far, governments have mainly sought to address carbon leakage through support policies that limit costs from carbon pricing for sectors deemed to be at risk of leakage. For example, allowances under the European Union Emissions Trading System (EU ETS) are partially allocated free of charge to offer leakage protection.<sup>5</sup> Such free allocation needs to comply with the SCM Agreement.

Despite its tremendous importance, the SCM Agreement compatibility of the instruments supporting the transition to climate neutrality remains under-explored in the scholarly literature. Past contributions have discussed whether free allocation under emissions trading systems constitutes an actionable subsidy under the SCM Agreement, arriving at diverging conclusions.<sup>6</sup> Yet the rules on free allocation have significantly changed in the meantime, raising new issues. In December 2020, the United States Department of Commerce thus took the position that the European Union (EU)'s additional free allocation to installations deemed to be at a significant

<sup>2</sup> International Energy Agency, 'Energy Technology Perspectives 2017, Catalysing Energy Technology Transformations', [https://iea.blob.core.windows.net/assets/a6587f9f-e56c-4b1d-96e4-5a4da78f12fa/Energy\\_Technology\\_Perspectives\\_2017-PDF.pdf](https://iea.blob.core.windows.net/assets/a6587f9f-e56c-4b1d-96e4-5a4da78f12fa/Energy_Technology_Perspectives_2017-PDF.pdf) (visited 22 November 2022).

<sup>3</sup> Agreement on Subsidies and Countervailing Measures, 15 April 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1869 U.N.T.S. 14.

<sup>4</sup> Michael Mehling et al., 'Designing Border Carbon Adjustments for Enhanced Climate Action', 113 (3) American Journal of International Law 433 (2019), at 438.

<sup>5</sup> See Article 10b of Directive 2003/87/EC of the European Parliament and of the Council of 13 October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC, OJ 2003 L 275/32, last amended by Directive (EU) 2018/410 of the European Parliament and of the Council of 14 March 2018, OJ 2018 76/3 (EU ETS Directive). For similar free allocation mechanisms in other emission trading systems worldwide, see William Acworth et al., 'Carbon Leakage and Deep Decarbonization: Future-Proofing Carbon Leakage Protection' (International Carbon Action Partnership, June 2020), [https://icapcarbonaction.com/system/files/document/icap\\_carbonleakagedeepdecarbonization\\_fullreport.pdf](https://icapcarbonaction.com/system/files/document/icap_carbonleakagedeepdecarbonization_fullreport.pdf) (visited 22 November 2022).

<sup>6</sup> See e.g. Magnus Lodefalk and Mark Storey, 'Climate Measures and WTO Rules on Subsidies', 39 Journal of World Trade 23 (2005); Dominic Coppens, *WTO Disciplines on Subsidies and Countervailing Measures—Balancing Policy Space and Legal Constraints* (Cambridge: Cambridge University Press, 2014) 518ff; Felicity Deane, *Emissions Trading and WTO Law: A Global Analysis* (Cheltenham: Edward Elgar, 2015) chapter 6; Elena de Lemos Pinto Aydos, *Paying the Carbon Price: The Subsidisation of Heavy Polluters under Emissions Trading Schemes* (Cheltenham: Edward Elgar, 2017) 141ff; Lauren Henschke, 'Going It Alone on Climate Change—A New Challenge to WTO Subsidies Disciplines: Are Subsidies in Support of Emissions Reductions Schemes Permissible under the WTO?' 11 World Trade Review (2012), at 27; Kateryna Holzer, 'Emissions Trading and WTO Law', in Stefan E. Weishaar (ed.), *Research Handbook on Emissions Trading* (Cheltenham: Edward Elgar, 2016) 326–52; Luca Rubini and Ingrid Jegou, 'Who'll Stop the Rain? Allocating Emissions Allowances for Free: Environmental Policy, Economics, and WTO Subsidy Law', 1 (2) Transnational Environmental Law 325 (2012).

risk of carbon leakage constituted a countervailable subsidy.<sup>7</sup> Moreover, alternative instruments aimed at combatting carbon leakage and at supporting emerging climate-neutral technologies for basic materials have been developed.<sup>8</sup> The most convincing proposal,<sup>9</sup> which the European Commission has studied in great detail,<sup>10</sup> combines a charge on carbon-intensive materials with continued free allocation under the EU ETS.<sup>11</sup> However, its compatibility with the SCM Agreement has not yet been analyzed in the literature.

Against this background, we evaluate the SCM Agreement compatibility of support for the transition to climate-neutral production. We focus on the EU ETS as the world's biggest emissions trading system; nevertheless, our results can be transferred to other schemes with similar traits. More specifically, we analyze two key measures: first, the current regime of free allowances; and second, the proposal for a charge on carbon-intensive materials in combination with free allowances. Moreover, we sketch an additional innovative support measure for climate-neutral processes, namely carbon contracts for difference (CCfDs), and demonstrate their compatibility with the SCM Agreement. By contrast, we do not discuss the carbon border adjustment measures proposed by the European Commission in July 2021,<sup>12</sup> as they have already been analyzed at length in the literature.<sup>13</sup>

Examining these three measures yields the following insights: the current regime of free allocation, which is highly problematic from a climate perspective, is vulnerable to challenges under the SCM Agreement. By contrast, introducing a charge on carbon-intensive materials in combination with free allowances for conventional operators would be both superior from a climate perspective<sup>14</sup> and compatible with the SCM Agreement. The same would be true of support for operators of climate-neutral installations in the form of CCfDs, provided they do not confer a benefit. This article shows that governments may support the decarbonization of the basic materials sector without running afoul of the SCM Agreement.

<sup>7</sup> United States Department of Commerce, International Trade Administration, C-475-841, Forged Steel Fluid End Blocks from Italy: Final Affirmative Countervailing Duty Determination, FR Doc. 2020-27336. See also Memorandum to Jeffrey I. Kressler, C-475-841, 7 December 2020, <https://enforcement.trade.gov/frn/summary/italy/2020-27336-1.pdf> (visited 22 November 2022).

<sup>8</sup> European Commission, Commission Staff Working Document, Impact Assessment Report Accompanying the Proposal for a regulation of the European Parliament and of the Council establishing a carbon border adjustment mechanism, 14 July 2021, SWD(2021) 643 final.

<sup>9</sup> Roland Ismer et al., 'Border Carbon Adjustments and Alternative Measures for the EU ETS: An Evaluation', DIW Discussion Papers 1855 (2020).

<sup>10</sup> European Commission, above n 8, at Section 5.2.7 (option 6).

<sup>11</sup> See Karsten Neuhoff et al., 'Inclusion of Consumption of Carbon Intensive Materials in Emissions Trading: An Option for Carbon Pricing Post-2020' (Climate Strategies, 2016), <https://climatestrategies.org/publication/inclusion-of-consumption-of-carbon-intensive-materials-in-emissions-trading-an-option-for-carbon-pricing-post-2020/> (visited 22 November 2022); Manuel W. Haussner, *Including Consumption in Emissions Trading—Economic and Legal Considerations* (Cheltenham: Edward Elgar, 2021); on the legal basis under EU law, see Roland Ismer and Manuel Haussner, 'Inclusion of Consumption into the EU ETS: The Legal Basis under European Union Law', 25 (1) Review of European, Comparative & International Environmental Law 69 (2016). For an economic evaluation, see Kevin Kaushal and Knut Einar Rosendahl, 'Taxing Consumption to Mitigate Carbon Leakage', 75 (1) Environmental and Resource Economics 151 (2020).

<sup>12</sup> European Commission, Proposal for a Regulation of the European Parliament and of the Council establishing a carbon border adjustment mechanism, COM (2021) 564 final.

<sup>13</sup> See Aaron Cosbey et al., 'Developing Guidance for Implementing Border Carbon Adjustments: Lessons, Cautions and Research Needs from the Literature', 13 (1) Review of Environmental Economics and Policy 3 (2019); Joachim Englisch and Tatiana Falcao, 'EU Carbon Border Adjustments and WTO Law, Part One', 51 (10) Environmental Law Reporter 10857 (2021); Joachim Englisch and Tatiana Falcao, 'EU Carbon Border Adjustments and WTO Law, Part Two' 51 (1) Environmental Law Reporter 10935 (2021); Ilaria Espa, 'Reconciling the Climate/Industrial Interplay of CBAMs: What Role for the WTO?', 116 American Journal of International Law 208 (2022); Ismer et al., above n 9; Mehling et al., above n 4; Joost Pauwelyn, 'Carbon Leakage Measures and Border Tax Adjustments Under WTO Law', in Geert Van Calster and Denise Prévost (eds), *Research Handbook on Environment, Health and the WTO* (Cheltenham: Edward Elgar, 2013) 448–506; Alice Pirlot, 'Carbon Border Adjustment Measures: A Straightforward Multi-purpose Climate Change Instrument?', 34 (1) Journal of Environmental Law 25 (2022); Ingo Venzke and Geraldo Vidigal, 'Are Trade Measures to Tackle the Climate Crisis the End of Differentiated Responsibilities? The Case of the EU Carbon Border Adjustment Mechanism (CBAM)', in Maarten den Heijer and Harmen van der Wilt (eds), *Netherlands Yearbook of International Law 2020* (The Hague: TMC Asser Press, 2022) 187–225.

<sup>14</sup> See the references listed above n 11.

The article is organized as follows: [section II](#) analyzes the current regime of free allowances under the EU ETS. [Section III](#) evaluates the proposal for combining a charge on carbon-intensive materials with free allocation for operators of conventional installations. [Section IV](#) proposes and assesses CCfDs for climate-neutral installations. Finally, [section V](#) concludes this article.

## II. FREE ALLOCATION UNDER THE CURRENT EU ETS

The current system of leakage protection under the EU ETS relies on the allocation of free allowances to sectors and subsectors deemed to be at a risk of carbon leakage. This section provides a brief overview of this regime ([section II.A](#)) and then argues that free allocation represents a subsidy that could be problematic under the SCM Agreement ([section II.B](#)).

### A. The current regime

The EU ETS limits the overall carbon emissions from covered installations. For that purpose, it establishes a cap for emissions and introduces emission allowances, each representing the right to emit one ton of carbon dioxide. Operators of installations must surrender allowances on a yearly basis, the number of which reflects their emissions in the preceding year. Allowances can be traded on public exchanges such as the European Energy Exchange. This creates financial incentives that emissions up to the cap are made by operators with the highest avoidance costs, whereas operators with lower avoidance costs reduce their emissions. The mechanism finds the cheapest cost avoider. While the allowances were initially allocated to operators for free, the share of allowances auctioned (i.e. sold) has risen over time. Auctioning has become the rule, whereas free allowances are now the exception.<sup>15</sup>

However, operators of installations in specific sectors and subsectors still receive free allowances, when they are deemed to be at the risk of carbon leakage. The EU has set up an official list of these sectors and subsectors. It has grouped them into highly exposed and less-exposed sectors,<sup>16</sup> based on trade and emissions intensity.<sup>17</sup> The number of such free allowances is determined in accordance with benchmarks,<sup>18</sup> derived from the best performing 10% of installations in the EU and in the European Economic Area. Highly exposed sectors will receive free allowances at the level of the relevant benchmark until 2030.<sup>19</sup> Free allocation for less-exposed sectors is already significantly lower than the benchmark and will be fully phased out by 2030.

While free allocation has avoided substantial levels of carbon leakage from the EU ETS,<sup>20</sup> it is highly problematic from a climate perspective. Admittedly, it does not (fully) eliminate operators' incentives to reduce their emissions intensity: as the allocation is at the benchmark level, emissions exceeding that level need to be covered by allowances purchased from

<sup>15</sup> See Recital 8 of Directive (EU) 2018/410 of the European Parliament and of the Council of 14 March 2018 amending Directive 2003/87/EC to enhance cost-effective emission reductions and low-carbon investments, and Decision (EU) 2015/1814, OJ 2018 L 76/3.

<sup>16</sup> Commission Delegated Decision (EU) 2019/708 of 15 February 2019 supplementing Directive 2003/87/EC of the European Parliament and of the Council concerning the determination of sectors and subsectors deemed at risk of carbon leakage for the period 2021 to 2030, OJ 2019 L 120/20.

<sup>17</sup> See Article 10b of the EU ETS Directive, above n 5.

<sup>18</sup> Ibid; Commission Delegated Regulation (EU) 2019/331 of 19 December 2018 determining transitional Union-wide rules for harmonized free allocation of emission allowances pursuant to Article 10a of Directive 2003/87/EC of the European Parliament and of the Council, OJ 2019 L 59/8.

<sup>19</sup> Subject to reductions from annual benchmark improvement rates and a cross-sectoral reduction factor that applies if overall free allocation would otherwise exceed a pre-defined share of the EU ETS cap.

<sup>20</sup> Many studies that seek to quantify the existence of carbon leakage do not find substantial levels of carbon leakage from existing mechanisms like the EU ETS that comprise free allowance allocation; see Antoine Dechezlepretre and Misato Sato, 'The Impacts of Environmental Regulations on Competitiveness', 11 (2) Review of Environmental Economics and Policy 183 (2017); Helene Naegele and Aleksandar Zaklan, 'Does the EU ETS Cause Carbon Leakage in European Manufacturing?', 93 Journal of Environmental Economics and Management 125 (2019); Jane Ellis et al., 'Carbon Pricing and Competitiveness: Are They at Odds?'; OECD Environment Working Paper No. 152 (2019), [https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/WKP\(2019\)11&docLanguage=En](https://www.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=ENV/WKP(2019)11&docLanguage=En) (visited 22 November 2022).

the government or on carbon markets. Conversely, when emissions remain below the benchmark, allowances are freed up that can be sold on the market. Nevertheless, free allocation adversely affects the climate integrity of the EU ETS. Domestic operators are not exposed to a carbon price on their full emissions.<sup>21</sup> Imports remain exempt from European carbon pricing. Thus, there are no full carbon costs that could be passed on in the value chain—which reduces incentives down the value chain both for materials efficiency, i.e. for using lower quantities of carbon-intensive materials (e.g. cement) for any specific purpose (e.g. building), and for materials substitution, i.e. for replacing the carbon-intensive materials with other less carbon-intensive materials (e.g. wood). Furthermore, incentives for a shift to clean production processes, such as hydrogen-based steel production, are muted if carbon costs are not internalized for conventional production processes.

## B. Assessment under the SCM Agreement

The current regime of free allocation represents a subsidy under the SCM Agreement (section B.1). This subsidy is specific; some authors even see it as a prohibited subsidy<sup>22</sup> (section B.2). Alternatively, it could be considered an actionable subsidy (section B.3). A justification under Article XX of the General Agreement on Tariffs and Trade (GATT), if this provision is applicable to the SCM Agreement at all, is hard to establish (section B.4).

### 1. Subsidy

The concept of subsidy, which lies at the heart of subsidy controls under the SCM Agreement, is defined in Article 1.1. Government measures can accordingly be deemed subsidies<sup>23</sup> if two cumulative requirements are met, namely the existence of a financial contribution by a government and the conferral of a benefit.<sup>24</sup> This section examines these two requirements.

#### a. Financial contribution

While mere regulatory advantages do not qualify as a subsidy, the concept of financial contribution covers a wide range of government measures.<sup>25</sup> The term ‘financial contribution’ is exhaustively defined in subparagraphs (i)–(iv). Of these, subparagraphs (i), (ii), and (iii) could be of relevance for free allowances.

(1) Arguably no direct transfer of funds or provision of goods or services

Under Article 1.1(a)(1)(i) of the SCM Agreement, a financial contribution lies in a direct transfer of funds (which is exemplified as grants, loans, and equity infusion) or a potential direct transfer of funds or liabilities (which is exemplified as loan guarantees). The examples suggest that the transfer of funds can be understood as a *monetary contribution*. Article 1.1(a)(1)(iii) (first subclause) stipulates that a financial contribution can also be made in kind through governments providing goods or services. The difference between the two types of contribution lies in

<sup>21</sup> Susanne Droege et al., ‘Tackling Leakage in a World of Unequal Carbon Prices’ (Climate Strategies 2009), <https://climatestrategies.org/wp-content/uploads/2009/10/cs-leakage-final-230909.pdf> (visited 22 November 2022) 46–54; Karsten Neuhoff and Richard A. Ritz, ‘Carbon Cost Pass-Through in Industrial Sectors’, Cambridge Working Papers in Economics No. 1988 (2019).

<sup>22</sup> Prohibited subsidies are deemed to be specific. See SCM Agreement, Articles 1.2 and 2.3.

<sup>23</sup> See WTO Appellate Body Report, *United States—Final Countervailing Duty Determination with Respect to Certain Softwood Lumber from Canada (US—Softwood Lumber IV)*, WT/DS257/AB/R, adopted 17 February 2004, para 52.

<sup>24</sup> WTO Appellate Body Report, *United States—Countervailing Measures on Certain Hot-Rolled Carbon Steel Flat Products from India (US—Carbon Steel (India))*, WT/DS436/AB/R, adopted 19 December 2014, para 4.8; WTO Appellate Body Report, *Brazil—Export Financing Programme for Aircraft (Brazil—Aircraft)*, WT/DS46/AB/R, adopted 20 August 1999, para 157; WTO Appellate Body Report, *US—Softwood Lumber IV*, above n 23, para 51.

<sup>25</sup> WTO Appellate Body Report, *US—Softwood Lumber IV*, above n 23, para 52.



what is being transferred. Under subparagraph (i), the government transfers financial resources, while under subparagraph (iii) (first subclause), the government provides a good or service.<sup>26</sup>

The potential of allowances to be surrendered for emissions from the previous year does not imply that by granting them for free, the government provides a service or a good.<sup>27</sup> The free allocation does not fit within the category of a ‘transfer of funds’ either, as it does not represent a monetary contribution. Admittedly, some authors see free allocation as a direct transfer of funds since the allowances have monetary value and are freely exchangeable.<sup>28</sup> In a similar vein, the panel in *India—Export Related Measures* has considered the provision of scrips by the Indian government as a reward for exports to be a direct transfer of funds, as the scrips could be used to pay for customs duties and other liabilities vis-à-vis the government or sold to third-party recipients for consideration.<sup>29</sup> Even if that decision were upheld in the pending appeal procedure, however, there is an important difference with free allowances: the scrips could be used for paying a variety of charges and fees to the government. Moreover, the scrips had a nominal financial value. All this afforded them a status similar to money. By contrast, free allowances have no nominal value; instead, their value is determined on the market.<sup>30</sup> Furthermore, they can only be used to comply with obligations under the EU ETS. It would hence appear more plausible to consider free allocation a reduction of the burden resulting from the EU ETS rather than an (unrelated) transfer of funds. This brings us to Article 1.1(a)(1)(ii) of the SCM Agreement.

## (2) Foregoing of government revenue otherwise due

Under Article 1.1(a)(1)(ii) of the SCM Agreement, the foregoing of government revenue that is otherwise due also constitutes a financial contribution. This variant is not explicitly limited to taxes and should therefore be understood to encompass revenue from the auctioning of allowances.<sup>31</sup> As the Appellate Body has put it in *US—FSC*,

the word ‘foregone’ suggests that the government has given up an entitlement to raise revenue that it could otherwise have raised. This cannot, however, be an entitlement in the abstract, because governments, in theory, could tax all revenues. There must, therefore, be some defined normative benchmark against which a comparison can be made between the revenue actually raised and the revenue that would have been raised ‘otherwise’.<sup>32</sup>

<sup>26</sup> WTO Appellate Body Report, *United States—Measures Affecting Trade in Large Civil Aircraft (Second Complaint)* (*US—Large Civil Aircraft (Second Complaint)*), WT/DS353/AB/R, adopted 23 March 2012, para 510.

<sup>27</sup> See WTO Appellate Body Report, *United States—Measures Affecting Trade in Large Civil Aircraft (Second Complaint)—Recourse to Article 21.5 of the DSU by the European Union (US—Large Civil Aircraft (2nd Complaint) (Article 21.5—EU))*, WT/DS353/RW and Add. 1, adopted 11 April 2019, para 8.382, which limits the term ‘goods’ to tangible property. Against the classification as a good or service, see also Jacob Werksman, ‘Greenhouse Gas Emissions Trading and the WTO’, 8 (3) *Review of European Community and International Environmental Law* 251 (1999), at 255; in favor Henschke, above n 6, at 38. For an extended discussion, see Erich Vranes, ‘Climate Change and the WTO: EU Emission Trading and the WTO Disciplines on Trade in Goods, Services and Investment Protection’, 32 *Journal of World Trade* 707 (2009), at 717ff, who argues that allowances are products under world trade law.

<sup>28</sup> See Jason Bordoff and Andrew Shoyer, ‘International Trade Law and the Economics of Climate Policy: Evaluating the Legality and Effectiveness of Proposals to Address Competitiveness and Leakage Concerns [with Comment]’, in Lael Brainard and Isaac Sorkin (eds), *Climate Change, Trade, and Competitiveness: Is a Collision Inevitable?* (Washington, D.C.: Brookings Institution Press, 2008) 35–68, at 54. A similar position is taken by Henschke, above n 6. See also Rubini and Jegou, above n 6, at 334. Note that the US Department of Commerce, Memorandum, above n 7, did not even discuss this question in its analysis of Section 771(S)(D) of the Tariff Act of 1930.

<sup>29</sup> WTO Panel Report, *India—Export Related Measures*, WT/DSS41/R, circulated 31 October 2019, para 7.432.

<sup>30</sup> Annie Petsonk, ‘The Kyoto Protocol and the WTO: Integrating Greenhouse Gas Emissions Allowance Trading into the Global Marketplace’, 10 *Duke Environmental Law and Policy Forum* 185 (1999), at 209.

<sup>31</sup> Thus, the point made in CJEU, *Case C-366/10 ATAA* (2011) ECLI:EU:C:2011:864, para 142ff, which considered emissions trading for airlines not to be a tax or other charge in the sense of the Open Skies Agreement even though it generated revenue, cannot necessarily be transferred to the SCM Agreement. Moreover, the ruling concerned a situation where free allocation, not auctioning, was the norm.

<sup>32</sup> WTO Appellate Body Report, *United States—Tax Treatment for ‘Foreign Sales Corporations’ (US—FSC)*, WT/DS108/AB/R, para 90.

The determination of whether funds were otherwise due thus requires a complex counterfactual analysis with the aim of deciding whether the measure under examination is a derogation from the norm or, in other words, a derogation from the benchmark. A good way of defining such a benchmark is to frame it as a question of external or internal consistency.<sup>33</sup>

*Lack of external consistency*, in the sense of non-compliance with international standards, would be hard to invoke in this context. It would only apply where such standards establish a clear prescriptive norm, that is, one which should be followed as a matter of law.<sup>34</sup> While an international treaty-based regime on climate change mitigation exists, it does not set a standard requiring universal carbon pricing. Instead, the Paris Agreement, with its logic of nationally determined contributions and its openness of means to achieve emissions reductions,<sup>35</sup> seems to provide an argument against such an international standard, at least for the moment.

By contrast, it could plausibly be argued that the current EU rules on free allocation lack *internal consistency*. For assessing internal consistency, the normative benchmark has to come from the EU ETS itself. The current regime grants additional free allocation to operators of installations deemed to be at risk of leakage. That suggests that the current benchmark is auctioning (which is the norm), which applies unless there is a concern about leakage (which is the exception).<sup>36</sup> Free allocation marks an exception to the norm under the current regime. Moreover, given that free allocation is at the level of a benchmark derived from the 10% most efficient installations, it can be expected that the free allowances will have to be surrendered to cover emissions rather than sold on. Hence, the granting of free allowances constitutes a foregoing of revenue otherwise due and hence a financial contribution.<sup>37</sup>

## b. Conferral of a benefit

Granting free allowances confers a benefit as it makes ‘the recipient “better off” than it would otherwise have been, absent that contribution.’<sup>38</sup> The fact that the allowances were granted in the context of an ETS, which in itself constitutes a burden, does not change this conclusion. Otherwise, the foregoing of government revenue could hardly ever confer a benefit.

## 2. Specificity

A subsidy is only subject to the disciplines of the SCM Agreement when it is granted to specific enterprises or particular industries and thus ‘specific’ in the sense of its Article 2. Scholars widely discussed this requirement when free allocation was still the norm.<sup>39</sup> However, new questions arise as free allowances are now confined to enterprises fulfilling the criteria of trade and emissions intensity.

Prohibited subsidies—where a government subsidizes export goods or goods using domestic inputs—are always deemed specific. One might wonder whether the rules on free allocation constitute a prohibited export subsidy.<sup>40</sup> This is because additional free allocation depends on a

<sup>33</sup> Rubini and Jegou, above n 6, at 335. For a similar distinction in the context of the USA, see Ruth Mason, ‘Identifying Illegal Subsidies’, 69 (2) *American University Law Review* 479 (2019). In the context of EU state aid law, see Roland Ismer and Sophia Piotrowski, ‘Selectivity of Tax Measures: A Tale of Two Consistencies’, 43 (10) *Intertax* 559 (2015).

<sup>34</sup> See Rubini and Jegou, above n 6, at 335; Luca Rubini, ‘Subsidies for Emissions Mitigation under WTO law’, in Geert Van Calster and Denise Prévost (eds), *Research Handbook on Environment, Health and the WTO* (Cheltenham: Edward Elgar, 2013) 561–635, at 575ff.

<sup>35</sup> Robert Falkner, ‘The Paris Agreement and the New Logic of International Climate Politics’, 92 (5) *International Affairs* 1107 (2016).

<sup>36</sup> See also Recital 8 of Directive 2018/410, above n 15.

<sup>37</sup> See Coppens, above n 6, at 522. See also a *contrario* Henschke, above n 6, at 38 (‘[specificity] is therefore unlikely [...] where permits are provided free of charge to everyone’).

<sup>38</sup> See for this test, WTO Appellate Body Report, *US—Large Civil Aircraft (2nd Complaint)*, above n 27, paras 635, 636, 662, and 690 (referring to WTO Appellate Body Report, *Canada—Measures Affecting the Export of Civilian Aircraft (Canada—Aircraft)*, WT/DS70/AB/R, adopted 20 August 1999, para 157).

<sup>39</sup> See e.g. the early contributions listed above n 6.

<sup>40</sup> See Aydos, above n 6, at 141ff.

trade intensity criterion, which is defined as total trade (the sum of exports to and imports from non-EU countries) over total turnover. Exports contribute to reaching the intensity threshold, but the criterion may also be fulfilled by significant imports alone.<sup>41</sup> In other words, export performance is not a necessary but potentially a sufficient condition for a sector to be considered trade-intensive. In the absence of past case law, it is uncertain whether free allocation would be seen as ‘contingent upon export performance’.

If one rejects the existence of a prohibited subsidy, specificity needs to be ascertained under Article 2.1 of the SCM Agreement. Article 2.1(a) and (b) deal with the so-called *de jure* specificity, where access to the subsidy is explicitly limited or guided by the granting authority or the legislation pursuant to which the granting authority operates. By contrast, Article 2.1(c) governs *de facto* specificity. Specificity is excluded under Article 2.1(b), where ‘objective criteria or conditions’ are used to determine eligibility. The footnote to Article 2.1 defines such criteria as ‘neutral, which do not favour certain enterprises over others and which are economic in nature and horizontal in application, such as number of employees or size of enterprise’.

The allocation of free allowances fulfills the criteria for *de jure* specificity under Article 2.1(a). However, the eligibility criteria could fall in the ambit of footnote to Article 2.1 so that specificity would be ruled out under Article 2.1(b). While there is no clear jurisprudence as to what makes criteria objective under this provision, the criteria trade and emissions intensity do not correspond to the examples listed in the footnote (number of employees or size of enterprise). The examples and the wording ‘horizontal’ suggest that the provision seeks to exclude criteria that do not target a particular sector; given that free allocation is now confined to exposed sectors, the eligibility criteria are unlikely to be considered as objective criteria similar to the ones listed in the footnote to Article 2.1(b). Thus, there is a significant risk that the current free allocation regime would be deemed specific.

### 3. Actionable subsidies

As noted previously, the SCM Agreement distinguishes prohibited subsidies under Article 3, which are prohibited as such, and actionable subsidies under Article 5, which can be challenged through multilateral dispute settlement or through countervailing action if they cause adverse effects to the interests of another WTO Member. Since the possibility of a prohibited export subsidy was examined in the previous section, this section focuses on whether the free allocation regime leads to adverse trade effects.

While the criteria for actionability still lack clarity,<sup>42</sup> Article 5 of the SCM Agreement makes it clear that adverse effects comprise both injury to the domestic industry of another Member<sup>43</sup> and serious prejudice to the interests of another Member.<sup>44</sup> Injury to the domestic industry, which includes ‘material injury’, the ‘threat’ thereof, and ‘material retardation of the establishment of such an industry’,<sup>45</sup> can occur in the form of a decline of output, sales, market share, profits, productivity, etc.<sup>46</sup> The injury needs to be caused by the subsidized imports, not the subsidies as such. A threat of material injury can be based *inter alia* on the nature of the subsidy and its likely trade effects, a significant rate of increase of subsidized imports, and whether the

<sup>41</sup> In contrast, Donald Feaver and Victoria Boyd-Wells, ‘Is Australia’s EAP a Prohibited Export Subsidy?’, 44 (2) *Journal of World Trade* 319 (2010), at 326, assumed export contingency for the Australian Emissions-Intensive Trade Exposed Assistance Program, which required an export share of 10%.

<sup>42</sup> See Luca Rubini, ‘ASCM Disciplines and Recent WTO Case Law Developments: What Space for “Green” Subsidies?’, in Thomas Cottier and Ilaria Espa (eds), *International Trade in Electricity and the Decarbonisation of the Economy* (Cambridge: Cambridge University Press, 2017) 311–35, at 321: ‘If one wants to offer a definite and effective degree of protection to certain desirable subsidies, this cannot rest on the lack of adverse effects, but needs positive recognition.’

<sup>43</sup> SCM Agreement, Article 5(a).

<sup>44</sup> *Ibid.*, Article 58c. The nullification or impairment of benefits accruing directly or indirectly to other Members under the GATT under Article 5(b) of the SCM Agreement does not seem relevant in the present context.

<sup>45</sup> *Ibid.*, footnote 45 to Article 15.

<sup>46</sup> *Ibid.*, Article 15.4, which is also applicable in the context of Article 5 of the SCM Agreement.



price of imports will depress or suppress domestic prices and likely increase demand for further imports.<sup>47</sup>

The question of serious prejudice is governed by Article 6.3 of the SCM Agreement,<sup>48</sup> which lists four cases regarding the effect of the subsidy that constitute serious prejudice.<sup>49</sup> The first two cases concern displacement or impedance. Serious prejudice arises where the subsidy causes the displacement or impedance (a) of the imports of a like product of another Member into the market of the subsidizing Member or (b) of the exports of a like product of another Member from a third country market. The concept of displacement under both Article 6.3(a) and (b) requires ‘first, that at least a portion of the market share [...] of the like product of the complaining Member must have been taken over or substituted by the subsidized product; and second, it must be possible to discern trends in volume and market share.’<sup>50</sup> Even though it is difficult to distinguish the concepts of displacement and impedance, the Appellate Body has considered evidence that sales would have increased more than they did, or would have declined less than they did, to be relevant to a claim of impedance. Article 6.3(c) primarily looks at price effects of the subsidy. Serious prejudice is thus deemed to arise in cases of significant price undercutting by the subsidized product as compared with the price of a like product of another Member in the same market or significant price suppression or price depression or lost sales in the same market. Article 6.3(d) concerns the case of an increase in the world market share of the subsidizing Member in a particular subsidized primary product or commodity as compared to the average share it had during the previous period of three years, and this increase follows a consistent trend over a period when subsidies have been granted.

Assessing these criteria requires a complex analysis exceeding the scope of the present article. Nevertheless, current EU ETS rules could well cause both displacement in the domestic EU market and in export markets, where the product at issue is traded internationally. All this means that a country willing to bring a complaint could possibly demonstrate the existence of serious prejudice so that additional free allocation would constitute an actionable subsidy.

#### 4. Article XX of the GATT

Article XX of the GATT contains general exceptions to WTO rules.<sup>51</sup> No explicit decision has yet been rendered on whether these exceptions can be invoked in the context of a dispute involving the SCM Agreement.<sup>52</sup> The scholarly literature is divided, with reasonable arguments advanced on both sides.<sup>53</sup> If Article XX were applicable to the SCM Agreement, a two-tiered test would apply:

First, the measure would have to fall under one of the exceptions listed in lists: (a) to (j). Among them, Article XX(b) and XX(g) could apply. The Appellate Body has already ruled

<sup>47</sup> Ibid, Article 15.7.

<sup>48</sup> Ibid, Article 31.

<sup>49</sup> Panel Report, *US—Upland Cotton*, WT/DS267/R, adopted 21 March 2005, para 10.255.

<sup>50</sup> SCM Agreement, Article 6.3(b).

<sup>51</sup> General Agreement on Tariffs and Trade, 15 April 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1867 U.N.T.S. 190.

<sup>52</sup> See James Bacchus, ‘The Content of a WTO Climate Waiver’ (December 2018) Centre for International Governance Innovation CIGI Papers No. 204, <https://www.cigionline.org/sites/default/files/documents/Paper%20no.204web.pdf> (visited 22 November 2022).

<sup>53</sup> *Pro Luca Rubini, ‘Ain’t Wastin’ Time No More: Subsidies for Renewable Energy, the SCM Agreement, Policy Space and Law Reform*, 15 (2) *Journal of International Economic Law* 525 (2012), at 558–67. *Contra* Gary Horlick, ‘The WTO and Climate Change “Incentives”’, in Thomas Cottier, Olga Nartova, and Sadeq Z. Bigdeli (eds), *International Trade Regulation and the Mitigation of Climate Change* (Cambridge: Cambridge University Press, 2009) 193, at 194; International Law Association, ‘Sydney Conference—Sustainable Development and the Green Economy in International Trade Law’ (2018), [https://www.ila-hq.org/images/ILA/DraftReports/DraftReport\\_SustainableDev\\_GreenEconomy.pdf](https://www.ila-hq.org/images/ILA/DraftReports/DraftReport_SustainableDev_GreenEconomy.pdf) (visited 22 November 2022), at paras 43–48. Others are skeptical on the benefits of applying Article XX of the GATT to the SCM Agreement in the context of subsidies for renewable energy. See Ilaria Espa and Gracia Marín Durán, ‘Renewable Energy Subsidies and WTO Law: Time to Rethink the Case for Reform Beyond *Canada – Renewable Energy/Fit Program*’, 21 (3) *Journal of International Economic Law* 621 (2018), at 643ff. See also the extensive analysis by Rubini, above n 34, at 601ff.

that ‘measures adopted in order to attenuate global warming and climate change’ may in principle fall under Article XX(b), which refers to ‘measures necessary to protect human, animal, or plant life or health.’<sup>54</sup> The measures would also have to meet the necessity test: the subsidies would have to be ‘necessary’ for climate change mitigation. This means that there must not be any less trade-restrictive alternative measure(s) reasonably available that would make an equivalent contribution to the policy goal. By contrast, Article XX(g) allows measures relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption. Here, one might consider whether the EU ETS qualifies as a restriction in the sense of this provision and, if so, whether the connection between the subsidy granted and the EU ETS as a restriction is sufficiently close.

Second, the measure would have to fulfill the requirements under the *chapeau* of Article XX. The *chapeau* reflects the need to reach a balance between the right of a WTO Member to invoke an exception under Article XX and the rights of the other Members.<sup>55</sup> As an expression of the principle of good faith, there must neither be an arbitrary or unjustifiable discrimination between countries where the same conditions prevail, nor a disguised restriction on international trade.

When applying Article XX, the environmental justification could fail because free allocation—intended to ensure competitiveness of carbon-intensive exports—does not necessarily further the aim of reducing carbon emissions. A positive impact on global emissions would result only if the subsidized production replaced less carbon-efficient production—i.e. if the marginal production by domestic industry in the subsidizing state was more carbon efficient than global or, where relevant, local marginal production. All this means that granting free allowances seems a blunt and insufficiently targeted instrument for promoting the climate goals relevant to the exceptions available under Article XX of the GATT.

### C. Interim conclusion

The preceding analysis suggests that there is a serious risk that the current rules on free allocation constitute, if not a prohibited subsidy, at least an actionable subsidy. Free allocation represents a subsidy, as it grants a financial contribution in the form of foregone government revenue that would otherwise be due, confers a benefit. If the subsidy is not considered a prohibited subsidy, then it could be at least an actionable subsidy. A justification based on Article XX of the GATT, provided that the provision is applicable to the SCM Agreement at all, would be hard to establish.

## III. COMBINING A CHARGE ON CARBON-INTENSIVE MATERIALS WITH FREE ALLOWANCES

Given the serious SCM concerns about the current free allocation regime, as well as the important objections raised in the economic literature,<sup>56</sup> we consider that leakage protection for conventional installations should take a different form: a combination of the EU ETS (including the free allocation of allowances) with a charge on carbon-intensive materials. This section demonstrates that free allocation would then cease to be an inconsistent exception to the norm of full auctioning. Rather, it would ensure consistent carbon pricing. Despite the overlap of the

<sup>54</sup> WTO Appellate Body Report, *Brazil—Measures Affecting Imports of Retreaded Tyres (Brazil—Retreaded Tyres)*, WT/DS332/AB/R, adopted 17 December 2007, para 151. See also WTO Panel Report, *Brazil—Certain Measures Concerning Taxation and Charges (Brazil—Taxation)*, WT/DS472/R, WT/DS497/R, adopted 11 January 2019, para 7.880: ‘the reduction of CO<sub>2</sub> emissions is one of the policies covered by subparagraph (b) of Article XX, given that it can fall within the range of policies that protect human life or health’; the statement, however, has to be seen in the context that the reduction of CO<sub>2</sub> emissions was shown to have a ‘direct effect in improving air quality in the cities and reducing the risks of experiencing respiratory problems’ (ibid, para 7.878).

<sup>55</sup> WTO Appellate Body Report, *United States—Import Prohibition of Certain Shrimp and Shrimp Products (US—Shrimp)*, WT/DS58/AB/R, adopted 6 November 1998, para 121.

<sup>56</sup> See Ismer et al., above n 9.

EU ETS and the charge, the same carbon emissions would only be burdened once. In such a system, free allocation would not be revenue foregone and thus not constitute a subsidy.

### A. The proposal

Under this proposal, installations producing carbon-intensive materials would remain subject to the EU ETS. Operators would thus continue to face incentives for carbon-efficient material production. A ton of CO<sub>2</sub> emissions saved in the production process would reduce the number of allowances its producers have to surrender to the authorities. Allowances no longer required for compliance could be sold on the carbon market (or, equivalently, would not have to be purchased on the markets).

The EU ETS would, possibly in the same directive, be complemented with an additional charge levied on carbon-intensive materials rather than on carbon emissions. Producers of such materials would be subject to the charge. The liability would be created when the materials are produced. In line with standard excise procedure, the liability could be transferred under excise duty suspension arrangements, which means that the charge would not become due until the material leaves the duty suspension arrangement (traditionally a warehouse). As it can be assumed that the charge would be passed through to purchasers of materials, the charge would send a carbon price signal down the value chain. Thereby, it would encourage material efficiency (e.g. by building houses with less steel and less concrete) and material substitution (e.g. the use of wood instead of steel in buildings).<sup>57</sup> For imports, the charge would apply at the same rate and under the same conditions as for domestic products. For exports, the charge would be acquitted. The level of the charge would rely on a reference level for the carbon intensity of the product. Until a reference level was agreed upon in an international process, it would be equal to the benchmark value for free allocation under the EU ETS. A unique benchmark value (e.g. the benchmark level of the 10% most efficient conventional European steel installations) would apply to both domestic and imported steel.

Free allowances would be decisive for co-ordinating the charge on carbon-intensive materials and the EU ETS. Applying them in parallel would risk double charging the same carbon emissions—emissions would be subject both to the charge and to the burden resulting from surrendering allowances under the EU ETS. Such double charging should be avoided through targeted free allocation. Operators of installations included in the EU ETS should receive free allowances based on a carbon intensity benchmark and their production volumes.

An example may illustrate the proposal: consider a company producing 1 million tons of steel with CO<sub>2</sub> emissions of 1.8 tons per ton of steel. One-third is exported; one-third sold under duty suspension to a car manufacturer; and one-third released for consumption. It also imports 300,000 tons of steel. The benchmark is assumed to be 1.6 tons of CO<sub>2</sub> per ton of steel and the allowance price EUR 75 per ton of CO<sub>2</sub>. The production would give rise to a charge of EUR 120 million (1 million\*1.6\*EUR 75). The steel company would have to pay EUR 40 million upon release for consumption, but not the remainder: EUR 40 million would be paid by the car manufacturer and the last third would be acquitted upon exportation. Under the EU ETS, the producer would have to purchase 200,000 EU ETS allowances (1 million\*(1.8–1.6)) to cover emissions exceeding the benchmark for EUR 15 million (200,000\*EUR 75) and to surrender them along with the 1.6 million free allowances. The importation would entail a charge of EUR 36 million (300,000\*1.6\*EUR 75). Overall, exported steel would be burdened by EUR 15 ((1.8–1.6)\*75) per ton (from the EU ETS); imports by EUR 120 (1.6\*EUR 75; from the charge); and domestically produced and consumed steel by EUR 135 (15 + 120; from the

<sup>57</sup> Hector Pollitt et al., 'The Impact of Implementing a Consumption Charge on Carbon-Intensive Materials in Europe', 21 (1) *Climate Policy* S74 (2020).

EU ETS and the charge). Under the current system, by contrast, imports are not burdened, whereas domestically produced and consumed steel as well as exports bear a burden of EUR 15  $((1.8-1.6)*75)$ .

The proposal would thus radically change the role of free allocation. It would cease to be an inconsistent exception to the norm of auctioning. Instead, when combined with a charge on carbon-intensive materials, it would be a component of a two-part scheme achieving full carbon pricing in the EU. First, the charge would be applied to a list of basic materials (namely those produced by the sectors and subsectors benefiting from free allowances) so that emissions at the reference level would be subject to carbon pricing. Second, installations would remain subject to the EU ETS. Operators would be required to surrender allowances corresponding to their carbon emissions. Emissions up to the benchmark would be covered by free allowances. However, emissions exceeding the free allocation benchmark would bring about additional financial costs, as operators would have to purchase allowances at auction or on the secondary market.

### B. Assessment under the SCM Agreement

The radical change of the role of free allocation would translate into a different legal assessment under the SCM Agreement. In the context of the current EU ETS, free allocation lacks internal consistency as it represents exceptions to the general rule of auctioning.<sup>58</sup> In the context of a charge on carbon-intensive materials, however, free allocation would be part of a combination of instruments implementing single carbon pricing. It would be internally consistent so that the free allocation regime would no longer amount to ‘revenue foregone that was otherwise due’ in the sense of Article 1.1(a)(1)(ii) of the SCM Agreement. There would be no subsidy.<sup>59</sup>

More precisely, the normative benchmark for the assessment of revenue otherwise due would no longer be the auctioning of allowances, but single carbon pricing. Admittedly, when seeing the EU ETS in isolation, auctioning would still appear to be the norm and the allocation of free allowances would seemingly continue to be the exception. Yet the two instruments, which could be laid in the same directive, must be seen together. The combination of a carbon charge with free allowances would ensure consistent carbon pricing, or, mirroring the terminology used in the international tax discourse,<sup>60</sup> single carbon pricing. It would mean that overall emissions would, albeit through two instruments, be in effect priced once—emissions up to the benchmark level would be priced through the charge on carbon-intensive materials, whereas emissions above the benchmark level would be priced through the EU ETS. If, instead, allowances were fully auctioned without free allowances, carbon pricing would become inconsistent because emissions up to the benchmark would be priced twice. Carbon pricing for these emissions would then be distortionary, undermining the efficiency of the EU ETS and the carbon charge. In other words, free allocation in this context may at first glance appear as an exception, but in reality, it follows the logic of consistent carbon pricing.<sup>61</sup>

Legally, there is no reason that would exclude jointly assessing two (or more) instruments. In particular, the foregoing of revenue under Article 1.1(a)(1)(ii) of the SCM Agreement merely requires an analysis of what is otherwise due but does not indicate the scope of such analysis. Moreover, a joint assessment finds certain support in WTO jurisprudence. In *US—Softwood*

<sup>58</sup> See section II.B.1.b.

<sup>59</sup> Alternatively, one could take the view that the existence of the charge would mean that no benefit would be conferred, and thus there would be no subsidy.

<sup>60</sup> On the single taxation principle, see Reuven S. Avi-Yonah, *International Tax as International Law: An Analysis of the International Tax Regime* (Cambridge: Cambridge University Press, 2007) 8ff; Yariv Brauner, ‘An International Tax Regime in Crystallization’, 56 *Tax Law Review* 259 (2003); H. David Rosenbloom, ‘International Tax Arbitrage and the International Tax System’, 53 *Tax Law Review* 137 (2000); Joanna Wheeler (ed), *Single Taxation* (Amsterdam: IBFD, 2018).

<sup>61</sup> This understanding amounts to an inherent justification, in parallel to the third step of the selectivity analysis under EU state aid rules. See CJEU, Case C-374/17 *A Braueri* (2018) ECLI:EU:C:2018:1024.

*Lumber VII*, the panel stated regarding ‘The basis of such a comparison is normally the tax or fiscal rules in the jurisdiction at issue.’ The use of the wider term ‘fiscal rules’ points to the possibility of a joint assessment over several instruments.

The combination of the free allocation regime and a charge on basic materials could, however, be questioned on the ground that emissions associated with exports from the EU would only be charged when they exceed the benchmark level: Would this not amount to preferential treatment for exports when compared to imports? There are three answers to this question. The first is technical: the difference between the burden on exports and on products consumed in the EU precisely reflects the scenario envisaged by footnote 1 to Article 1 of the SCM Agreement, under which the exemption of an exported product from duties or taxes borne by the like product when destined for domestic consumption shall not be deemed a subsidy.<sup>62</sup> The charge is levied on carbon-intensive materials rather than on carbon content. The amount to be paid is independent of actual emission. As mentioned previously, it is the same for climate-neutral steel as for conventional steel, whether originating from inefficient or the most efficient plants. The thorny question whether the footnote applies to taxes on carbon emissions<sup>63</sup> is of no concern here. The second, on a more conceptual note, is that the charge reflects the desire to implement carbon pricing for goods consumed in the EU on the basis of the destination principle.<sup>64</sup> This desire is in line with WTO law.<sup>65</sup> Against this background, the charge provides an origin-neutral answer to the constraints and uncertainties regarding adjustments for carbon pricing under emissions trading systems and steers clear of fraught differentiations for non-product-related process and production methods (PPMs).<sup>66</sup>

In the context of exports, one additional question should be addressed. Where an installation’s actual emissions are below the benchmark for free allocation, the combination of the EU ETS, the free allocation regime, and the charge on carbon-intensive materials would result in negative carbon pricing if the charge is fully acquitted upon exportation. This is because the operator of the installation would receive more free allowances than it would have to surrender. If the charge is zero, the overall result would be a negative payment to the government. Would this negative payment amount to a prohibited export subsidy or actionable subsidy under the SCM Agreement? Importantly, the conditions set out in footnote 1 to Article 1 of the SCM Agreement would not be met if the relief from the charge is seen in conjunction with free allocation, as there would then be excess relief. Yet, in practice, this scenario is unlikely because the free allowance allocation benchmark is based on the average of carbon emissions of the 10% best installations. Should very carbon-efficient installations outperform the top 10% installations, the subsidy would not, in any event, be related to the export performance of these installations, but rather to its emissions performance, so that it would not be a prohibited subsidy. Moreover,

<sup>62</sup> See also item (g) of the Illustrative List of Export Subsidies contained in Annex I of the SCM Agreement, according to which an excessive remission of taxes on exports constitutes an export subsidy.

<sup>63</sup> See e.g. *pro* Joost Pauwelyn, ‘U.S. Federal Climate Policy and Competitiveness Concerns: the Limits and Options of International Trade Law’, Nicholas Institute for Environmental Policy Solutions, Duke University, 2007), <http://nicholasinstitute.duke.edu/climate/policydesign/u.s.-federal-climate-policy-and-competitiveness-concerns-the-limits-and-options-of-international-trade-law> (visited 13 November 2022), at 20; *contra* Gavin Goh, ‘The World Trade Organization, Kyoto and Energy Tax Adjustments at the Border’, 38 (3) *Journal of World Trade* 395 (2004), at 411.

<sup>64</sup> In tax law, under the destination principle, a tax is ultimately levied only on final consumption within the taxing jurisdiction. By contrast, under the origin principle, the tax is levied in the various jurisdictions where the value is added. See OECD, *International VAT/GST Guidelines* (Paris: OECD Publishing, 2017), at 15ff.

<sup>65</sup> See SCM Agreement, footnote 1. See also Section 1.11 of the OECD’s *International VAT/GST Guidelines*, above n 64, stating: ‘The destination principle is the international norm and is sanctioned by World Trade Organization (“WTO”) rules.’

<sup>66</sup> On this discussion, see Goh, above n 63, at 407–08; Holzer, above n 6, at 91–145; Henrik Horn and Petros Mavroidis, ‘Climate Change and the WTO: Legal Issues Concerning Border Tax Adjustments’, 53 *Japanese Yearbook of International Law* 19 (2010), at 32; Matthew C. Porterfield, ‘Border Adjustments for Carbon Taxes, PPMs, and the WTO’, 41 (1) *University of Pennsylvania Journal of International Law* 1 (2019); Reinhard Quick and Christian Lau, ‘Environmental Motivated Tax Distinctions and WTO Law’, 6 (2) *Journal of International Economic Law* 419 (2003).



it would be hard to envisage an actionable subsidy as it would need to be demonstrated that the negative charge results in the displacement of products in foreign markets.<sup>67</sup>

### C. Interim conclusion

When the rules of the EU ETS are combined with a charge on carbon-intensive materials, free allocation should no longer be viewed as an inconsistent exception to the norm of full auctioning. Rather, it ensures consistent carbon pricing and avoids double charging. Thus, when free allocation forms part of such a system of coherent pricing, it seems far less vulnerable to challenges under the SCM Agreement, as it is unlikely to represent a financial contribution.

## IV. SUPPORT FOR CLIMATE-NEUTRAL PROCESSES THROUGH CCFDS

Some amendments to the proposal discussed in the previous section—creating a charge on carbon-intensive materials while maintaining the EU ETS and granting free allocation—are necessary when it comes to climate-neutral installations. Whereas the charge should be applied regardless of the production method, operators of climate-neutral installations should not receive free allowances. This is for several reasons: first, no allowances need to be surrendered for such installations under the EU ETS. Free allowances would be surplus allowances that would have to be sold or used for other, conventional installations in the same firm. This implies that for them, free allowances would be similar to a cash transfer. Second, there is the danger of inadequate compensation: initially, carbon-neutral installations may have a significant cost disadvantage that would not be fully equalized by the free allocation. Conversely, carbon prices might rise over time, while learning effects should lower the costs of climate-neutral installations. The price differential would then become smaller or even negative, creating the risk of over-compensation. And finally, the rationale that free allocation serves to fend off double charging of the same emissions does not apply as there are no emissions from climate-neutral installations. Support for the climate-neutral production of basic materials such as steel, cement, or plastic should therefore take place entirely outside the framework of the EU ETS.

We hence propose an innovative support measure for climate-neutral processes—CCfDs concluded between governments and operators of climate-neutral installations. This section gives an overview of such CCfDs and then argues that they can be designed in manner compliant with the SCM Agreement.

### A. The proposal

Contracts for difference are long-term contracts under which payments can flow from one contracting party such as the government to the other contracting party (e.g. operators of carbon-neutral installations) and vice versa. The payments are determined by the difference between the reference level and a pre-agreed level (the ‘strike price’). When the reference level is below the strike price, the government makes up the difference. Conversely, when the reference level is above the strike price, the operators pay the difference to the government. Such contracts have been in place in the UK electricity sector since 2013 to provide incentives for decarbonizing the electricity sector.<sup>68</sup>

<sup>67</sup> If a subsidy were found to exist, it could be avoided by limiting the free allocation or the acquittal of the charge upon exportation so that there would be no net negative burden.

<sup>68</sup> For an evaluation of the scheme, see UK Department of Business, Energy and Industrial Strategy, ‘Evaluation of the Contracts for Difference scheme Phase 3 Final Report’ (2021), [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/1076185/CfD\\_evaluation\\_phase\\_3\\_final\\_report.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1076185/CfD_evaluation_phase_3_final_report.pdf) (visited 22 November 2022).

We suggest that CCfDs should be concluded in the materials sector.<sup>69</sup> Under these particular contracts, governments would contribute to the added costs of clean production of basic materials such as steel, cement, or plastic. They would pay producers the incremental costs of climate-neutral production relative to conventional production. At the same time, they would prevent granting excessive support: when a rise in global carbon price improves returns of carbon-neutral installations,<sup>70</sup> the payout by governments to producers would be lower or even become negative. This would reflect the fact that the latter's sale revenue will generally rise along with the increase in production costs of conventional production, reducing the rationale for governmental support. The level of support under the CCfDs would be set by the market through a competitive discovery process (in the medium term through auctions).

An example illustrates the proposal: a climate-neutral plant produces 1 million tons of steel. Auctions reveal that the extra cost per ton of steel from climate-neutral production compared to best conventional technology (which emits 1.6 tons of CO<sub>2</sub>) is EUR 200. The carbon price is assumed to be EUR 75. As the charge on steel production would apply regardless of actual emissions, the operator—as all conventional producers—would be subject to a charge of EUR 120 per ton (1.6\*75), i.e. EUR 120 million overall. The payment by the government from the CCfDs would initially be EUR 200 million (EUR 200\*1 million). Once international carbon pricing emerges, the carbon charge would be reduced so as to avoid excessive carbon pricing of imports. For example, under an international agreement on a minimum carbon price of EUR 25 per ton of CO<sub>2</sub>, conventional steel would already be burdened by EUR 40 per ton (EUR 25\*1.6 tCO<sub>2</sub>/t of steel). The charge would be reduced by that amount to EUR 80 per ton. The value of free allocation would have to drop correspondingly by EUR 40.<sup>71</sup> Payments under CCfDs would fall from EUR 200 to EUR 160 per ton of clean steel. A further rise in global carbon prices could even entail payments from climate-neutral producers back to governments.

From an economic perspective, CCfDs would have the double benefit of eliminating the cost disadvantage of climate-neutral production and of hedging carbon price uncertainty. Moreover, they would provide analytical clarity by separating operators of carbon-intensive installations that are part of the EU ETS from those that are not.

## B. Assessment under the SCM Agreement

Depending on their exact design, CCfDs could provide a financial contribution, as defined by Article 1.1(a)(1) of the SCM Agreement, in the form of a direct transfer of funds or a government price support scheme. However, CCfDs would not confer a benefit, the other essential condition of the SCM Agreement definition of a subsidy (Article 1.1(b)). As mentioned before, a financial contribution constitutes a benefit when it makes 'the recipient "better off" than it would otherwise have been, absent that contribution.'<sup>72</sup> The financial contribution must therefore be provided on terms that are more advantageous than those that would have been available to the recipient on the market. Thus, it is of relevance whether the financial contribution results from negotiations based on market considerations. Or, as the Appellate Body stated in *Canada—Airframe*, 'the marketplace provides an appropriate basis for comparison in determining whether a "benefit" has been "conferred", because the trade-distorting potential of a "financial contribution" can be identified by determining whether the recipient has received

<sup>69</sup> See Jörn Richstein and Karsten Neuhoff, 'Carbon Contracts-for-Difference: How to De-risk Innovative Investments for a Low-Carbon Industry?' (iScience, 2022), <https://doi.org/10.1016/j.isci.2022.104700>.

<sup>70</sup> This could happen if more and more countries adopt carbon pricing.

<sup>71</sup> At an allowance price of EUR 75, this is equivalent to 0.533 (EUR 40/EUR 75) allowances. The number of free allowances per ton of steel would therefore have to be reduced from 1.6 by 0.533 to 1.066 allowances.

<sup>72</sup> See for this test Appellate Body Report, *US—Large Civil Aircraft (2nd Complaint)*, above n 27, paras 635–36, 662, and 690 (referring to Appellate Body Report, *Canada—Airframe*, above n 38, para 157).

a “financial contribution” on terms more favorable than those available to the recipient in the market.<sup>73</sup>

Against this background, the question arises as to whether the government can create a market for climate-neutral production processes. This approach would be in line with the position taken by the Appellate Body in *Canada—Renewables*, where it stated that the determination of the relevant market had to take into account both supply- and demand-side considerations, and that the generation of electricity from renewable sources constituted a distinct market from conventional electricity generation.<sup>74</sup> It seems noteworthy that the Appellate Body also decided in *Canada—Renewables* that the fact that the government sets prices does not in itself establish the existence of a benefit. Indeed, government-administered prices may reflect what a hypothetical market would yield; however, a properly designed discovery system such as auctioning would eliminate any challenges with respect to the price level. All this suggests that granting CCfDs does not confer a benefit.

Moreover, even if CCfDs were deemed a subsidy, they would unlikely qualify as actionable subsidies as they would not lead to serious prejudice under Articles 5 and 6.3 of the SCM Agreement. Displacement or impedance due to the support granted to climate-neutral industries would be hard to ascertain as differences in production processes and methods are not relevant to assess which ‘like products’ are subject to displacement or impedance.<sup>75</sup> Consequently, as long as production from climate-neutral facilities remains minor compared to that from conventional installations or if conventional installations are refitted to climate-neutral production processes, it is unlikely that displacement or impedance could be proven.

Finally, Article XX of the GATT, if applicable to the SCM Agreement, could justify subsidies for climate-neutral production. By definition, climate-neutral production is clean, and measures aimed at supporting it seem in line with the justifications mentioned under Article XX(b) and (g). Moreover, while the intricacies of Article XX’s *chapeau* exceed the scope of this article, it seems worthwhile to note that engaging in cooperation with governments of other members can be important for the justification.<sup>76</sup> This suggests that, when establishing benchmarks and other parameters, the EU would do well to consult with other WTO Members.

### C. Interim conclusion

Support through CCfDs would arguably constitute a financial contribution. Yet where an appropriate (i.e. non-excessive) level of support is chosen, it would not confer a benefit and thus not qualify as a subsidy. Even if it did, it would not lead to serious prejudice in the sense of Articles 5 and 6.3 of the SCM Agreement and would thus not be actionable.

## V. CONCLUSION

To reach climate neutrality by the middle of this century, emissions from basic material production will have to be significantly reduced. When governments encourage this transition, compliance with world trade law is crucial. Yet support for the deployment of climate-neutral technologies as well as measures addressing carbon leakage risks both raise intricate questions regarding the SCM Agreement.

<sup>73</sup> Appellate Body Report, *Canada—Aircraft*, above n 38, para 157.

<sup>74</sup> For a critical discussion of this decision, see e.g. Steve Charnovitz and Carolyn Fischer, ‘Canada—Renewable Energy: Implications for WTO Law on Green and Not-so-Green Subsidies’, 14 (2) *World Trade Review* 177 (2015), at 210; Aaron Cosbey and 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 (1) *Journal of International Economic Law* 11 (2014); Rajib Pal, ‘Has the Appellate Body’s Decision in *Canada—Renewable Energy/Canada—Feed-in Tariff Program* Opened the Door for Production Subsidies?’, 17 (1) *Journal of International Economic Law* 125 (2014), at 129ff.

<sup>75</sup> See SCM Agreement, footnote 46 to Article 15.

<sup>76</sup> See WTO Appellate Body Report, *United States—Standards for Reformulated and Conventional Gasoline (US—Gasoline)*, WT/DS2/AB/R, adopted 20 May 1996, 28.

Our analysis has revealed that the current system of leakage protection through the selective allocation of free allowances is vulnerable to challenges under the SCM Agreement. Free allocation represents a subsidy, as it grants a financial contribution in the form of foregone government revenue. It also confers a benefit. If the subsidy is not considered a prohibited subsidy, it could be at least an actionable subsidy. A justification of the current additional free allocation based on the exceptions of Article XX of the GATT, provided that the provision is applicable to the SCM Agreement at all, would be hard to establish.

Yet we have also shown that alternatives are available that are very likely to be compliant with the SCM Agreement. For conventional installations, a combination of the EU ETS with free allocation and a charge on carbon-intensive materials would raise fewer concerns. Free allocation would then ensure consistent carbon pricing so that there would be no subsidy. For climate-neutral installations of basic materials, we have sketched a proposal for CCfDs as an additional innovative support measure. Relying on the reasoning in the Appellate Body's *Canada—Renewable Energy*, it could be designed so that there would be no subsidy.

While governments may promise climate neutrality by mid-century, the Intergovernmental Panel on Climate Change reminds us that 'any net zero targets are ambiguously defined, and the policies needed to achieve them are not yet in place'.<sup>77</sup> This is particularly true for the materials sector. Our analysis has shown that the current approach under the EU ETS has economic flaws<sup>78</sup> and carries significant legal risks. Policymakers in the EU and elsewhere should therefore consider the alternative SCM compliant instruments presented here. Indeed, given the urgency of climate change mitigation, governments should start implementing them sooner rather than later.

<sup>77</sup> IPCC, *Climate Change 2022: Mitigation of Climate Change*—Working Group III contribution to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, [https://report.ipcc.ch/ar6/wg3/IPCC\\_AR6\\_WGIII\\_Full\\_Report.pdf](https://report.ipcc.ch/ar6/wg3/IPCC_AR6_WGIII_Full_Report.pdf) (visited 13 November 2022), TS-11.

<sup>78</sup> See section II.A.