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Roland Ismer, Harro van Asselt, Jennifer Haverkamp, Michael Mehling, Karsten Neuhoff, Alice Pirlot

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DIW Berlin
German Institute for Economic Research
Mohrenstr. 58
10117 Berlin

Tel. +49 (30) 897 89-0
Fax +49 (30) 897 89-200
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Climate neutral production, free allocation of allowances under emissions trading systems, and the WTO: How to secure compatibility with the ASCM

Roland Ismer, Harro van Asselt, Jennifer Haverkamp, Michael Mehling, Karsten Neuhoff, Alice Pirlot [1]

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Abstract:

To reach climate neutrality, carbon emissions from the production of basic materials need to be significantly reduced. For governments' support measures to be consistent with their World Trade Organization obligations, they need to be compatible with the WTO's Agreement on Subsidies and Countervailing Measures (ASCM). This paper analyzes the ASCM consistency of three selected support schemes, namely: (1) free allocation under emissions trading systems such as the European Union Emissions Trading System (EU ETS) to operators of installations deemed to be at significant risk of carbon leakage; (2) a combination of a charge on carbon-intensive materials with free allocation; and (3) carbon contracts for differences (CCfDs) for operators of climate-neutral installations, in which governments pay out the incremental costs of climate neutral-production processes relative to the costs of conventional primary material production. The analysis reveals that the current system of carbon leakage protection through free allocation is vulnerable to challenges under the ASCM. By contrast, a transition to a combination of free allocation and a charge on carbon-intensive materials would implement consistent carbon-pricing and thus would very likely not amount to a subsidy under the ASCM. In a similar vein, support for climate-neutral installations through CCfDs could be designed in such a way that it confers no benefit, so that it would also not constitute a subsidy.

Key words: WTO, ASCM, Carbon Pricing, Free allowance allocation, Climate Contribution, Carbon Contracts for Difference.

JEL: K32, F13, Q54, Q56

[1] Roland Ismer, Friedrich-Alexander-University Erlangen-Nuremberg (FAU) and German Institute for Economic Research (DIW Berlin); Harro van Asselt, University of Eastern Finland, Utrecht University, and Stockholm Environment Institute; Jennifer Haverkamp, University of Michigan Law School, Karsten Neuhoff, DIW Berlin, and Technical University Berlin; Michael Mehling, Massachusetts Institute of Technology (MIT); Alice Pirlot, University of Oxford Centre for Business Taxation.

A. Introduction

Governments around the globe increasingly promise to reach climate neutrality by the middle of the century.[2] Reducing carbon emissions from the production of basic materials such as steel, cement clinker, aluminium, pulp, paper and plastic plays a central role in reaching that goal, given that such materials are responsible for 25% of global greenhouse gas (GHG) emissions, amounting to roughly two-thirds of all industrial emissions.[3] Emissions reductions can be facilitated through carbon pricing, either in the form of carbon taxes or emissions trading. Initially, climate mitigation costs would be equal to the carbon costs borne by carbon intensive material production. With growing levels of climate-neutral primary production, climate mitigation costs could increasingly reflect incremental costs of production processes that avoid carbon emissions, such as hydrogen-based steel, compared to conventional production processes.

Countries and regions across the world currently pursue asymmetrical levels of ambition, use different combinations of policy instruments, and thus implement different carbon prices, if any.[4] The differences in carbon pricing levels between countries and regions create a risk of carbon leakage. When, for example, carbon-intensive production shifts to locations with lower carbon costs, emission reductions in one country or region could give rise to emission increases in another country or region, so that global emissions would remain unchanged or even increase. Different policy instruments, such as carbon border adjustments, that seek to address carbon leakage have been widely discussed.[5]

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[2] For China see Xi Jinping, Statement at the General Debate of the 75th Session of The United Nations General Assembly, available at https://www.fmprc.gov.cn/mfa_eng/zxxx_662805/t1817098.shtml: "We aim to peak carbon dioxide emissions before 2030 and achieve carbon neutrality before 2060."; see also Smriti Mallapaty, 'How China could be carbon neutral by mid-century', Nature 586, 482-483 (2020). For the European Union, see Ursula von der Leyen, A Union that strives for more. My agenda for Europe, Political Guidelines for the Next European Commission 2019-2024, available at https://ec.europa.eu/commission/sites/beta-political/files/political-guidelines-next-commission_en.pdf; European Commission, Proposal for a Regulation of the European Parliament and of the Council establishing the framework for achieving climate neutrality and amending Regulation (EU) 2018/1999 (European Climate Law), COM/2020/80 final. For the United States, see The White House, "Fact Sheet: President Biden's Leaders Summit on Climate", 23 April 2021, available at https://www.whitehouse.gov/briefing-room/statements-releases/2021/04/23/fact-sheet-president-bidens-leaders-summit-on-climate/

[3] DIW calculations based on International Energy Agency (2017) Energy Technology Perspectives; UNFCCC (2012) National greenhouse gas inventory data for the period 1990–2010, available at https:// unfccc.int/process/transparency-and-reporting/greenhouse-gas-data/ghg-data-unfccc/European; Environmental Agency (2016) Greenhouse gases viewer, available at http://www.eea.europa.eu/data-and-maps/data/data-viewers/greenhouse-gases-viewer.

[4] Mehling et al. 2019, 'Designing Border Carbon Adjustments for Enhanced Climate Action' (2019) American Journal of International Law 433-481, p. 438.

[5] Among the many contributions to the legal and economic literature, see, e.g., Aaron Cosbey et al., 'Developing Guidance for Implementing Border Carbon Adjustments: Lessons, Cautions and Research Needs from the Literature' (2019) 13(1) Review of Environmental Economics and Policy, pp. 3-22; Kasturi Das, 'Can Border Carbon Adjustments Be WTO-Legal?' (2011) 8(3) Manchester Journal of International Economic Law 65-97; Olivier De Schutter, *Trade in the Service of Sustainable Development. Linking Trade to Labour Rights and Environmental Standards* (Hart Publishing, 2015), chapter 3; Susanne Droege, 'Do border measures have a role in climate policy?' (2011) 11 Climate Policy 1185-1190; Roland Ismer, *Klimaschutz als Rechtsproblem* (Mohr Siebeck, 2014); Samuel Kortum and David Weisbach, 'The design of border adjustments for carbon prices' (2017) (70)2 National Tax Journal 421; Ben Lockwood and John Whalley, 'Carbon-motivated Border Tax Adjustments: Old Wine in Green Bottles?' (2010) 33(6) World Economy 810-819; Michael Mehling et al. (n. 4); OECD, 'Climate Policy Leadership in an Interconnected World, What Role for Border Carbon Adjustments?' (December 2020); 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* (Edward Elgar Publishing, 2013), 448-506; Harro van Asselt and Thomas Brewer, 'Addressing Competitiveness and Leakage Concerns in Climate Policy: An Analysis of Border Adjustment Measures in the US and the EU' (2010) 38(1) *Energy Policy* 42–

However, border carbon adjustments have not yet been implemented internationally. [6] Instead, governments have so far resorted to support policies that limit costs from carbon pricing for sub-sectors deemed to be at the risk of leakage. For example, allowances are currently not fully auctioned under the European Union Emissions Trading System (EU ETS). They are partially allocated free of charge to operators of installations following specific allocation rules designed to offer leakage protection.[7] Beyond leakage protection, governments may also want to support the deployment of emerging climate-neutral technologies, such as hydrogen-based steel production or cement production with carbon capture and sequestration.

For any such government support measures to be consistent with governments' obligations as members of the World Trade Organization (WTO), they would, in particular, need to be compatible with the Agreement on Subsidies and Countervailing Measures (ASCM). While respect for public international law represents a value in itself, compliance with existing[8] world trade law offers specific advantages. By conforming their measures to internationally-agreed trade rules, governments limit adverse economic impacts on their trading partners, thereby contributing to strengthening international cooperation in the field of climate action. Moreover, doing so avoids lengthy disputes and countervailing measures taken by injured WTO Members. Both leakage protection through free allocation and support for climate-neutral technologies thus raise important questions regarding their compatibility with the ASCM. Such questions are not new. Indeed, more than 20 years ago, contributions to the scholarly literature discussed whether free allocation under emissions trading

51; Geert van Calster, *International and EU Trade Law. The Environmental Challenge* (Cameron May, 2000) 414-485; Richard A. Westin, *Environmental Tax Initiatives and Multilateral Trade Agreements: Dangerous Collisions* (Kluwer Law International, 1997).

[6] CBAMs have been implemented under regional emissions trading schemes for electricity, cf. e.g. Stefan Pauer, 'Including electricity imports in California's cap-and-trade program: A case study of a border carbon adjustment in practice' (2018) 31(10) The Electricity Journal, 39-45. Moreover, there have been some environmental border adjustments, see e.g. the Report of the GATT Panel adopted on 17 June 1987, *United States – Taxes on Petroleum and Certain Imported Substances,* L/6175; 34S/136. See also Alice Pirlot, *Environmental Border Tax Adjustments and International Trade Law* (Edward Elgar Publishing, 2017).

[7] 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 L275/32, last amended by Directive (EU) 2018/410 of the European Parliament and of the Council of 14 March 2018, OJ 76/3 (in the following referred to as the EU ETS Directive). Similar free allocation mechanisms can be found in other emission trading systems worldwide, see Acworth et al., (2020), *Carbon Leakage and Deep Decarbonization: Future-proofing Carbon Leakage Protection* (ICAP, 2020).

[8] World trade law is of course the outcome of negotiations and could be modified. See James Bacchus, 'The Content of a WTO climate waiver' (December 2018) Centre for International Governance Innovation CIGI Papers No. 204, available at https://www.cigionline.org/sites/default/files/documents/Paper%20no.204web.pdf; Kasturi Das et al., 'Making the international trade system work for climate change: Assessing the options' *Climate Strategies* (2018), available at https://climatestrategies.org/wp-content/uploads/2018/07/CS-Report-_Trade-WP4.pdf; Harro van Asselt and Tom Moerenhout, 'Fit for Purpose?: Toward trade rules that support fossil fuel subsidy reform and the clean energy transition' (2020) IISD ; International Law Association, Sydney Conference (2018) – Sustainable Development and the Green Economy in International Trade Law, available at https://www.ila-hq.org/images/ILA/DraftReports/DraftReport_SustainableDev_GreenEconomy.pdf, at para. 50; Bernard Hoekman and Douglas Nelson, 'Rethinking International Subsidy Rules' (2020) Bertelsmann Working Paper. On the reform of the ASCM more generally, see recently e.g. Joint Statement of the Trilateral Meeting of the Trade Ministers of Japan, the United States and the European Union, Washington, D.C., 14 January 2020, available at <https://trade.ec.europa.eu/doclib/docs/2020/january/tradoc_158567.pdf>. See also 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' (2020) 23(2) Journal of International Economic Law 371–389. doi:10.1093/jiel/jgaa017. Agreeing on such changes, however meritorious, would take time, so this article's analysis is based on world trade law as it currently stands.

systems constituted an actionable subsidy under the ASCM.[9] Other contributions have focused more generally on the compatibility of green subsidies with the ASCM.[10] Yet the design of emissions trading systems and in particular the allocation rules have changed significantly over time, raising new scrutiny. The United States Department of Commerce took the position in December 2020 that free allocation to installations deemed to be at significant risk of carbon leakage constituted a countervailable subsidy to the extent the free allocation exceeded the standard amount of allowances provided across all sectors on a consistent, equal basis.[11] Moreover, new questions arise with the emergence of novel proposals both for instruments aimed at combatting carbon leakage and for policies that support emerging climate-neutral technologies for basic materials.

Against this background, the present contribution evaluates the ASCM compatibility of existing and proposed support measures. We focus on three key support measures in the context of the EU ETS as the world's biggest emission trading system. Nevertheless, the results of our analysis can be transferred mutatis mutandis to other schemes with similar traits. First, we analyze the current additional free allocations for installations deemed to be at significant risk of carbon leakage. Second, we evaluate a recent reform proposal, under which a charge on carbon-intensive materials would be introduced, irrespective of method of production. Operators of installations producing such materials with conventional (i.e., non-climate-neutral) technologies would remain covered by the EU ETS and would continue to receive free allowances. Third, we appraise carbon contracts for difference (CCfDs), under which governments commit to contribute to the added costs of clean production. Climate-neutral production of basic materials such as steel, cement or plastic is currently more expensive than primary production with conventional processes. As a remedy, clean production processes, which are not covered by the EU ETS as they do not give rise to carbon emissions, would be given the opportunity to conclude CCfDs. Such publicly backed contracts would eliminate the cost disadvantage and hedge carbon price uncertainty.

The paper is organized as follows: Section B deals with the EU ETS's current system of leakage protection through free allocation. It reveals that the system is vulnerable to challenges under the ASCM. Section C addresses the combination of a charge on carbon-intensive materials and free

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[9] See Annie Petsonk, 'The Kyoto Protocol and the WTO: Integrating greenhouse gas emissions allowance trading into the global marketplace' (1999) (10) Duke Environmental Law and Policy Forum, 185 at 206 ff.; Magnus Lodefalk and Mark Storley, 'Climate Measures and WTO Rules on Subsidies' (2005) 39 Journal of World Trade 23; 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]' (Brookings Institution Press, 2008), pp. 35-68, at pp. 54 ff. For more recent contributions, see e.g. Dominic Coppens, *WTO Disciplines on Subsidies and Countervailing Measures – Balancing Policy Space and Legal Constraints* (Cambridge University Press, 2014), pp. 518 ff.; 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' (2012) 11 World Trade Rev., 27; Luca Rubini and Ingrid Jegou, 'Who'll Stop the Rain? Allocating Emissions Allowances for Free: Environmental Policy, Economics, and WTO Subsidy Law' (2012) 1(2) Transnational Environmental Law, pp. 325-354; Elena de Lemos Pinto Aydos, 'Paying the Carbon Price: The Subsidisation of Heavy Polluters under Emissions Trading Schemes' (Edward Elgar, 2017), pp. 141 ff. with further references; Felicity Deane, *Emissions Trading and WTO Law. A Global Analysis* (Edward Elgar Publishing, 2015), chapter 6; Kateryna Holzer, "Emissions trading and WTO law", in Stefan E Weishaar (ed.), *Research Handbook on Emissions Trading* (2016 Edward Elgar), pp. 326-352.

[10] See e.g. Steve Charnovitz, *Green Subsidies* and the WTO (2014) The World Bank; Reem Anwar Ahmed Raslan, 'Green Subsidies and WTO Trade Rules: A 'Conflict of Values' or A 'Conflict of Norms'?' (2018) 52(6) Journal of World Trade, pp. 917-942.

[11] 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, of December 7, 2020, available at https://enforcement.trade.gov/frn/summary/italy/2020-27336-1.pdf.

allocation for operators of conventional installations that are part of the EU ETS. Free allocation under such a system can be designed in such a manner that they are very likely to be compatible with the ASCM. Section D is devoted to CCfDs for operators of climate-neutral installations. Again, it appears likely that such CCfDs can be implemented in conformity with the requirements under the ASCM. Section E concludes.

B. Additional free allocation under the current EU ETS

The current system of leakage protection under the EU ETS relies on additional free allocation to sectors and subsectors deemed to be at risk of carbon leakage. In the following, we will first provide a brief overview of the current rules on additional free allowances (I.). We will then move to the question of their (in-)compatibility with the ASCM. Any incompatibility with the ASCM requires that there be a subsidy (II.) which is specific (III.). Moreover, such subsidy must be either classifiable as a prohibited subsidy,[12] or as an actionable subsidy (IV.).

I. Allocation of additional free allowances under the current EU ETS

Under the EU ETS, overall emissions from covered installations are capped. Operators of installations need to surrender allowances on a yearly basis reflecting their carbon emissions in the preceding year. Allowances can be traded on exchanges such as the European Energy Exchange (EEX). While the allowances were initially allocated to operators for free, the share of allowances auctioned (i.e. sold) rather than allocated for free has been rising over time. Auctioning has by now become the rule, while free allowances are now the exception.[13]

However, to prevent carbon leakage, operators of certain installations receive additional free allowances compared to other industrial installations. Additional free allocation to prevent carbon leakage is limited to specific sectors and subsectors. The decision whether a sector or sub-sector is deemed to be at the risk of carbon leakage is made based on an indicator reflecting trade and emissions intensity.[14] The European Union (EU) has set up an official list of these sectors and sub-sectors and classified them as highly exposed sectors or less exposed sectors.[15]

The number of additional free allowances is then determined in accordance with benchmarks.[16] The benchmarks are calculated on the basis of the average greenhouse gas emissions of the best performing 10 percent of the installations producing that product in the EU and the states that are part of the European Economic Area. Highly exposed sectors will receive allowances at the level of the relevant benchmark for free until 2030, subject to reductions from annual benchmark improvement

[12] Prohibited subsidies are deemed to be specific See Art. 1.2 and Art. 2.3. of the ASCM.

[13] 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 L76/3.

[14] See Article 10b of the EU ETS Directive. The intensity of trade with third countries is determined as the ratio between the total value of exports to third countries plus the value of imports from third countries and the total market size for the European Economic Area (annual turnover plus total imports from third countries). The emissions intensity is calculated as the measured in $kgCO_2$, divided by their gross value added (in euros).

[15] 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 L 120/20.

[16] See Article 10a of the EU ETS Directive and Commission Delegated Regulation (EU) 2019/331 of 19 December 2018 determining transitional Union-wide rules for harmonised free allocation of emission allowances pursuant to Article 10a of Directive 2003/87/EC of the European Parliament and of the Council OJ L59/8 as well the Draft for a Commission Implementing Regulation (EU) …/... determining revised benchmark values for free allocation of emission allowances for the period from 2021 to 2025 pursuant to Article 10a(2) of Directive 2003/87/EC of the European Parliament and of the Council, Ares(2020)7410183.

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. By contrast, free allocation for less exposed sectors currently amounts to 30% up to 2026 and will be phased out by 2030.

The EU ETS has not led to substantial levels of carbon leakage so far. [17] This could be explained by the fact that sectors at risks have benefited from free allocation.[18]The current system has, however, led to a downward levelling of the carbon price. Imports remain exempt from European carbon pricing, whereas domestic operators are not exposed to a carbon price on their full emissions.[19] This implies that while operators of installations still have incentives to reduce their emissions intensity, there are, if any, only reduced incentives down the value chain. This applies to incentives both to improve materials efficiency, i.e. using less of carbon-intensive materials for any specific purpose, and to engage in materials substitution, i.e. replacing the carbon-intensive materials with other less carbon-intensive materials. Furthermore, incentives for a shift to clean production processes are muted if carbon costs are not internalized for conventional production processes.[20]

II. Subsidy

The concept of subsidy, which lies at the heart of subsidy controls under the ASCM, is defined in Article 1.1 ASCM. The definition indicates that not all government measures conferring benefits can be deemed to be subsidies.[21] Instead, it has two cumulative elements, namely a financial contribution by a government and the conferral of a benefit.[22] Free allocation falls within the term 'government practice' under Article 1.1(a)(1) and (2) ASCM, which is given a wide meaning and is understood to cover "all acts of governments or public bodies, irrespective of whether or not they involve the exercise of regulatory powers or taxation authority." We will therefore focus in the following on whether free allocation constitutes a financial contribution and confers a benefit.

1. Financial contribution

While mere regulatory advantages do not qualify as a subsidy, the concept of financial contribution is wide.[23] 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.

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[17] 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, see Frederic Branger et al., 'Carbon Leakage and Competitiveness of Cement and Steel Industries Under the EU ETS: Much Ado About Nothing' (2016) 37(3) The Energy Journal, 109–135; Antoine Dechezlepretre and Misato Sato, 'The Impacts of Environmental Regulations on Competitiveness' (2017) 11(2) Review of Environmental Economics and Policy, 183–206; Helene Naegele and Aleksandar Zaklan, 'Does the EU ETS Cause Carbon Leakage in European Manufacturing?' (2019) 93 Journal of Environmental Economics and Management, 125–147; Jane Ellis et al., 'Carbon Pricing and Competitiveness: Are they at Odds?' (2019) Environment Working Paper No. 152. OECD.

[18] *Ibid.*

[19] Susanne Droege et al., 'Tackling Leakage in a World of Unequal Carbon Prices' (2009), pp. 46 ff.; Karsten Neuhoff and Richard A. Ritz 'Carbon cost pass-through in industrial sectors' (2019) Cambridge Working Papers in Economics no. 1988.

[20] For this reason, there is an intensive discussion on replacing leakage protection from current free allocation with a system of carbon border adjustments. Where proposals imply a transition to full auctioning of allowances, they would not raise questions regarding the ASCM. They would, however, raise other difficulties with respect to WTO law and environmental integrity, which are beyond the scope of this paper, see e.g. Roland Ismer et al. 'Border Carbon Adjustments and Alternative Measures for the EU ETS: An Evaluation' (2020) DIW Discussion Papers 1855.

[21] See Appellate Body Report, *US – Softwood Lumber IV*, para. 52.

[22] Appellate Body Report, *US – Carbon Steel (India)*, para. 4.8; Appellate Body Report on *Brazil – Aircraft*, para. 157; Appellate Body Report, *US – Softwood Lumber IV*, para. 51.

[23] Appellate Body in *US – Softwood Lumber IV*. Para. 52.

a) No direct transfer of funds or provision of goods or services

Under Article 1.1(a)(1)(i) ASCM, 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, again, is exemplified as loan guarantees. The examples seem to suggest that the transfer of funds can be understood as a *monetary contribution*. Article 1.1(a)(1)(iii) first sub-clause ASCM 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 what is being transferred. Under subparagraph (i), the government transfers financial resources, while under subparagraph (iii) (first sub-clause), the government provides a good or service.[24]

In our view, the potential of allowances to be surrendered and to thereby compensate for emissions from the previous year should neither be construed as a service nor the provision of a good.[25] Given that it does not represent a monetary contribution, moreover, the free allocation of allowances would not really fit within the category of a 'transfer of funds. Admittedly, some authors have contended that free allocation is in fact a direct transfer of funds, since the allowances have monetary value and are freely exchangeable.[26] 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.[27] Even if that decision were upheld in the pending appeal procedure, however, there is an important difference between free allowances and the scrips. The usage of the scrips was disconnected from the event triggering their issuance. They were not just specific rebates of taxes related to the exported product. The scrips could instead be used for basic and additional customs duties on the importation of goods, for central excise duties on domestically procured goods, and for certain other charges and fees owed to the government. Thus, they had multiple uses. Moreover, the scrips had a nominal financial value. All this afforded them a status similar to money. By contrast, free allowances do not have a nominal value and instead fluctuate in value based on a market price.[28] 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 EU ETS rather than an (unrelated) transfer of funds. This brings us to Article 1.1(a)(1)(ii) ASCM.

b) Foregoing of government revenue otherwise due

Under Article 1.1(a)(1)(ii) ASCM, 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 auctioning of allowances. 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

[24] Appellate Body in *US – Large Civil Aircraft (Second Complaint),* para. 510.
[25] See on this Panel Report, US – Large Civil Aircraft (2nd complaint) (Article 21.5 – EU), para. 8.382, which limits the term "goods" to tangible property.
[26] See e.g. Jason Bordoff and Andrew Shoyer (n. 9), at p. 54. A similar position is taken by Henschke (n. 9). See also Luca Rubini and Ingrid Jegou (n. 9), at 334. Note that the US Department of Commerce, Memorandum (n. 11) did not even discuss this question in its analysis of Section 771(5)(D) of the Tariff Act of 1930.
[27] Panel Report, *India – Export Related Measures*, para. 7.432.
[28] Annie Petsonk, (n. 9), at 209.

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'".[29]

The determination whether funds were otherwise due therefore requires a complex counter-factual 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. One way of defining such a benchmark is to frame it as a question of internal or of external consistency.[30]

External consistency would be hard to invoke in this context. That would mean alignment with international standards, and would only apply where such standards give rise to a clear prescriptive norm, i.e. one which should be followed as a matter of law.[31] While an international treaty-based regime on climate change mitigation exists, it sets out no such international standard requiring universal carbon pricing.[32] Indeed, the Paris Agreement with its logic of nationally determined contributions and its openness of means to achieve emissions reductions seems to provide an argument against such an international standard, at least for the moment.

As for internal consistency, the normative benchmark would have 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 (the norm), which applies unless there is a concern about leakage (exception). This conclusion finds support in Recital 8 of the Directive (EU) 2018/410, which states: "The auctioning of allowances remains the general rule, with free allocation as the exception." With free allocation thus marking an exception to the norm under the current regime, the granting of free allowances constitutes a foregoing of revenue otherwise due and hence a financial contribution.[33]

2. Conferral of a benefit

The granting of free allowances constitutes a benefit as it makes "the recipient 'better off' than it would otherwise have been, absent that contribution."[34] In particular, the benefit is not eliminated by the fact that the free allowances were granted in the context of an emissions trading system, which in itself constitutes a burden as the granting of free allowances constitutes both a financial contribution and confers a benefit, it meets the general definition of a subsidy. In the next section, we assess whether this subsidy also falls under the disciplines of the ASCM.

III. Specificity

A subsidy is only subject to the disciplines of the ASCM when it is `specific' in the sense of Article 2 ASCM. In particular, a subsidy can be found to be `specific' when it is granted to specific enterprises or

[29] Cf. *US – FSC,* para. 90.

[30] For a similar distinction in the context of the US, see Ruth Mason, 'Identifying Illegal Subsidies' (2019) 69 American University Law Review 479-564. On EU State Aid law, see Roland Ismer and Sophia Piotrowski, "Selectivity of Tax Measures: A Tale of Two Consistencies' (2015) 43 Intertax 559-570.

[31] Luca Rubini and Ingrid Jegou (n. 9), at 335; Luca Rubini, 'Subsidies for emissions mitigation under WTO law', in van Calster (ed.), Research Handbook on Environment, Health and the WTO, 561 (at 575 et seq).

[32] See, however, WTO General Council, Draft Ministerial Decision, WT/GC/W/814 of 17 December 2020, Advancing Sustainability Goals through trade rules to level the playing field, circulated at the request of the United States, which states: "The failure of a government to adopt, maintain, implement and effectively enforce laws and regulations that ensure environmental protections at or above a threshold of fundamental standards shall constitute an actionable subsidy under the ASCM."

[33] Same view Dominic Coppens, *WTO Disciplines on Subsidies and Countervailing Measures – Balancing Policy Space and Legal Constraints* (Cambridge University Press, 2014), pp. 522.

[34] See for this test Appellate Body Report, *US – Large Civil Aircraft (2nd complaint),* paras. 635 – 636, 662, and 690 (referring to Appellate Body Report, *Canada – Aircraft*, para. 157).

particular industries. While prohibited subsidies, where a government subsidizes export goods or goods using domestic inputs, are always deemed specific, specificity needs to be ascertained under Article 2.1 ASCM for other subsidies. Article 2.1 (a) and (b) ASCM deal with 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) ASCM governs *de facto* specificity. The provision of Article 2.1 ASCM contains, as its *chapeau* shows, principles rather than rules. As the Panel has ruled in *US-Upland Cotton*, the concept of 'specificity' in Article 2 ASCM serves to acknowledge that some subsidies are broadly available and widely used throughout an economy and are therefore not subject to the ASCM's subsidy disciplines.[35] Specificity is excluded under Article 2.1(b) ASCM 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."

When free allocation of allowances still was the norm, there was a wide scholarly discussion on the question whether the granting of free allowances could be considered specific.[36] With the transition to auctioning, however, this norm has ceased to be valid. As explained above, general free allocation currently amounts to 30% up to 2026 and will be phased out by 2030. Only sectors deemed to be at risk of carbon leakage get additional free allocation reflecting the average greenhouse gas emissions of the best performing 10 percent of the installations producing that product in the EU and EEA-EFTA states. The exposure to carbon leakage risk is determined on the basis of trade intensity and relative carbon costs.

The trade intensity criterion could lead one to ask whether additional free allocation constitutes a prohibited subsidy in the form of an export subsidy:[37] The trade intensity criterion does not necessarily require significant exports,[38] as it can be also fulfilled for products without any exports at all, but with significant imports. Nevertheless, exports can contribute to reaching the intensity threshold. That threshold can also be crossed due to a high share of exports alone. Export performance is thus not a necessary condition, but it may be a sufficient condition for meeting the trade intensity criterion. There currently is no case law that would answer with certainty whether in these circumstances the additional free allocation can be said to be "contingent upon export performance." It would, however, be hard to envisage that subsidies granted to trade-intensive sectors would be contingent upon export performance where in fact only small quantities of the subsidized product are exported.

In any event, the free allocation fulfills the criteria for *de jure* specificity under Article 2.1(a) ASCM. However, the eligibility criteria, such as those in Article 10b EU ETS Directive, could be considered neutral, economic in nature and horizontal in application, which would imply that specificity would be ruled out under Article 2.1(b) ASCM. Again, there is currently no clear jurisprudence as to what renders criteria objective in this sense. The eligibility criteria under the EU ETS Directive certainly do not correspond to the examples listed in the footnote (number of employees or size of enterprise). Even if one rejects the classification of additional free allocation as a prohibited export subsidy, the trade intensity criterion applies for highly traded products. The criterion thus at least approaches the criteria used to define prohibited export subsidies, which makes it unlikely to be considered an objective criterion similar to the ones listed in the footnote. Thus, there is a significant risk that free allocation

[35] Panel Report, *US – Upland Cotton*, para. 7.1143.
[36] See e.g. the early contributions listed in n. 9.
[37] Cf. Elena de Lemos Pinto Aydos (n. 9) pp. 141 ff. with further references.
[38] This marks the contrast to the Australian EITE Assistance Program, which required an export share of 10 per cent and for which Feaver and Boyd-Wells, assumed export contingency (Donald Feaver and Victoria Boyd-Wells, 'Is Australia's EAP a Prohibited Export Subsidy?' (2010) 44(2) Journal of World Trade, pp. 319-347 (at p. 326)).

under current rules would be deemed to be specific if an action were brought under dispute settlement procedures.

IV. Prohibited or actionable subsidies

As noted above, the ASCM distinguishes between prohibited and actionable subsidies. If free allocation does not meet the definition of a prohibited subsidy in the sense of Article 3 ASCM, free allocation could still constitute an actionable subsidy in the sense of Article 5 ASCM. While actionable subsidies are not prohibited *per se*, they can be challenged through multilateral dispute settlement if they cause adverse effects to the interests of another Member. Since we have already examined the possibility of a prohibited export subsidy in the previous section, we will focus on whether free allocation cause adverse effects to the interests of another Member.

While the criteria for actionability still lack clarity,[39] the text of Article 5 ASCM makes it clear that adverse effects comprise both injury to the domestic industry of another Member,[40] and serious prejudice to the interests of another Member.[41]

Injury to the domestic industry of another Member, which includes 'material injury', the 'threat' thereof, as well as "material retardation of the establishment of such an industry",[42] can occur in the form of a decline of output, sales, market share, profits, productivity, etc.[43] 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 price of imports will depress or suppress domestic prices and likely increase demand for further imports.[44]

The question of serious prejudice is, since the expiration of Article 6.1 ASCM on 31 December 1999,[45] primarily governed by Article 6.3 ASCM. The provision lists four cases regarding the effect of the subsidy which constitute serious prejudice.[46] 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) ASCM 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."[47]

While 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) ASCM 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

[39] See e.g. 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* (CUP, 2017), p. 311 (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."
[40] Article 5(a) ASCM.
[41] Article 58c) ASCM. The nullification or impairment of benefits accruing directly or indirectly to other Members under the GATT under Article 5(b) ASCM does not seem relevant in the present context.
[42] See footnote 45 ad Article 15 ASCM.
[43] See Article 15.4, which is applicable in the context of Article 5 ASCM as well, see footnote 15 ad Article 5 ASCM.
[44] See Article 15.7 ASCM.
[45] Article 31 ASCM.
[46] Panel Report, *US – Upland Cotton*, para. 10.255.
[47] For Article 6.3 (b) ASCM.

Member in the same market or significant price suppression or price depression or lost sales in the same market. Article 6.3(d) ASCM 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.

While the assessment whether these criteria are met requires a complex analysis exceeding the scope of the present paper, the 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 under the provision could possibly demonstrate the existence of serious prejudice, which would imply that the additional free allocation of allowances would constitute an actionable subsidy.

V. Article XX GATT

Article XX of the General Agreement on Tariffs and Trade (the GATT) contains general exceptions to WTO rules. It is an open question whether Article XX GATT's exceptions are applicable to actionable subsidies under the ASCM. No WTO body has yet rendered an explicit decision on whether the general exceptions contained in Article XX GATT can be invoked in the context of a dispute involving the ASCM. The question is therefore considered to remain open.[48] The scholarly literature is divided,[49] with reasonable arguments advanced on both sides. If Article XX GATT were considered applicable to the ASCM, a two-tiered test would apply. First, the measure would have to fall under one of the exceptions listed in lits. (a) to (j). Among them, Article XX(b) GATT (measures necessary for the protection of human, animal or plant life or health) and Article XX(g) GATT (conservation of exhaustible natural resources) could apply. The Appellate Body has already ruled that "measures adopted in order to attenuate global warming and climate change" may in principle fall under Article XX(b) GATT.[50] In any event, such 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) GATT 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 whether the connection between the subsidy granted and the EU ETS as a restriction is sufficiently close. Second, the measure must fulfil the requirements under the introductory clauses of Article XX GATT (the *chapeau*). According to the Appellate Body, 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.[51] The *chapeau*, which can be understood as an expression of the principle of good faith, implies that the actionable subsidy must therefore constitute

[48] See e.g. Bacchus (n. 8).

[49] *Pro* Luca Rubini, 'Ain't Wastin' Time No More: Subsidies for Renewable Energy, the SCM Agreement, Policy Space and Law Reform' (2012) 15(2) Journal of International Economic Law, pp. 525–79, at 558–67. *Contra* Gary Horlick, 'The WTO and Climate Change "Incentives"' in T Cottier, O Nartova, and S Z Bigdeli (eds), *International Trade Regulation and the Mitigation of Climate Change* (CUP, 2009) 193, 194; International Law Association (n. 8), at paras. 43-48. Other are sceptical on the benefits of applying Article XX GATT to the ASCM 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' (2018) 21(3) Journal of International Economic Law, 621–653, https://doi.org/10.1093/jiel/jgy031 at pp. 643 ff. See also the extensive analysis by Luca Rubini, 31, (at 601 et seqq.).

[50] WTO Appellate Body Report, *Brazil – Retreaded Tyres*.

[51] Appellate Body Report, *US – Shrimp*, para. 121.

neither an arbitrary or unjustifiable discrimination between countries where the same conditions prevail, nor a disguised restriction on international trade.

When applying these criteria, the environmental justification could fail to cover free allocation as a means to ensure competitiveness of carbon-intensive exports, because free allocation 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, or in other words if the marginal production by domestic industry in the subsidizing state was more carbon efficient than global marginal production or, where relevant, local marginal production. Indeed, this would only be a necessary, but not a sufficient condition, as the subsidies would also likely increase overall demand. All this means that granting free allowances appears as a blunt and insufficiently targeted instrument for promoting the climate goals relevant to the exceptions available under Article XX GATT.

VI. Interim Conclusion

The preceding analysis suggests that there is a serious risk that the current rules on free allocation constitute an actionable, and perhaps even a prohibited, subsidy: free allocation represents a subsidy, as it grants a financial contribution in the form of foregone government revenue that would otherwise be due, and because it further confers a benefit. It could also be either seen to be contingent on export performance and thus a prohibited subsidy, or could be considered an actionable subsidy. A justification of the current regime of additional free allocation based on the exceptions of Article XX GATT, provided that provision is applicable to the ASCM in the first place, would be hard to establish.

C. Combination of charge on carbon-intensive materials and EU ETS with free allowances

Given the WTO consistency concerns about free allocation, as well as objections raised in the economic literature, other forms of leakage protection are being considered. In particular, the rules of the EU ETS could be combined with a charge on carbon-intensive materials. Free allocation would no longer be an inconsistent exception to the norm of full auctioning. Rather, it would ensure consistent carbon pricing and avoid double charging of the same carbon emissions due to overlapping policy measures. When the free allocation forms part of such a system of coherent pricing, it seems far less vulnerable to challenges under the ASCM.

I. Free allocation to ensure consistent carbon pricing

Under such a combination approach, installations producing carbon-intensive materials would remain in the EU ETS. Operators would thus continue to face incentives for carbon-efficient material production.[52] Any tonne of CO_2 not emitted in the production process would reduce the number of allowances its producers would have to surrender to the authorities. Allowances no longer required for compliance could then be sold on the carbon market (or, equivalently, would not have to be purchased on the markets).

The EU ETS would be complemented with an additional charge levied on carbon-intensive materials. Producers of such materials would be subject to the charge. The liability would be created when the

[52] On this proposal, see Climate Strategies, Inclusion of Consumption of Carbon Intensive Materials in Emissions Trading: An Option for Carbon Pricing Post-2020 (2016), available at https://climatestrategies.org/publication/inclusion-of-consumption-of-carbon-intensive-materials-in-emissions-trading-an-option-for-carbon-pricing-post-2020/ (last accessed 19 November 2019). 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' (2016) 25(1) Review of European, Comparative & International Environmental Law 69-80. For an economic evaluation, see Kevin Kaushal and Knut Einar Rosendahl, 'Taxing Consumption to Mitigate Carbon Leakage' (2020) 75(1) Environmental and Resource Economics 151-181.

materials are produced. In line with standard excise procedure, the liability can then be transferred under excise duty suspension arrangements. The liability to the charge then does not become due until the material leaves the duty suspension arrangement. The purpose of the charge would be the same as that of full auctioning under the EU ETS: it would implement the polluter pays principle.[53] As it can be assumed that the charge will be passed through to purchasers of materials, the charge would ensure that a carbon price signal would be sent down the value chain. That way, the charge would create additional incentives for industry, construction, and final consumers towards more efficient material use and choice.[54] Thereby, it would encourage material efficiency – e.g. building houses with less steel and less concrete – and material substitution, e.g. by incentivizing a substitution of wood for steel. For importers, the charge would apply at the same rate and under the same conditions as for domestic products. For exports, the charge would be acquitted.[55] The level of the charge would rely on a reference level for the carbon-intensity of the product. Ideally, this reference level would eventually reflect a consensus reached in the framework of an international process. Until then, it could be set unilaterally and take up the benchmark values currently deployed for free allocation under the EU ETS.

The combination of EU ETS and the charge on carbon-intensive materials would create the risk of double charging the same carbon emissions. Emissions would be subject to both the charge and to the burden resulting from surrendering allowances as required by the EU ETS. Double charging can be avoided through targeted free allocation. Operators of installations included in the EU ETS would receive free allocation of allowances reflecting the carbon intensity benchmark and their production volumes. They would thus need to purchase fewer allowances in auctions or on carbon markets, resulting in lower overall costs for the allowances they have to surrender in the framework of the EU ETS. They would not, however, receive more free allowances than they need to cover their production. The EU ETS would then ensure that installations are operated efficiently, whereas the charge on carbon intensive materials would implement the polluter pays principle at the reference level and create incentives down the value chain.

Such an approach could radically change the role of free allocation in carbon pricing: Free allocation would cease to be an inconsistent exception to the norm of auctioning. On the contrary, free allocation in combination with the charge on carbon-intensive materials would be internally consistent. Admittedly, auctioning would still be the norm and free allocation would continue to be the exception. Yet the combination would implement a two-part-scheme for setting consistent carbon pricing in the EU. First, the charge would be applied to the basic material in question. Emissions at the reference level would thus be subject to carbon pricing through the charge. Second, the installations producing the material would remain subject to the EU ETS. Operators would therefore have to surrender allowances corresponding to their carbon emissions. This would entail genuine financial costs whenever their emissions exceed the free allocation benchmark, as they would have to purchase allowances at auction or on the secondary market. By contrast, there would be no financial cost in addition to the carbon-intensive materials charge for emissions up to the benchmark, as these emissions would be covered by free allocation.

[53] See Recital 7 of the Directive (EU) 2018/410: "Article 191(2) of the Treaty on the Functioning of the European Union (TFEU) requires that Union policy be based on the principle that the polluter should pay and, on this basis, Directive 2003/87/EC provides for a transition to full auctioning over time."

[54] Hector Pollitt et al., 'The Impact of Implementing a Consumption Charge on Carbon-intensive Materials in Europe' (2020) 21(1) Climate Policy, S74-S89.

[55] As it would apply at the same level irrespective of the place of origin and of the concrete production process employed, the charge would be WTO compatible for reasons explained in greater details in Manuel W. Haussner, *Including Consumption in Emissions Trading. Economic and Legal Considerations* (EE, 2021), at 119 ff.

The combination would ensure consistent carbon pricing, or, mirroring the terminology of international tax discourse, single carbon pricing.[56] 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 allocation, 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 carbon pricing. In other words, free allocation in this context may at first glance appear as an exception, but in reality, it follows the larger logic of consistent carbon pricing.[57]

II. Implications for the assessment of ASCM consistency

If free allocation became part of an overall consistent scheme of carbon pricing, its assessment for consistency with the ASCM would change. The normative benchmark for the assessment of revenue otherwise due would then no longer be auctioning of allowances, but single carbon pricing, which would then be implemented through a combination[58] of the charge and the EU ETS with additional free allocation. Additional free allocation would thereby no longer be revenue foregone that was otherwise due in the sense of Article 1.1(a)(1)(ii) ASCM. Alternatively, one could take the view that the existence of the charge means that no benefit is conferred, and thus an essential element of a subsidy under the ASCM has not been established.

This combination of free allocation and a charge could be questioned in terms of whether it also ensures a coherent system internationally: why should emissions associated with exports from the EU only be charged when they exceed the benchmark level? Would this not amount to preferential treatment for exports when compared to imports? There are two answers to this policy –rather than trade law – challenge. First, technically, the difference between the burden on exports and on products consumed in the EU results from the fact that the charge is not levied; this is precisely the scenario envisaged by footnote 1 to Article 1 of the ASCM, according to 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. Second, on a more conceptual note, the charge reflects the desire to implement carbon pricing for goods consumed in the EU on the basis of the destination principle.[59] This desire is in line with WTO law.[60] Against this background, the charge provides an origin-neutral

[56] On the discussion of a single taxation principle see e.g. Reuven S. Avi-Yonah, *International Tax as International Law: An Analysis of the International Tax Regime* (Cambridge University Press, 2007), 8 et seq.; Yariv Brauner, 'An International Tax Regime in Crystallization' (2003), 56 Tax L. Rev. 259; H. David Rosenbloom, 'International Tax Arbitrage and the International Tax System' (2000) 53 Tax L. Rev. 137 as well as the contributions in Joanna Wheeler (ed.), *Single Taxation* (IBFD, 2018).

[57] This understanding amounts to an inherent justification, in parallel to the third step of the selectivity analysis under EU State Aid rules. See e.g. CJEU of 19 December 2018, C-374/17, *A Brauerei,* ECLI:EU:C:2018:1024.

[58] See also Panel Report, US – Softwood Lumber VII, para 7.690: "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" also points to the possibility of a joint assessment over several instruments.

[59] Under the destination principle, tax is ultimately levied only on the final consumption that occurs within the taxing jurisdiction. Under the origin principle, by contrast, the tax is levied in the various jurisdictions where the value was added. See OECD (2017), International VAT/GST Guidelines, OECD Publishing, Paris. http://dx.doi.org/10.1787/9789264271401-en, pp. 15 ff.

[60] See footnote 1 to the ASCM and Section 1.11 of the OECD's International VAT/GST Guidelines, stating: "The destination principle is the international norm and is sanctioned by World Trade Organization ('WTO') rules." See also Section 2.22: "VAT systems are designed to apply in a fair and even-handed way to ensure there is "no unfair competitive advantage afforded to domestic or foreign businesses that may otherwise distort international trade and limit consumer choice. This is achieved by the application of the destination principle, under which exports are free of VAT and imports are taxed on the same basis and at the same rate as domestic supplies. The destination principle ensures that the net tax burden on imports is equal to the net tax burden on the same

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).[61] The combination of a charge that exempts exports and emissions trading coupled with free allocation would also be a valid generalizable rule, which, if followed by all States, would bring about globally effective carbon pricing for all actors, while allowing for regional price differentiations.

In the context of exports, one minor adjustment nevertheless might have to be considered: where an installation's actual emissions are below the benchmark for free allocation, the combination of the EU ETS, free allocation and the charge would result in negative carbon pricing overall 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. The conditions set out in footnote 1 to Article 1 of the ASCM would not be met if the relief from the charge is seen in conjunction with free allocation, as there would then be excess relief. This constellation is unlikely to be of practical relevance, because the free allowance allocation benchmark is based on the average of carbon emissions of the 10% best installations. Should products from very carbon efficient installations outperforming the top 10% of installations benefit from a net-negative charge, 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, it would be hard to envisage an actionable subsidy as it would need to be demonstrated that the negative charge resulted in a displacement of products in foreign markets.[62]

Finally, difficulties could arise were one to hold the view that free allocation could represent governmental financial contributions under either Article 1.1(a)(1) (i) (transfer of funds) or (iii) ASCM (transfer of goods or services).[63] Then the relationship between these forms of a financial contribution on the one hand, and the foregoing of government revenue that is otherwise due under Article 1.1(a)(1)(ii) ASCM, on the other, would have to be determined. Normally, such a relationship is not problematic, given that taxes can be understood as unrequited payments to the government, which implies that there is nothing *in concreto* the taxpayers receive for their payments, or conversely, that there is no benefit of any foregoing of revenue beyond the mere fact of not having to pay anything in the first place. However, in the context of emission trading systems, there are two ways of construing free allocation: one could either stress the fact that the allowances are received or point to the foregone revenue. As the Appellate Body pointed out in *US – Large Civil Aircraft (Second Complaint)*,[64] the structure of Article 1.1(a)(1) ASCM does not expressly preclude that a transaction could be covered by more than one subparagraph, pointing to the fact that there is, for example, no 'or' included between the subparagraphs. The Appellate Body reiterated in *Canada – Renewable Energy* that a transaction may fall under more than one type of financial contribution, and held that a single

supplies in the domestic market. In addition, it also ensures that the amount of tax refunded or credited in the case of exports is equal to the amount of tax that has been levied."

[61] On this discussion see e.g. Gavin Goh, 'The World Trade Organization, Kyoto and Energy Tax Adjustments at the Border' (2004) 38(3) Journal of World Trade 395-423, in particular at pp. 407-408; Holzer (n. 9), pp. 91-145; Henrik Horn and Petros Mavroidis, 'Climate Change and the WTO: Legal Issues Concerning Border Tax Adjustments' (2010) 53 Japanese Yearbook of International Law 19-40, at 32; Matthew C. Porterfield, 'Border Adjustments for Carbon Taxes, PPMs, and the WTO' (2019) 41(1) University of Pennsylvania Journal of International Law 1-41; Reinhard Quick and Christian Lau, 'Environmental Motivated Tax Distinctions and WTO Law' (2003) 6(2) Journal of International Economic Law 419-458.

[62] If a subsidy were found to exist, the subsidy 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.

[63] See above at II 1 a).

[64] Appellate Body in *US – Large Civil Aircraft (Second Complaint),* at footnote 1287.

transaction could be a purchase of goods and a transfer of funds.[65] In *India – Export Related Measures*, the panel decided that the granting of scrips could be seen as both a transfer of funds and the foregoing of revenue. Yet the parallel application would seem awkward for cases where the foregoing of revenue was ruled out for reasons of (internal) consistency. Instead, in the specific case of emissions trading systems, it would appear more plausible to see Article 1.1(a)(1)(ii) ASCM as a *lex specialis* where government revenue was foregone both when such revenue was otherwise due (so that free allocation, by itself, would be a financial contribution) and when it was not (so that there would not be a financial contribution when free allocation is combined with a charge).

III. Interim Conclusion

When the rules on the EU ETS are combined with a charge on carbon-intensive materials, free allocation would no longer be an inconsistent exception to the norm of full auctioning. Rather, it would ensure consistent carbon pricing and avoid double charging. When free allocation forms part of such a system of coherent pricing, it seems far less vulnerable to challenges under the ASCM, as it would generally not represent a financial contribution.

D. Support for climate-neutral processes based on Carbon Contracts for Differences (CCfDs)

Support for climate-neutral production of basic materials such as steel, cement, or plastic could take place entirely outside the framework of the EU ETS. It could, e.g., take the form of CCfDs on carbon costs reflected in global material prices. Such an approach would have the benefit of treating operators of carbon intensive installations that are part of the EU ETS separately from those who are not. In the following, we shall give an overview of CCfDs and then provide an assessment of the compatibility of CCfDs with the ASCM.

I. CCfDs as a market-based support instrument

Through CCfDs, governments would pay out to producers the incremental costs of climate-neutral production processes relative to the costs of conventional primary material production. The latter costs would include carbon costs globally borne by conventional material producers. This implies that, over time, a rise in global carbon costs would lower the payout for operators of climate-neutral installations or even render it negative. The level of support under the CCfDs would be set by the market through a competitive discovery process (in the medium term through auctions) at the level of the incremental costs of the clean process relative to the conventional process. The payments would again be indexed to relevant cost drivers, such as coking coal. If conventional production costs increased (and hence incremental costs of clean processes declined), the revenue accruing to clean processes from the CCfDs would decline (and *vice versa*). This would reflect the fact that the prices they can achieve when selling their products can generally be expected to rise along with the increase in production costs of conventional production, reducing the rationale for governmental support.

II. Assessment under the ASCM

Depending on their exact design, CCfDs could provide a financial contribution, as defined by the ASCM (Article 1.1.(a)(1)), in the form of a potential direct transfer of funds or a government price support scheme. However, there might be no conferral of a benefit, the other essential condition of the ASCM definition of a subsidy (Article 1.1.(b)). A financial contribution constitutes a benefit when it makes "the recipient 'better off' than it would otherwise have been, absent that contribution."[66] The financial

[65] Appellate Body in *Canada – Renewable Energy*, at para. 5.120 et seq.
[66] See for this test Appellate Body Report, *US – Large Civil Aircraft (2nd complaint),* paras. 635 – 636, 662, and 690 (referring to Appellate Body Report, *Canada – Aircraft,* para. 157).

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 had indeed resulted from negotiations based on market considerations. Or, in other words, "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 a 'financial contribution' on terms more favorable than those available to the recipient in the market."[67]

The question then arises 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.[68] 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 the granting of CCfDs in itself does not confer a benefit.

Moreover, even if CCfDs were to be deemed a subsidy under the ASCM, they would unlikely qualify as actionable subsidies as they will not lead to serious prejudice in the sense of Article 5 and 6:3 of the ASCM. Displacement following from support for climate-neutral industries would generally be harder to ascertain as the relevant like product would be determined without taking into account the production processes and methods.[69] This is true at least as long as production from climate-neutral facilities remains minor compared to that from conventional installations.

Finally, if Article XX GATT were applicable to the ASCM at all, its exceptions provisions could help justify the ASCM consistency of subsidies designed to support climate neutral production. Climate neutral production is *per definitionem* clean and can be expected to replace production giving rise to carbon emissions as long as the marginal production still entails carbon emissions. Moreover, while it is beyond the scope of this paper to dwell on the intricacies of the exact requirements of Article XX's *chapeau*, it seems worthwhile to note the importance of engaging in cooperation with governments of other members to an analysis of justifiable discrimination.[70] This suggests that, when establishing and applying benchmarks and other parameters, the EU would do well to consult with other WTO Members.

III. Interim Conclusion

Support in the form of CCfDs would arguably constitute a financial contribution, the first requirement of a subsidy. Yet where an appropriate (i.e. non-excessive) level of support is chosen, the financial contribution cannot be seen as conferring a benefit and thus should not qualify as a subsidy. Even if it

[67] Appellate Body Report, *Canada – Aircraft*, para. 157.

[68] Critical of this e.g. Pal, Rajib, 'Has the Appellate Body's Decision in Canada–Renewable Energy/Canada–Feed-in Tariff Program Opened the Door for Production Subsidies?' (2014) 17(1) Journal of International Economic Law 125-137 (at 129 f.).

[69] See in this respect note ad Article 15 ASCM, stating: "Throughout this Agreement the term 'like product' ('produit similaire') shall be interpreted to mean a product which is identical, i.e. alike in all respects to the product under consideration, or in the absence of such a product, another product which, although not alike in all respects, has characteristics closely resembling those of the product under consideration."

[70] See to this extent Appellate Body Report, *US – Gasoline*, p. 28.

did, it would arguably not lead to serious prejudice in the sense of Articles 5 and 6:3 ASCM, and would thus not be actionable.

E. Conclusion

To reach the goal of climate neutrality by the middle of this century, reducing carbon emissions from the production of basic materials will have to play a central role. Governments seek to support the transition by granting free allocation as a measure to limit carbon leakage under emissions trading systems, or by providing support for emerging climate-neutral technologies to help their deployment. To comply with their international obligations and to better foster international cooperation in the field of climate action, government should ensure such support measures are compatible with the ASCM.

Our analysis of the ASCM and its applicability has revealed that the current system of leakage protection through selective free allocation is vulnerable to challenges under the ASCM. By contrast, the second mechanism discussed here (a transition to a combination of EU ETS with free allocation and a charge) would raise fewer concerns, as free allocation in that instance would likely not constitute a subsidy in the first place. The third approach (support for climate-neutral production of basic materials through CCfDs on carbon costs reflected in global material prices) could take place entirely outside the EU ETS. It could be designed in such a way that it confers no benefit so that once again there would be no subsidy as defined by the ASCM.