

Renewable Energy Subsidies and WTO Law: Time to Rethink the Case for Reform Beyond *Canada – Renewable Energy/FIT Program*

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ABSTRACT

Since the *Canada – Renewable Energy/FIT Program* (2013) dispute at the World Trade Organization (WTO), it has become almost conventional wisdom in the scholarship that a clash exists between international climate change mitigation goals and WTO law, with a growing consensus (if not anxiety) that WTO subsidy rules ought to be reformed in order to safeguard ‘policy space’ for government support to renewable energy. It is contended here that, in several ways, such a call for reform has been misconceived and needs to be recalibrated. This is mainly because the case for reform has been seldom evaluated in light of State practice beyond that particular WTO dispute, nor informed by an in-depth assessment of how different clean energy subsidies will fare under existing WTO subsidy disciplines. Our aim here is to fill this gap in the existing literature. In particular, our analysis shows that the main problem is neither feed-in tariffs per se, nor the multilateral disputes that have been brought before the WTO dispute settlement bodies. For this reason, we argue that the applicability of Article XX GATT to the Agreement on Subsidies and Countervailing Measures (SCM Agreement), which has been often suggested in academic writings, is not the solution towards ensuring greater supportiveness between international trade and climate change regimes. In fact, such an avenue will provide no legal shelter for those climate-friendly energy subsidies that have actually been at a higher risk under current WTO rules (i.e. through unilateral remedial action). Conversely, the other common proposal of introducing a specific exemption into the SCM Agreement for certain ‘good’ renewable energy subsidies appears most effective from a mutual supportiveness perspective, but faces considerable political and practical hurdles at the present juncture.

I. INTRODUCTION

It is largely uncontested that climate change is possibly the greatest sustainable development challenge presently facing the international community. The 1992 United Nations Framework Convention on Climate Change (UNFCCC) and more recent

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2015 Paris Agreement represent the global response to this challenge, with the ultimate objective of reducing greenhouse gas (GHG) emissions concentrations in the atmosphere and holding the increase in the global average temperature to (well) below 2°C above pre-industrial levels.¹ Similarly, there is broad acceptance that replacing conventional, 'brown' or 'dirty' energy (i.e. generated from fossil fuels such as coal, natural gas and oil) with renewable, 'green' or 'clean' energy (i.e. generated from naturally replenished resources such as solar or wind) can play an important role in mitigating climate change and achieving the internationally agreed 2°C target.² And yet, following the *Canada – Renewable Energy/FIT Program (2013)* dispute at the World Trade Organization (WTO),³ it has become almost conventional wisdom in the scholarship that a conflict exists between these international climate change mitigation goals and WTO subsidy law. Indeed, a growing consensus (if not anxiety) has emerged in academic circles on the need to reform the WTO Agreement on Subsidies and Countervailing Measures (SCM Agreement)⁴ with a view to sheltering government support to renewable energy (RE).⁵

The present article is not yet another academic contribution in this direction. Rather, it argues that the case for reforming the SCM Agreement has been misconstrued in various ways and ought to be revisited beyond that particular WTO dispute. This is first because one case alone is not a sufficient basis on which to conclude whether WTO subsidy disciplines pose a significant threat to the mutual supportiveness between international trade and climate change regimes. In fact, from this perspective, too much emphasis has thus far been placed on the wrong government support

- 1 United Nations Framework Convention on Climate Change (UNFCCC), done at Rio de Janeiro, 9 May 1992, 771 UNTS 107, Article 2; Paris Agreement, done at Paris, 12 December 2015, Article 2(1)(a).
- 2 Ibid, Paris Agreement, Articles 3 and 4(2); International Renewable Energy Agency (IRENA), *Rethinking Energy 2017: Accelerating the Global Energy Transformation* (2017), http://www.irena.org/DocumentDownloads/Publications/IRENA_REthinking_Energy_2017.pdf (visited 28 June 2018), at 23–4. This is because the energy sector is still contributing to more than two thirds of global GHG emissions: see International Energy Agency (IEA), *Energy, Climate Change and the Environment: 2016 Insights* (2016), <http://www.iea.org/publications/freepublications/publication/ECCE2016.pdf> (visited 28 June 2018), at 17.
- 3 WTO Appellate Body Report, *Canada – Certain Measures Affecting the Renewable Energy Generation Sector/Measures Relating to the Feed-in Tariff Program [Canada – Renewable Energy/FIT Program (2013)]*, WT/DS412/DS426/AB/R, adopted 24 May 2013.
- 4 WTO Secretariat, *The WTO Agreements – The Marrakesh Agreement Establishing the World Trade Organization and its Annexes* (Cambridge: Cambridge University Press, 2017), 263.
- 5 A pioneering and influential piece on this call for reform is: L. 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). Subsequent contributions include: L. Casier and T. Moerenhout, 'WTO Members, Not the Appellate Body, Need to Clarify the Boundaries in Renewable Energy Support' (July 2013), https://www.iisd.org/pdf/2013/wto_members_renewable_energy_support.pdf (visited 28 June 2018); A. Cosbey and P. C. Mavroidis, 'A Turquoise Mess: Green Subsidies, Blue Industrial Policy and Renewable Energy – the Case for Re-drafting the Subsidies Agreement of the WTO', 17(1) *Journal of International Economic Law* 11 (2014); P. D. Farah and E. Cima, 'The World Trade Organization, Renewable Energy Subsidies, and the Case of Feed-in Tariffs: Time for Reform Towards Sustainable Development', 27 *Georgetown International Environmental Law Review* 515 (2015); S. Shadikhodjaev, 'Renewable Energy and Government Support: Time to Green the SCM Agreement?', 14(3) *World Trade Review* 479 (2015). For a more nuanced stance, see D. P. Steger, 'Green Energy Programs and the WTO Agreement on Subsidies and Countervailing Measures: A Good FIT?' Ottawa Faculty of Law Working Paper 2015/20 (2015).

measures (i.e. *discriminatory* green energy subsidies) and the wrong WTO rules (i.e. *multilateral* remedial action), whereas too little attention paid to what have actually been the most constraining WTO rules on green ‘policy space’ (i.e. *unilateral* remedial action). Secondly, the case for reforming the SCM Agreement has been often made in a generic manner for ‘renewable energy subsidies’, while this term encompasses support measures that are fundamentally distinct from both an environmental policy and a trade law perspectives. Thirdly, and following on from the previous point, the case for reform needs to be informed by a proper understanding of how these different RE support measures will fare when examined under the microscope of the agreement’s disciplines, but such a thorough analysis is largely missing in previous academic contributions.⁶

With a view to filling this perceived gap in the literature, the article begins by examining State practice since the *Canada – Renewable Energy/FIT Program (2013)* dispute in relation to both promoting renewable energy, with a particular focus on the power sector, and taking legal action against RE support measures of other countries (Section I). The purpose of this reality check is to first clarify which policy space warrants protection from an environmental standpoint, and second how (if at all) it is actually being constrained under WTO law. The article then proceeds with an in-depth assessment of the *different* legal risks to which feed-in-tariff (FIT) schemes and other RE support measures are exposed to under current WTO subsidy rules (Section II). In doing so, it identifies the most pressing challenges in ensuring mutual compatibility between climate-friendly energy subsidies and international subsidy disciplines. In this respect, it will be shown that *non-discriminatory* FIT programmes promoting green electricity generation are generally on a safer footing under existing SCM rules, and hence not so much in need of a legal shelter, when compared to other forms of government support targeting RE technology products. Against this spectrum of varying legal risks, the article will evaluate the main reform proposals that have been put forward in the literature (Section III). In this regard, it will be argued that the popular suggestion of applying Article XX of the General Agreement on Tariffs and Trade (GATT)⁷ to justify violations of the SCM Agreement would not work to address what have been the most acute real-world frictions between RE subsidies and WTO law. Conversely, the other common proposal of introducing a specific exemption into the SCM Agreement for certain ‘good’ RE subsidies appears most reassuring from a mutual supportiveness perspective, but faces considerable political and practical hurdles at the present junction. The final section concludes.

II. A REALITY CHECK SINCE CANADA – RENEWABLE ENERGY/FIT PROGRAM (2013)

A. Policy practice in promoting green electricity

Renewable energy subsidies have been on the rise in latest years, reaching USD 140 billion in 2016, even though this is still significantly lower than fossil fuel subsidies

6 Indeed, most contributions mainly deal with the preliminary question of ‘subsidy’ definition and the benefit analysis at issue in *Canada – Renewable Energy/FIT Program* (see section IIIA below), but few thoroughly complete the legal analysis on the SCM-compatibility of FIT schemes and other RE support measures. For a succinct attempt, see e.g., Rubini, *supra* n 5, at 549–50; and in some more detail, S. Charnovitz, ‘Green Subsidies and the WTO’ EUI Working Papers RSCAS 2014/93 (2013), at 22–33.

7 WTO Secretariat, *supra* n 4, at 19.

(USD 260 billion in that same year).⁸ The power sector has been the primary target of such government stimulus, with 110 countries implementing some form of support in 2015 compared to 66 and 21 countries in the transport sector and in the heating and cooling sector, respectively.⁹ This choice has followed naturally inasmuch as electricity represents the largest source of energy-related GHG emissions as a single sector, still accounting for approximately 40% of global energy-related GHG emissions in 2014.¹⁰ Government efforts have not been misplaced: the electricity sector has performed the fastest in terms of progress towards decarbonization, with renewable energy growing at unprecedented rates in the last decade (e.g. 9.3% growth of RE power capacity was registered only between 2014 and 2015), and it is projected to continue outpacing growth in conventional energy in the years to come, as it has been the case since 2012.¹¹

And yet, these developments have made the power sector the most varied in terms of public incentives and thereby the most challenging to evaluate from both an international trade law and an environmental policy perspectives. This is because under the general label of ‘renewable energy subsidies’ are a wide range of government support measures whose features and more proximate objectives vary quite considerably. While focusing on government support targeting the power sector, this article draws three main distinctions that are deemed important for the purpose of not only assessing the WTO-compatibility of different categories of RE subsidies, but also whether any possible incompatibility can be properly labelled as a ‘trade/climate change’ clash—or rather results from other not-so-green policy objectives.

The first distinction, which is relevant from an international trade law perspective, is based on the *type of measure* supporting green electricity. In particular, one can conventionally differentiate between three main kinds: (i) fiscal measures (e.g. tax reductions, tax credits), aimed at increasing consumption of renewable electricity and facilitating investment in RE technologies; (ii) investment support measures (e.g. capital grants, favourable lending conditions, risk-mitigating instruments, research and development grants), aimed at reducing the capital costs of installing and deploying RE technologies; and (iii) price support mechanisms (e.g. feed-in tariffs, feed-in premiums), aimed at increasing green electricity generation and/or capacity deployment by means of ensuring a minimum guaranteed price per unit, or a premium on top of the wholesale electricity market price, to green electricity generators

8 IEA, ‘Commentary: Fossil-fuel Consumption Subsidies Are Down, But Not Out’ (20 December 2017), <https://www.iea.org/newsroom/news/2017/december/commentary-fossil-fuel-consumption-subsidies-are-down-but-not-out.html> (visited 28 June 2018). The gap has recently been narrowing due to falling international energy prices, fossil fuel subsidies reform and the unprecedented growth of the renewable energy industry worldwide: IEA, *World Energy Outlook 2016: Executive Summary* (2016), <https://www.iea.org/publications/freepublications/publication/WorldEnergyOutlook2016ExecutiveSummaryEnglish.pdf> (visited 28 June 2018), at 1; IRENA (2017), *supra* n 2, at 9.

9 Renewable Energy Policy Network (REN21), *Renewables 2016 – Global Status Report* (2016), http://www.ren21.net/wp-content/uploads/2016/06/GSR_2016_Full_Report.pdf (visited 28 June 2018), at 112.

10 IEA, *Energy and Climate Change – World Energy Outlook Special Report* (2015), <https://www.iea.org/publications/freepublications/publication/WEO2015SpecialReportonEnergyandClimateChange.pdf> (visited 28 June 2018), at 27.

11 IRENA (2017), *supra* n 2, at 18–20. Still, the world remains heavily dependent on conventional energy: in 2015, 76% of global electricity was generated from non-renewable energy sources.

over a fixed period of time.¹² This distinction bears relevance for determining whether there is a ‘financial contribution’ under the first definitional element of subsidy laid down in Article 1 of the SCM Agreement. As will be seen below, all three types of government support measures are likely to meet this requirement.¹³

A second distinction, and arguably more important from an international trade law perspective, concerns the *product being subsidized*, namely: whether it is renewable electricity itself, or the technological equipment and associated components used to produce that electricity. Support schemes targeting green electricity purport to create the conditions for integrating increasing shares of renewables, be it via the expansion of green electricity generation or capacity deployment, or by means of creating the economic incentives for large infrastructural projects needed to accommodate renewables in an efficient way.¹⁴ The classical example of such type of government support is feed-in tariff schemes.¹⁵ Public stimulus to manufacturing of clean energy technologies (e.g. grants or preferential loans to solar panel manufacturers), by contrast, seeks to reduce investment/production costs and hence enhance the competitiveness of RE industries. As we examine in more detail below, whether RE government support programmes fall within one or the other category makes a critical difference when assessing their compatibility with the SCM Agreement. This is because the agreement disciplines the use of subsidies only to the extent that they cause trade distortions.¹⁶ In other words, for a government support measure to be found SCM-incompatible, there must exist trade flows or opportunities in the subsidized product between the subsidy-providing WTO member and another WTO member—if there is no trade, there can simply be no actual or potential trade-distortive effects. From this angle, it is crucial that the electricity market has been predominantly *local*, with cross-border electricity trade restrained by geography and grid connection infrastructure,¹⁷ whereas the market for RE technologies is a *global* market, with RE generation equipment and components (e.g. solar PV cells and modules or wind turbines) traded intensively across borders.¹⁸

12 This follows the classification in: WTO and United Nations Environment Programme (UNEP), *Trade and Climate Change - WTO/UNEP Report* (2009), https://www.wto.org/english/res_e/booksp_e/trade_climate_change_e.pdf (visited 28 June 2018), at 114–117.

13 See Section III below.

14 See T. Cottier and I. Espa, ‘Introduction and Overview’, in T. Cottier and I. Espa (eds), *International Trade in Sustainable Electricity: Regulatory Challenges in International Economic Law* (Cambridge: Cambridge University Press, 2017), 1–17.

15 See e.g. UNEP, *Feed-in Tariffs as Policy Instrument for Promoting Renewable Energies and Green Economies in Developing Countries* (2012), https://unfccc.int/files/documentation/submissions_from_parties/adp/application/pdf/unep_us_ws2.pdf (visited 28 June 2018).

16 See further Section III below.

17 That is, unlike most manufactured commodities (transported through vessels, trucks or railways), electricity is still difficult and expensive to store and relies on costly transmission infrastructure to be transported. Yet, for an account of recent developments towards greater and more efficient interconnections enabling cross-border electricity transmission, see S. Chatzivasilieiadis and D. Ernst, ‘The State of Play in Cross-Border Electricity Trade and the Challenges towards a Global Electricity Market Environment’, in Cottier and Espa, *supra* n 14, 21–45.

18 For instance, for PV solar modules, China supplied about 30% of the global market in 2013 followed by the USA and Japan, while for wind turbines the top suppliers were Germany, China, US, Denmark, India and Spain: see S. Charnovitz and C. Fischer, ‘Canada – Renewable Energy: Implications for WTO on

Accordingly, proving trade-distortive effects does not seem readily obvious for public support programmes targeting green electricity, such as FIT schemes. Indeed, recent International Energy Agency (IEA) statistics show that, although steadily increasing, global imports (726 TWh) of electricity in 2015 only amounted to about 3.5% of the world's total final electricity consumption (20,200 TWh).¹⁹ In addition, the bulk of electricity trade flows occurs between contiguous countries, which have already undergone significant market integration.²⁰ Yet, even in such cases, cross-border electricity trade still represents a negligible portion of the final power consumption. In the case of the EU internal electricity market, for instance, net imports of electricity on the overall EU-28 level were less than 1% of the electricity consumption by end-users in 2015, despite the latest improvements introduced through the Third Energy Package.²¹ The same holds true in the case of the United States and Canada, with the former importing only a tiny 1.6% of its overall power consumption in 2014.²² Significantly, no entries can moreover be found when looking for cross-border electricity trade statistics between formerly integrated regions, such as the Russian Federation and Eastern Europe, through the United Nations Comtrade repository.²³ These physical constraints of electricity distribution systems necessarily limit the international trade impact of government support to green electricity, and by implication have a bearing on the question of policy space under the SCM Agreement.

Finally, a third distinction of pertinence for our purposes concerns the most proximate *objectives* of renewable energy subsidies. At the one end of the spectrum are RE support measures used by governments as green industrial policy tools that seek to foster competitive *domestic* industries and create local employment.²⁴ This is mostly the case of RE subsidies incorporating so-called local content requirements (LCRs), which condition eligibility for public support upon the use of a certain percentage of domestically produced inputs into the manufacturing of clean energy technologies, or in the construction of clean power generation facilities.²⁵ There is

Green and Not-So-Green Subsidies', 14(2) *World Trade Review* 177 (2015), at 184-185; IRENA (2017), supra n 2, at 48-63.

19 IEA, *Electricity Information: Overview* (2017), <https://www.iea.org/publications/freepublications/publication/ElectricityInformation2017Overview.pdf> (visited 28 June 2018), at 5 and 7-8. A significant difference can be noticed between OECD countries, where total electricity imports amounted to 488 TWh (about 4.4% of OECD final electricity consumption) and the bulk of trade flows occurred within the EU integrated electricity market, and non-OECD countries, where total electricity imports amounted to 238 TWh (about 2.2% of non-OECD final electricity consumption).

20 Chatzivasileiadis and Ernst, supra n 17, at 38-42.

21 It should be noted, however, that the situation varies greatly across EU Member States. Lithuania, Luxembourg, and Hungary, for instance, are net importers for 83%, 79%, and 39%, respectively, whereas Estonia, Bulgaria, and the Czech Republic are net exporters for 40%, 34%, and 29%, respectively. See Eurostat, 'Electricity and Heat Statistics' (2016), http://ec.europa.eu/eurostat/statistics-explained/index.php/Electricity_and_heat_statistics (visited 28 June 2018).

22 United States Energy Information Administration, 'US-Canada Electricity Trade Increases' (9 July 2015), <http://www.eia.gov/todayinenergy/detail.php?id=21992> (visited 28 June 2018).

23 See United National Comtrade Database: <https://comtrade.un.org> (visited 28 June 2018).

24 J. Lewis, 'The Rise of Renewable Energy Protectionism: Emerging Trade Conflicts and Implications for Low Carbon Development', 14(4) *Global Environmental Politics* 10 (2014), at 13-4.

25 S. Z. Bigdeli, 'Clash of Rationalities: Revisiting the Trade and Environment Debate in Light of WTO Disputes over Green Industrial Policy' 6(1) *Trade, Law and Development* 177 (2014), at 205-08; J.

by now little doubt that such discriminatory effects of LCRs are problematic from a WTO law standpoint,²⁶ while there is no clear evidence that they bring any added environmental benefits.²⁷ Quite the contrary, at least in the short-run, such LCRs increase the cost of renewable energy by forcing investors to rely on less competitive local suppliers rather than importing cheaper foreign RE technology, and hence result in environmentally inferior outcomes.²⁸

At the other hand of the spectrum are subsidies that simply incentivize industries, be it domestic or foreign, to use climate-friendly energy sources. In principle, any type of non-discriminatory measure, either supporting green electricity as such or RE technologies, could fall under this definition. However, the environmental benefit is more direct in the former case due to the more proximate climate change mitigation effects inherent to the expansion of green electricity generation and/or capacity deployment. The case in point here is once again FIT programmes, widely seen as the archetypal ‘good’ type of RE subsidy and singled out as the ‘most efficient and effective’ policy instrument for promoting green electricity by the Intergovernmental Panel on Climate Change (IPCC) and other international expert bodies.²⁹ Government support to manufacturers of RE technologies (i.e. fiscal measures and investment support measures) may also create environmental benefits inasmuch as it enables new market entrants to become competitive in the clean technology space, thus spurring further technological innovation and cheaper deployment of RE technologies. In this regard, it is worth highlighting that, in its recent ‘Bridge Scenario’ to secure the decarbonization of the energy sector, the IEA has projected subsidies to investment in and deployment of RE technologies to increase substantially from

Salzman and M. Wu, ‘The Next Generation of Trade and Environment Conflicts: The Rise of Green Energy Policy’, 108(2) *Northwestern University Law Review* 401 (2014), at 422–6. For thorough study on the use of local content requirements in the renewable energy sector, see G. C. Hufbauer, J. J. Schott, C. Cimino-Isaacs, M. Vieiro and E. Wadam, *Local Content Requirements: A Global Problem* (New York: Columbia University Press, 2013).

- 26 See Section III below; and H. P. Hestermeyer and L. Nielsen, ‘The Legality of Local Content Measures under WTO Law’, 48(3) *Journal of World Trade* 553 (2014).
- 27 L. A. Cosbey and L. Rubini, ‘Does it FIT? An Assessment of the Effectiveness of Renewable Energy Measures and of the Implications of the Canada – Renewable Energy/FIT Disputes’ (December 2013), <http://e1sinitiative.org/wp-content/uploads/2015/09/E1S-Clean-Energy-Technologies-CosbeyRubini-FINAL.pdf> (visited 28 June 2018), at 1–2.
- 28 There is, however, a theoretical environmental argument in favour of LCRs in the long-run, whereby supporting local RE infant industries would allow them to mature and become competitive innovators in the RE technology space, and thereby force down global prices of RE generation equipment: International Institute for Sustainable Development/UNEP, *Trade and Green Economy – A Handbook* (2014), <http://www.iisd.org/sites/default/files/publications/trade-green-economy-handbook-third-edition-en.pdf> (visited 28 June 2018), at 95; and Cosbey and Mavroidis, *supra* n 5, at 30. However, partly due to their novel character, there is no evidence that LCRs can accomplish this long-term environmental goal, and moreover, evidence is flawed on LCR effectiveness in achieving their most immediate industrial policy objective: see J.-C. Kuntze and T. Moerenhout, *Local Content Requirements and the Renewable Energy Industry – A Good Match?* (May 2013), <https://www.ictsd.org/sites/default/files/downloads/2013/06/local-content-requirements-and-the-renewable-energy-industry-a-good-match.pdf> (visited 28 June 2018), at 1–2, 6–12, 31–4 and 42–4.
- 29 Provided these are ‘well-designed’ and ‘well-implemented’: see Intergovernmental Panel on Climate Change (IPCC), *Renewable Energy Sources and Climate Change Mitigation – Summary for Policy Makers and Technical Summary* (2012), https://www.ipcc.ch/pdf/special-reports/srren/SRREN_FD_SPM_final.pdf (visited 28 June 2018), at 152

USD 270 billion in 2014 to USD 400 billion in 2030.³⁰ Yet, this type of public incentives, albeit not discriminatory in and of itself, may de facto be instrumental towards reinforcing the position of domestic manufacturers within the global and profitable market for RE technologies, given the usually less significant penetration of foreign companies in the territory of the subsidizing country.³¹

B. Legal action against green energy subsidies

Since the *Canada – Renewable Energy/FIT Program (2013)* dispute, a common expectation in the scholarship³² has been that trade-and-climate change frictions are deemed to intensify over time, particularly as more governments are implementing measures to boost clean energy generation and associated technological equipment. But to what extent has this concern materialized? In answering this question, it is important to distinguish between *multilateral* (i.e. through the WTO dispute settlement system) and *unilateral* (i.e. through domestic anti-dumping and countervailing duty investigations) actions taken against RE support measures. Under WTO law, this choice between multilateral and unilateral remedies is only available in the case of subsidized imports causing ‘material injury’ to the domestic producers of ‘like’ (or competing) products,³³ whereas any other adverse effect of a subsidy can only be responded to multilaterally through the WTO dispute settlement mechanism.³⁴

At the multilateral level, RE support measures have thus far been challenged in a handful of WTO cases: 6³⁵ out of the total 553 disputes brought to the WTO for resolution as of June 2018. Admittedly though, these have all occurred recently and within a relatively short timeframe (since 2010) following the extraordinary growth in renewables and the changing global policy landscape,³⁶ whereas no single WTO case has thus far been initiated against the more prevalent and environmentally harmful fossil fuel subsidies.³⁷ As reflected in Table 1 below, all but one (DS459) of these six RE disputes have involved public support in the renewable electricity sector and, in most cases, FIT programmes. Yet significantly, only (allegedly) *discriminatory*

30 IEA (2015), supra n 10, at 13 and 85.

31 UNEP (2014), supra n 28, at 105.

32 See e.g. Bigdeli, supra n 25, at 178; Casier and Moerenhout, supra n 5, at 2; Shadikhodjaev, supra n 5, at 479; Steger, supra n 5, at 3.

33 Part V SCM Agreement, on the imposition of countervailing duties as a unilateral remedy to offset the effects of a specific subsidy in the domestic market of the importing WTO member.

34 Article 4 SCM Agreement (for prohibited subsidies) and Article 7 SCM Agreement (for actionable subsidies).

35 That is, counting *Canada – Renewable Energy/FIT Program (2013)* as one, since both complaints challenged the same measure and resulted in joint Panel/Appellate Body reports. This does not include the recent request for consultations by Korea against the United States’ safeguard measures (DS545): see infra n 175–177 and accompanying text.

36 See e.g. REN21, *The First Decade: 2004-2014 – Ten Years of Renewable Energy Progress* (2015), http://www.ren21.net/Portals/0/documents/activities/Topical%20Reports/REN21_10yr.pdf (visited 28 June 2018).

37 See supra n 8; and on the reasons why this may be so, including the difficulties of challenging fossil fuel subsidies (usually consumer-targeted and non-discriminatory) under the SCM Agreement, see H. B. Asmelash, ‘Energy Subsidies and the WTO Dispute Settlement System: Why Only Renewable Energy Subsidies Are Challenged’, 18(2) *Journal of International Economic Law* 261 (2015).

Table 1. WTO disputes on renewable energy subsidies (as of June 2018)^a

Dispute number	Dispute title	Consultation request	Current status	Type of government support	Discriminatory element
412/426	<i>Canada – Renewable Energy</i> (Complainant: Japan)/ <i>Canada – Feed-In Tariff Program</i> (Complainant: EU)	13/09/2010 11/08/2011	Panel/AB reports adopted (24/05/2013) Implementation notified (5/06/2014)	Feed-in tariffs to renewable electricity generators	For wind- and solar PV-generated electricity, contingent upon use of domestically-produced generation equipment
419	<i>China – Measures Concerning Wind Power Equipment</i> (Complainant: US)	22/12/2010	In consultations	Grants, funds, awards to wind-power equipment manufacturers	Contingent upon the use of domestic over imported inputs
452	<i>European Union and Certain Member States – Certain Measures Affecting the Renewable Energy Sector</i> (Complainant: China)	05/11/2012	In consultations	Feed-in tariffs to renewable electricity generators (Italy and Greece)	For solar PV-generated electricity, contingent upon use of domestically-produced generation equipment
456	<i>India – Certain Measures Relating to Solar Cells and Solar Modules</i> (Complainant: US)	06/02/2013	Panel/AB reports adopted (14/10/2016) Compliance proceedings ongoing (28/02/2018)	Feed-in tariffs to solar power developers	Contingent upon use of domestically-produced solar cells and modules
459	<i>European Union and Certain Member States – Certain Measures on the Importation and</i>	15/05/2013	In consultations	Excise duty/internal consumption tax reductions for ‘sustainable biofuels’ (Belgium and France)	Only EU-produced biofuels may qualify for reduction

(Continued)

Table 1. (continued)

Dispute number	Dispute title	Consultation request	Current status	Type of government support	Discriminatory element
510	<p><i>Marketing of Biodiesel and Measures Supporting the Biodiesel Industry</i> (Complainant: Argentina) <i>United States — Certain Measures Relating to the Renewable Energy Sector</i> (Complainant: India)</p>	19/09/2016	Panel composed (24/04/2018)	Several fiscal and financial measures by eight US States, including to renewable energy generators, manufacturers of RE technologies and biodiesel/ethanol distributors ^b	Contingent upon use of domestically produced RE equipment/components (California, Massachusetts, Michigan, Washington) Only Montana-produced biodiesel may benefit from tax refund, while Montana-produced ethanol benefits from greater tax reduction

^aSource: https://www.wto.org/english/atrato_p_e/dispu_e/find_dispu_cases_e.htm.

^bAs illustrative examples: (i) cost-recovery payments to renewable electricity generators, with a higher incentive if such electricity is produced using certain renewable energy equipment manufactured in the State of Washington; (ii) financial incentives for installation of eligible energy storage technologies from a “California supplier, and credits to manufacturers of qualifying solar PV equipment manufactured in Los Angeles; (iii) tax rebates for installation of commercial/residential solar hot water systems, if it uses components from one of the qualified companies that manufacturers in Massachusetts; (iv) tax reductions and refunds to distributors of ethanol and biodiesel, if produced in Montana from domestic ingredients; (v) credits to green electricity generated from a renewable energy system constructed using equipment made in the State of Michigan or using a workforce composed of residents of the State of Michigan. See further: WTO, *United States — Certain Measures Relating to the Renewable Energy Sector*, Request for the Establishment of a Panel by India, WT/DS510/2, dated 24 January 2017.

measures have been thus far targeted in WTO dispute settlement proceedings, mostly in the form of LCRs attached to FIT schemes (DS412/426, DS452, DS456) or other forms of public stimulus (i.e. fiscal/financial incentives in DS419, DS459, DS510). At the time of writing, the WTO dispute settlement bodies have only ruled in two instances (*Canada – Renewable Energy (2013)* and *India – Solar Cells (2016)*), while other cases are still at panel proceedings (*US – Renewable Energy*)³⁸ or (formally) pending at consultation stage.³⁹ In both cases where WTO dispute settlement reports have been adopted, the Appellate Body unequivocally ruled that the LCRs enshrined in the measures at issue violated core national treatment obligations under Article III:4 GATT and Article 2.1 of the WTO Agreement on Trade-related Investment Measures (TRIMs Agreement),⁴⁰ while no inconsistency findings were made under the SCM Agreement.⁴¹

As with the WTO litigation trend, domestic trade remedy action⁴² against RE subsidies is relatively recent, and yet it appears to be emerging as the main vehicle for challenging government support to manufacturers of green technology products.⁴³ According to a global survey conducted by the United Nations Conference on Trade and Development (UNCTAD), the number of anti-dumping (AD) and countervailing duty (CVD) cases in the renewable energy sector ‘far outnumbers the number of [renewable energy] disputes that have arrived at the WTO’.⁴⁴ While only covering the period 2008–early 2014, the survey already records a total of 41 trade remedy investigations initiated in the renewable energy sector: 26 anti-dumping and 15 parallel countervailing duty proceedings. Almost half of these cases (18) targeted solar technology products (e.g. solar cells and modules and solar glass), whereas 7 cases involved wind technology products (i.e. wind towers) and the other 16 cases instead concerned biofuels (i.e. biodiesel and ethanol).⁴⁵ The European Union (EU)

38 WTO, *United States – Certain Measures Relating to the Renewable Energy Sector*, Request for the Establishment of a Panel by India, WT/DSS10/2, dated 24 January 2017.

39 In the case of *China – Measures Concerning the Wind Power Equipment* (DS419), for instance, it seems that China agreed to withdraw the disputed subsidies rather quickly: Office of the United States Trade Representative (USTR), ‘Press Release: China Ends Wind Power Equipment Subsidies Challenged by the United States in WTO Dispute’ (June 2011), <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2011/june/china-ends-wind-power-equipment-subsidies-challenged> (visited 28 June 2018).

40 WTO Secretariat, *supra* n 4, at 172; Appellate Body Report, *Canada – Renewable Energy/FIT Program (2013)*, *supra* n 3, para 5. 85; WTO Appellate Body Report, *India – Certain Measures Relating to Solar Cells and Solar Modules [India – Solar Cells (2016)]*, WT/DS456/AB/R, adopted 14 October 2016, paras 5.41 and 6.2(c). For an overview of these disputes see, *inter alia*, Asmelash, *supra* n 37, at 275–8.

41 In *Canada – Renewable Energy/FIT Program (2013)*, this was because the Appellate Body could not complete the benefit analysis: see further discussion in Section III.A below. In *India – Solar Cells (2016)*, the United States withdrew its initial SCM claims: see WTO, *India – Certain Measures Relating to Solar Cells and Solar Modules*, Request for Consultations by the United States (Addendum), WT/DS456/1/Add.1, dated 13 February 2014.

42 This refers to both anti-dumping and countervailing duty investigations: for a more detailed examination, see P. Van den Bossche and W. Zdouc, *The Law and Policy of the World Trade Organization* (Cambridge: Cambridge University Press, 4th edition, 2017), Chapter 11 and Chapter 12 (at 846–64).

43 UNEP (2014), *supra* n 28, at 105.

44 United Nations Conference on Trade and Development (UNCTAD), *Trade Remedies: Targeting the Renewable Energy Sector* (2014), http://unctad.org/en/PublicationsLibrary/ditcted2014d3_en.pdf (visited 28 June 2018), at 13.

45 *Ibid.*, at 3–4.

initiated the majority (18) of these AD/CVD cases, followed by the United States (8), with well-known examples being the parallel anti-dumping and countervailing duty investigations conducted on (allegedly) subsidized imports of solar panels and their key components from China discussed later in the article.⁴⁶ The remaining trade remedy actions on RE technology imports were undertaken by China (5), Australia (4), India (4), and Peru (2).⁴⁷ Overall, UNCTAD estimates that anti-dumping and countervailing duties translated into a global trade loss of about USD 14 billion annually, with associated costs for renewable energy generation.⁴⁸

This overview of WTO dispute settlement and unilateral practice brings an important point to the fore: the main source of constraint on government support to green electricity has been (thus far) unilateral action pursuant to WTO trade remedy rules (including also the Anti-Dumping Agreement),⁴⁹ and not multilateral challenges under the SCM Agreement. This fact cannot be neglected when considering possible reforms with a view to securing policy space for government support to renewable energy, as it is often done in academic discussions following the *Canada – Renewable Energy/FIT Program (2013)* dispute. In addition, any call for reform needs to be informed by a thorough evaluation of the different legal risks that each green energy subsidy faces when examined under current WTO subsidy disciplines, to which we now turn.

III. RENEWABLE ENERGY SUBSIDIES AND WTO LAW – WHERE IS THE RISK OF INCOMPATIBILITY?

Before appraising renewable energy subsidies under the SCM Agreement, it is useful to briefly sketch how the agreement operates. Essentially, it involves a two-step analysis: whether there is a ‘subsidy’ within the meaning of the Article 1 SCM Agreement, and if so, whether or not it is inconsistent with this agreement. With regards to the first definitional question, a ‘subsidy’ should be deemed to exist for the purpose of applying the SCM Agreement only if three cumulative conditions are met: (i) there must be a *financial contribution* (or income/price support) by a government or public body⁵⁰ (or by a private body ‘entrusted’ or ‘directed’ by a government)⁵¹; (ii) it must confer a *benefit*⁵²; (iii) it must be *specific* to certain enterprises.⁵³ As to the consistency question, only two kinds of subsidies are outright prohibited under the SCM Agreement, namely: export subsidies (i.e. those contingent upon export performance) and import-substitution subsidies (i.e. those contingent upon the use of domestic over imported goods).⁵⁴ All other specific subsidies

46 See Section III.B below.

47 UNCTAD (2014), *supra* n 44, at 4 and Table 1.

48 *Ibid*, at 7–8.

49 Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade 1994 (Anti-Dumping Agreement) in WTO Secretariat, *supra* n 4, at 202.

50 SCM Agreement, Articles 1.1(a)(1)(i)–(iii) and 1.1(a)(2).

51 *Ibid*, Article 1.1(a)(1)(iv).

52 *Ibid*, Article 1.1(b).

53 *Ibid*, Article 1.2; and Articles 2.1(a) and 2.2 on how to establish *de jure* enterprise/industry/regional specificity and *de facto* enterprise/industry/regional specificity. For an examination, see Van den Bossche and Zdouc, *supra* n 42, at 794–802.

54 SCM Agreement, Article 3.

are just actionable, which means there are only SCM-incompatible to the extent it is demonstrated that they cause *adverse effects* to either the import-competing (in the form of ‘material injury’),⁵⁵ or export-competing (in the form of ‘serious prejudice’) interests,⁵⁶ of another WTO member which, it should be stressed, is a notoriously difficult legal hurdle for a complaining party to prove.

A. Are FITs really at risk under current WTO subsidy rules?

As previously mentioned, *Canada – Renewable Energy/FIT Program (2013)* has been the only WTO case to date where claims under the SCM Agreement have been (partly) addressed against a feed-in tariff scheme. Yet on that occasion, the FIT programme at issue was not made subject to WTO subsidy disciplines because the Appellate Body was unable to complete the analysis of whether it constituted a subsidy covered by that agreement in the first place.⁵⁷ While acknowledging that Ontario’s feed-in tariff scheme was a financial contribution in the form of a ‘government purchase of goods’ as per Article 1.1(a)(1)(iii) SCM Agreement,⁵⁸ the Appellate Body found that it had insufficient factual evidence on record to determine whether it also conferred a benefit to producers of wind- or solar PV-generated electricity, as required under the second definitional element of a subsidy. It reached this conclusion through a complex legal reasoning on what was the relevant market for the purpose of conducting the benefit analysis in accordance with Article 14 (d) SCM Agreement,⁵⁹ which has been extensively discussed in the scholarship.⁶⁰ It suffices to recall here that the Appellate Body dismissed the market benchmarks advanced by the complainants because, in its view, these were wrongly found within the ‘competitive wholesale electricity market as a whole’, whereas the relevant market for conducting the benefit analysis should have been the ‘competitive markets for wind- and solar PV-generated electricity, which are created by the government definition of the supply mix.’⁶¹

55 Ibid, Articles 5(a) and 15 referring to ‘material injury’, or threat thereof, to the domestic industry of another member producing the like product.

56 Ibid, Articles 5(c) and 6.3 referring to ‘serious prejudice’, or threat thereof, to the interests of another member, including by ‘displacing or impeding’ imports of a like product into the market of the subsidising member, or by ‘displacing or impeding’ exports of a like product into the market of a third country, or by resulting in ‘significant’ price undercutting, price suppression, price depression or loss of sales. For a more detailed examination, see Van den Bossche and Zdouc, *supra* n 42, at 818–28.

57 Appellate Body Report, *Canada – Renewable Energy/FIT Program (2013)*, *supra* n 3, para 5.244.

58 Ibid, para 5.128.

59 Article 14 SCM Agreement requires that an assessment be made of whether the purchase of the good [*in casu*, electricity] is made for ‘less than adequate remuneration’, which has to be determined ‘in relation to prevailing market conditions for the good. . . in question in the country of the. . . purchase’.

60 See notably, Charnovitz and Fischer, *supra* n 18, at 192–8; Cosby and Mavroidis, *supra* n 5, at 18–23; and R. Pal, ‘Has the Appellate Body 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 126–9.

61 Appellate Body Report, *Canada – Renewable Energy/FIT Program (2013)*, *supra* n 3, para 5.178; and also paras 5.173–5.175, where this distinction was derived after noticing that while conventional and renewable electricity are substitutable on the demand-side, they are not on the supply-side, which means that ‘markets for wind- and solar PV-generated electricity can only come into existence as a matter of government regulation’. However, for the Appellate Body, ‘the definition of a certain supply-mix by the government cannot in and of itself be considered as conferring a benefit within the meaning of Article 1.1(b)’.

By narrowing the relevant market within which appropriate benchmark prices are to be located for the benefit comparison to the competitive markets for wind- and solar PV-generated electricity (rather than the single market for all types of electricity, no matter the source of production), the Appellate Body has arguably made it harder for future complainants to demonstrate the existence of a benefit, and hence that FIT programmes constitute a subsidy falling under the SCM Agreement.⁶² Yet crucially, this does *not* mean it has made it *impossible* for FIT schemes to be ever scrutinized under WTO subsidy law. While the Appellate Body was unable to complete the analysis on this occasion, it did provide guidance on how to establish that FITs confer a benefit in future cases (i.e. by looking at in-country price benchmarks; or adjusted out-of-country price benchmarks; or proxy construction), while equally hinting at how this situation may be avoided (i.e. by using ‘price-discovery mechanisms’ such as competitive bidding or negotiated prices so as to avoid over-compensation).⁶³ Hence, the Appellate Body’s approach to the benefit analysis in the *Canada – Renewable Energy/FIT Program (2013)* case offers only some flexibility for FIT schemes through a partial ‘carve-out’ –but not a full ‘safe haven’– from WTO subsidy disciplines.⁶⁴

As it is well known, this aspect of the Appellate Body’s report has generated an avalanche of (mostly) critical reactions on both legal and policy grounds,⁶⁵ but we see little value in further adding to this already rich body of commentary. Rather, we take issue here with the way in which this WTO ruling has been generally presented in the literature as evidence of a potential clash between the SCM Agreement and international climate change mitigation objectives, which would have materialized had the Appellate Body not engaged in ‘legal acrobatics’⁶⁶ to avoid finding Ontario’s FIT scheme qualified as a subsidy under that agreement. The main concern would

62 That is, the narrower the market is, the more targeted the benchmarks for the benefit comparison are, and the less likely it is to find there is a benefit and hence a subsidy. Conversely, had the ‘competitive wholesale electricity market’ been chosen as the relevant market, there would have been little doubt that Ontario’s FIT programme (and possibly most FITs) conferred a benefit (and hence constituted a subsidy), since it provided producers of wind- or solar PV-generated electricity with rates higher than the wholesale market rate for electricity in Ontario and ensured the entry of these producers into the Ontario electricity market. This was in fact the position of the dissenting panellist: WTO Panel Report, *Canada – Certain Measures Affecting the Renewable Energy Generation Sector/Measures Relating to the Feed-in Tariff Program – Report of the Panels*, WT/DS412/DS426/R, adopted (as modified) 24 May 2013, paras 9.1–9.23.

63 Appellate Body Report, *Canada – Renewable Energy/FIT Program (2013)*, supra n 3, paras 5.228 and 5.233.

64 For a similar reading, see Cosbey and Mavroidis, supra n 5, at 28–29; and Cosbey and Rubini, supra n 27, at 4–8.

65 A review of these academic reactions is provided in: L. Rubini, ‘The Wide and the Narrow Gate: Benchmarking under the SCM Agreement after the Canada – Renewable Energy/FIT Ruling’, 14(2) *World Trade Review* 211 (2015), at 213–218. The methodology adopted by the Appellate Body is also criticized by the same author in: L. Rubini, ‘The Good, the Bad, and the Ugly: Lessons on Methodology in Legal Analysis from the Recent WTO Litigation on Renewable Energy Subsidies’, 48(5) *Journal of World Trade* 895 (2014). A less critical stance is taken in: Shadikhodjaev, supra n 5, at 487; and similarly, A. Kent and V. Jha, ‘Keeping Up with the Changing Climate: The WTO’s Evolutive Approach in Response to the Trade and Climate Conundrum’, 15(1–2) *Journal of World Investment and Trade* 245 (2014).

66 A recurrent expression in the literature, first put forward by Cosbey and Mavroidis, supra n 5, at 12 and 29.

seem to be that, on the one hand, feed-in tariffs are ‘good’ RE subsidies from an environmental perspective, but, on the other hand, are at risk under the SCM Agreement as they continue to be challenged before the WTO dispute settlement bodies.⁶⁷ This reading of *Canada – Renewable Energy/FIT Program (2013)* ought to be qualified in light of subsequent practice.

To begin with, FIT programmes have continued to represent the lion share of RE subsidies: according to the latest Global Status Report of the Renewable Energy Network (REN 21), 110 FIT schemes were in place in 2015 at either state, province, or country levels.⁶⁸ Significantly, this represents an increase (by 11) since the adoption of the *Canada – Renewable Energy/FIT Program (2013)* report, when only 99 FIT schemes were in place.⁶⁹ Accordingly, and contrary to some initial fears,⁷⁰ the Appellate Body’s ruling has seemingly had *no* ‘chilling effect’ on the use of FIT programmes—apart from the withdrawal of the Ontario’s programme which, as explained below, was not itself required as a matter of WTO-compliance.⁷¹

The past few years did, however, exhibit an ongoing trend in the choice of regulatory instruments aimed at stimulating green electricity generation. On the one hand, the generosity of governments’ price-support mechanisms has generally been declining: for instance, the German FIT scheme for solar PV installations for less than 10 kW was 127 EUR per MWh between October and December 2016 compared to 518 EUR per MWh for similarly-sized installations in 2006 and 287 EUR per MWh in mid-2011.⁷² On the other hand, governments appear to be in the process of shifting from administratively established feed-in tariffs towards market-based mechanisms for setting premium prices.⁷³ This trend started in countries such as Brazil and South Africa, and has rapidly expanded in other parts of Africa, India, the Middle East and several European countries such as the Denmark, Germany, Italy, the Netherlands and the United Kingdom,⁷⁴ with a total of 67 countries having had recourse to competitive tendering processes in 2016 compared to only 6 in 2005.⁷⁵ These have resulted in record-low prices for both solar and wind power.⁷⁶ It is true that the Appellate Body did praise such ‘price-discovery mechanisms’ as a means to avoid

67 See, e.g. Cosby and Mavroidis, *supra* n 5, at 28, positing that ‘FITs have not been offered a safe haven ... even the “cleanest” of green measures would find no safe harbour in facing the SCM Agreement as currently formulated’.

68 REN21 (2016), *supra* n 9, at 19.

69 REN21, *Renewables 2013 – Global Status Report* (2013), http://www.ren21.net/Portals/0/documents/Resources/GSR/2013/GSR2013_lowres.pdf (visited 28 June 2018), at 68.

70 See e.g. Charnovitz, *supra* n 6, at 23.

71 WTO, *Canada – Certain Measures Affecting the Renewable Energy Generation Sector – Communication from Canada*, 6 June 2014, WT/DS412/DS426/19.

72 Frankfurt School FS-UNEP Collaborating Centre for Climate and Sustainable Energy Finance, *Global Trends in Renewable Energy Investment 2017* (2017), <http://fs-unep-centre.org/sites/default/files/publications/globaltrendsinrenewableenergyinvestment2017.pdf> (visited 28 June 2018), at 38.

73 IRENA (2017), *supra* n 2, at 32–3.

74 *Ibid.*, at 34–6. For the European experience, see I. Espa, ‘Promoting Renewables in the Energy Union: Current Strategies and the Challenges Ahead’, 2(1) *European Investment Law and Arbitration Review* (2017) 225.

75 IRENA (2017), *supra* n 2, at 11.

76 *Ibid.*, at 34–6; REN21 (2016), *supra* n 9, at 111 and 114.

overcompensation in *Canada – Renewable Energy/FIT Program (2013)*.⁷⁷ However, these developments in State practice are purportedly part of a natural process of refinement of public support policies to the power sector given the increasing maturity of green electricity markets and the galloping cost-competitiveness of renewable sources of electricity (mainly, wind and solar),⁷⁸ more than a reflection of a supposed chilling effect of WTO disputes targeting (discriminatory) RE support measures.

In addition, FIT schemes have been the target of WTO disputes only when incorporating local content requirements, and *Canada – Renewable Energy/FIT Program (2013)* is no exception in this respect. This means that, had the Appellate Body found Ontario's FIT programme was covered by the SCM Agreement, it would have been left with no choice but to condemn it as prohibited subsidy under Article 3 therein. But this result would have been largely immaterial (other than for the remedy issue),⁷⁹ since the LCRs attached to Ontario's FIT programme were already found inconsistent with the national treatment obligations of the GATT and TRIMS Agreement.⁸⁰ Nonetheless, the government of Ontario ultimately removed the FIT programme altogether (and not only its WTO-incompatible LCRs), due to the failure of legislative amendatory efforts at the provincial level.⁸¹ Allegedly, this experience could be seen as supporting the political feasibility argument in favour of LCRs, namely that these are a 'political necessity for the very existence of RE deployment policies'⁸² as governments could not otherwise justify such a public spending before their constituencies without claiming some direct economic benefit (e.g. job creation) at home. But even if this proposition is accepted, it would be hard to articulate a legal standard to assess whether or not there is genuine 'political necessity' for LCRs—in other words, where and how do we draw a line between politically necessary (and thus, justifiable) and non-politically necessary (and thus, unjustifiable) LCRs? Furthermore, as Howse rightly notes, '[w]hile such requirements may have been a political necessity to get enough backing for the initial policy package, it does not follow that they remain a political necessity, now that the clean-energy market is up and running'.⁸³

77 Appellate Body Report, *Canada – Renewable Energy/FIT Program (2013)*, supra n 3, paras 5.228 and 5.233.

78 In the EU context, see e.g. European Commission, 'Staff Working Document – Guidance for the Design of Renewable Support Schemes' (SWD(2013) 439 final), 5 November 2013, at 22.

79 The SCM Agreement provides for special remedies which, in the case of prohibited subsidies, is their removal 'without delay', generally meaning three months (Article 4.7).

80 That is, Articles III:4 GATT and 2.1 TRIMs: see Panel Report, *Canada – Renewable Energy/FIT Program (2013)*, supra n 62, para 7.167; and Appellate Body Report, *Canada – Renewable Energy/FIT Program (2013)*, supra n 3, para 5. 85.

81 T. Meyer, 'How Selective Enforcement of Trade Laws Chills Innovation' (forthcoming 2018), on file with the authors.

82 Bigdeli, supra n 25, at 207.

83 R. Howse, 'Securing Policy Space for Clean Energy under the SCM Agreement: Alternative Approaches' (December 2013), <http://e15initiative.org/publications/securing-policy-space-for-clean-energy-under-the-scm-agreement-alternative-approaches/> (visited 28 June 2018), at 1. Moreover, if all States were allowed to apply LCRs, it is hard to see how the alleged long-term environmental benefits of LCRs would materialized since there would be no competition and hence no innovation in the RE technology market: see Kuntze and Moerenhout, supra n 28, at 43.

Moreover, it is noteworthy that the Appellate Body's jurisprudential approach, albeit not an example of legal clarity, has ultimately had the effect of dis-incentivizing WTO members from raising claims under the SCM Agreement against discriminatory RE support programmes and encouraging them to challenge the discriminatory component of such measures under WTO national treatment rules. This happened already in *India – Solar Cells (2016)*, where the United States withdrew its initial claim that the Indian FIT scheme at issue was inconsistent with Article 3 SCM Agreement from its second request for consultations (intervened after the Appellate Body's ruling in *Canada – Renewable Energy/FIT Program (2013)*), and decided to keep its claims under the GATT/TRIMs non-discrimination provisions only.⁸⁴ Such a state of affairs does not run counter to mutual supportiveness between international trade and climate change regimes given that, as previously explained,⁸⁵ LCRs are primarily tools of industrial policy and evidence on their value-added environmental benefits is at best disputed. Therefore, from a trade/climate change mutual supportiveness standpoint, it is far from clear why policy space under WTO law should be given to LCRs attached to FIT schemes or other RE support measures.

Rather, from a mutual supportiveness perspective, the critical point is whether FIT programmes *without* LCRs are actually at risk under the SCM Agreement. In other words, would these measures, if considered a subsidy, be unlawful under existing WTO subsidy rules? This question deserves closer attention than what it has thus far received in the literature, to the extent that it may contribute to recalibrate the case for reform.⁸⁶ Under the SCM Agreement, a FIT scheme as such would not be prohibited but could be actionable provided that it is 'specific' and causes 'adverse effects' to the import/export-competing interests of other WTO members. As to the specificity requirement, FIT programmes seem likely to meet this test regardless of whether they target renewable energy sources in general or specific forms of renewable energy (e.g. wind or solar), given that the clean energy industry remains a specific portion of the overall energy market.⁸⁷

It is, however, not obvious to find that FIT schemes cause adverse effects within the meaning of the SCM Agreement, inasmuch as they are non-discriminatory in and of themselves⁸⁸ and aimed at expanding the generation of renewably produced electricity which, as previously seen, is a scarcely traded good.⁸⁹ Yet, this cannot be definitively excluded, at least in the hypothetical case of two or more countries significantly trading electricity among themselves, in particular in the form of 'serious prejudice' to the trade interests of another WTO member (Article 5(c) SCM Agreement). This form of adverse effects may occur, in particular, when FIT schemes are matched with operational support measures such as priority access and

84 See supra n 41; and Asmelash, supra n 37, at 277–8.

85 See Section IIA above.

86 Existing literature has not closely looked at this specific question but mainly focused on whether the Appellate Body's benefit analysis was or not legally sound and whether such a judicial approach is a viable route to the issue of policy space under the SCM Agreement. Taking a critical stance, see notably Rubini, supra n 65; Cosbey and Mavroidis, supra n 5, at 25–7; Casier and Morenhout, supra n 5.

87 For a similar view, see Rubini, supra n 5, at 547–9; Cosbey and Mavroidis, supra n 5, at 28–9.

88 Cosbey and Mavroidis, supra n 5, at 30.

89 See Section IIA above.

priority dispatch for renewable energy, as in the case of many EU Member States.⁹⁰ In such instances, the renewable electricity production happens largely outside the energy market inasmuch as the expanded volume of green electricity is directly absorbed by national transmission system operators—or other entities, depending on the national setting. The absence of cross-border tradability of FIT-subsidized green electricity may de facto restrict its consumption to the subsidizing WTO member where it has been produced, and thus reduce the consumption of imported electricity (even when considerably cheaper) compared to what would have otherwise occurred under normal market situations.⁹¹ This import-restricting effect could potentially bring such FIT schemes in tension with Article 6.3(a) SCM Agreement, as a subsidy whose effect is ‘to displace or impede the imports of a like product of another Member into the market of the subsidizing Member’.⁹² Yet, one should also bear in mind that the causation requirement would also need to be met via proving the existence of a ‘genuine and substantial relationship’ between the FIT scheme and the current (or imminent) trade distortion.⁹³ This may also not be obvious in light of the difficulties inherent to disentangling the effects of the FIT scheme itself from those of matching operational support policies and other possible support measures implemented by governments to foster green electricity.⁹⁴

In light of the foregoing, it cannot be entirely excluded that a FIT scheme may be actionable and found illegal under current WTO subsidy rules, even if not incorporating LCRs. Yet, that risk should not be overstated. First, it is doubtful that WTO members would start challenging each other’s non-discriminatory FIT programmes,⁹⁵ but instead are most likely to continue focusing on those discriminatory subsidies that directly harm the competitiveness of their own RE manufacturing industries⁹⁶ and are clearly WTO-inconsistent. Secondly, and most importantly, a non-discriminatory FIT scheme can only be shown to cause adverse effects, and hence be SCM-incompatible,

90 See J. Le Page ‘Towards a New Deal for the Integration of Renewable Power Generation in the Internal Energy Market: A Regulatory Perspective on European Climate and Energy Policy’, in Cottier and Espa, supra n 14, at 105–107; but also infra n 97.

91 See on this point, Advocate General Bot in the Case 573/12, *Ålands Vindkraft*, judgement of 1 July 2014 [ECLI:EU:C:2014:2037], paras 75–6.

92 Yet, much could be said about the ‘likeness’ of conventional and renewable energy: for a discussion see, T. Cottier et al., ‘Legal Opinion: Differentiating Energy Tax on Electricity: An Assessment of the Compatibility with WTO Law and EU Law’ (18 April 2014), on file with the authors.

93 WTO Appellate Body, *EC and Certain Member States – Measures Affecting Trade in Large Civil Aircraft*, WT/DS/316/AB/R, adopted 1 June 2011, para 1232; WTO Appellate Body Report, *United States – Measures Affecting Trade in Large Civil Aircraft (2nd complaint)*, WT/DS353/AB/R, adopted 23 March 2012, para 914.

94 See Section IIA above.

95 D. De Bièvre, I. Espa and A. Poletti, ‘No Iceberg in Sight. On the Absence of Potential and Actual WTO Disputes Against Fossil Fuel Subsidies’, 17 (3) *International Environmental Agreements: Politics, Law and Economics* 391 (2017), at 395.

96 This is even more so if one considers that such FITs are the most commonly used type of RE subsidies, and widely recognised for their environmental effectiveness (Section IIA above). It is thus unlikely that any mayor player would want to be exposed to the risk of a WTO retaliatory dispute by challenging a non-discriminatory FIT scheme in face of a very slim chance to succeed: see De Bièvre, Espa and Poletti, supra n 95, at 418.

in the case of a dispute arising between WTO members with interconnected electrical grids and electricity trade among themselves.⁹⁷ However, as previously seen, cross-border electricity trade is still relatively underdeveloped at the global level.⁹⁸ Finally, because of the ongoing transition towards market-based price-discovery mechanisms,⁹⁹ comprehensive integration of regional and eventually global grids will likely occur when use of FIT schemes will be largely declining.

B. What about public support to renewable energy technologies?

When compared to FIT programmes, public incentives to manufacturers of RE generation equipment have received much less academic attention, even though these conceivably face a higher legal risk under the SCM Agreement for two main reasons. Firstly, it should be underscored that the partial carve-out from the agreement created by the Appellate Body in *Canada – Renewable Energy/FIT Program (2013)* was confined to that specific type of public support—i.e. FITs as a government purchase of goods¹⁰⁰—and the applicable legal standard under Article 14(d) SCM Agreement for determining the existence of a benefit in this particular case.¹⁰¹ For other forms of green energy stimulus falling within the list of financial contributions in Article 1.1(a) SCM Agreement,¹⁰² the benefit analysis is likely to be more straightforward and not involve convoluted questions as to what constitutes the relevant market and appropriate benchmark prices. Notably, a (non-repayable) government grant¹⁰³ to manufacturers of RE technologies clearly makes them ‘better off than they would otherwise have been, absent that contribution’ and is provided ‘on terms more favourable than those available to the recipient on the market’.¹⁰⁴ Similarly, for a

97 In this regard, note that significant cross-border electricity trade occurs within the integrated EU electricity market (see Section IIA above), but trade disputes between the EU Member States are unlikely to be brought to the WTO. From an EU law perspective, this is foremost pre-empted by the EU Court of Justice’s exclusive jurisdiction: Article 344 Treaty on the Functioning of the European Union (TFEU), 2010 OJ C 83/49; and ECJ, C-459/03 *Commission v Ireland (Mox Plant)* (2006) ECR I-4635. From a WTO law perspective, EU Member States are members of the WTO in their own right and hence could theoretically challenge each other in the WTO dispute settlement system, but in practice this has never happened to date: on this point, see further, G. Marín Durán, ‘Untangling the Responsibility of the EU and its Member States in the World Trade Organization post-Lisbon: A Competence/Remedy Model’, 28(3) *European Journal of International Law* 697 (2017), at 700–10. This state of affairs would logically change in a post-Brexit scenario, where the UK is no longer an EU Member State and yet a WTO member trading in electricity with the EU.

98 See Section IIA above.

99 The idea is that market-based price-discovery mechanisms, such as competitive bidding, would act as a self-regulating subsidy phase-out mechanism, which will reward low-cost RE technologies and eventually approach zero as technology costs reach grid parity: see e.g. European Commission (2013), supra n 78, at 7.

100 Article 1.1(a)(1)(iii) SCM Agreement.

101 See Section IIIA above.

102 Tax incentives could qualify as ‘government revenue, otherwise due, that is foregone or not collected’ under Article 1.1(a)(1)(ii) SCM Agreement, but here the difficulty is to identify a normative benchmark for ‘otherwise due’ in the tax laws of the WTO member concerned. For further discussion, Rubini, supra n 5, at 533–40.

103 Explicitly listed in Article 1.1(a)(1)(i) SCM Agreement.

104 Pursuant to the general standard for establishing whether a ‘benefit’ has been conferred under Article 1.1(b) SCM Agreement, as laid down in: WTO Appellate Body Report, *Canada — Measures Affecting the Export of Civilian Aircraft*, WT/DS70/AB/R, adopted 19 November 1999, para 157.

government loan to such manufacturers,¹⁰⁵ the benefit benchmark is whether it is provided on more preferential terms (e.g. lower interest rate or/and longer repayment period) than a comparable commercial loan which they could obtain on the financial market.¹⁰⁶ Therefore, provided their granting is limited (*de jure* or *de facto*) to ‘certain enterprises’ only,¹⁰⁷ such a government grant or preferential loan would qualify as a ‘specific’ subsidy that is fully subject to the SCM Agreement. Following this line of reasoning, the fiscal and financial incentives at issue in the on-going *US – Renewable Energy* dispute are likely to be covered by the SCM Agreement, and if contingent upon the use of domestic over imported inputs and technologies as claimed by India,¹⁰⁸ found to be prohibited under Article 3.1(b) of that agreement.

Secondly, even without such LCRs, government incentives to manufacturers of clean energy technologies are more likely to run afoul of WTO subsidy rules than non-discriminatory FIT schemes. The reason for this is that such subsidized RE technology products are, unlike FIT-supported green electricity, easily and extensively traded globally¹⁰⁹ and, thus, more prone to cause adverse effects to the import-competing or/and export-competing interests of another WTO member.¹¹⁰ Whereas a conclusive assessment can only be made based on a fact-intensive enquiry into the economic effects of the specific subsidy at issue, SCM-inconsistency scenarios are not so difficult to imagine. A serious prejudice claim is conceivable if lower-cost subsidized solar PV modules from country A ‘displace’ imports of solar PV modules from country B (Article 6.3(a) SCM Agreement), or result in ‘significant lost sales’ of country B’s solar PV modules in a third-country market or the world market (Article 6.3(c) SCM Agreement).¹¹¹ Similarly, it is possible that lower-cost subsidized solar PV modules from country A are instead exported to country B and cause ‘material injury’ to its domestic solar PV industry (Article 5(a) SCM Agreement).

105 Explicitly listed in Article 1.1(a)(1)(i) SCM Agreement.

106 *Ibid.*, Article 14(b). A similar benefit benchmark applies to a government loan guarantee under Article 14(c).

107 This is likely to be if access is limited to the renewable energy industry, for the reasons provided in the context of FIT programmes: see *supra* n 87 and accompanying text.

108 See above Table 1.

109 See Section IIA above.

110 See *supra* n 55–56. Note that, in US countervailing duty investigations, the purchase of renewable electricity by the Canadian BC Hydro and Power Authority from generators also producing other goods (in *casu*, softwood lumber) has been found to provide an actionable subsidy to the manufactured good, on grounds that electricity is required to operate the production facilities and hence the subsidy benefits all products produced by that company: USTR, ‘Countervailing Duty Investigation of Certain Softwood Lumber Products from Canada: Issues and Decision Memorandum for the Final Determination’ (C-122-858), dated 1 November 2017, comments 48–54. In such a specific case FIT-type programmes could be exposed to unilateral trade remedy action, but only indirectly and the CVDs are ultimately imposed on another product (not renewable energy). See further, WTO, *United States – Countervailing Measures on Softwood Lumber from Canada: Request for the Establishment of a Panel by Canada*, WT/DSS33/2, dated 16 March 2018, paras 7–9, where Canada challenges the attribution of such a subsidy to the softwood lumber products under investigation, as well as the existence and amount of a benefit under Article 14(d) SCM Agreement, thus raising similar issues as the *Canada – Renewable Energy/FIT Programme* (2013) dispute, *supra* n 61–63.

111 For the purpose of the argument, it is safe to assume that solar PV modules from countries A and B are ‘like’ (competitive) products.

Insofar as there is a ‘genuine and substantial relationship of cause and effect’¹¹² between country’s A subsidy to solar module manufacturers and one of these trade-distortive effects, such a subsidy would be SCM-inconsistent with no possibility of defence. In this sense, a tension between WTO law and climate change mitigation objectives appears evident: wouldn’t it make sense from an environmental (and indeed economic) perspective to simply allow country A to continue exporting its cheap solar PV panels to country B and rest of the world?¹¹³

Among these possible SCM-inconsistency scenarios, the case of subsidized imports of RE technologies causing *material injury* is particularly complex to tackle for the following reasons. First, as previously noted, WTO members can respond to the injurious effect of this specific subsidy by seeking its removal through the WTO dispute settlement system or, in the alternative, by unilaterally imposing offsetting CVDs. This means that material injury determinations will not always be made by a neutral decision-maker at the multilateral level (*in casu*, the WTO dispute settlement organs), but often by domestic authorities with an inherent tendency towards protecting local (industrial) interests, rather than promoting global environmental or economic welfare gains.¹¹⁴ Secondly, countervailing duty investigations against subsidized RE technology products have usually been conducted in parallel with anti-dumping proceedings.¹¹⁵ A pertinent example is the parallel AD/CVD investigations by the EU against (allegedly) subsidized imports of solar PV panels and their key components (i.e. solar cells and solar glass) from China,¹¹⁶ which constitutes one of the largest trade remedy actions thus far taken by the European Commission.¹¹⁷ These were initiated in September 2012 and November 2012 based on an application by EU ProSun (an association representing more than 20 European solar manufacturers) and resulted in the imposition of definitive anti-dumping duties (ranging from 27.3% to 64.9%)¹¹⁸ and countervailing duties (ranging from 3.5% to 11.5%)¹¹⁹ in December 2013, which have been extended following an expiry review in March 2017 for a period of 18 months.¹²⁰ Similarly, the United States has imposed record

112 On this causation requirement, see *supra* n 93; and Van den Bossche and Zdouc, *supra* n 42, at 829.

113 On this point, with particular reference to China, see K. Kulovesi, ‘International Trade Disputes on Renewable Energy: testing the Ground for Mutual Supportiveness between WTO Law and Climate Change Law’, 23(3) *Review of European Community and International Environmental Law* 324 (2014), at 351–2.

114 G. N. Horlick and P. A. Clarke, ‘Rethinking Subsidy Disciplines for the Future: Policy Options for Reform’, 20(3) *Journal of International Economic Law* 673 (2017), at 689.

115 This raises the issue of ‘double remedies’ as seen in: WTO Appellate Body, *United States: Definitive Anti-Dumping and Countervailing Duties on Certain Products from China*, WT/DS379/AB/R, adopted 11 March 2011. A discussion is beyond the scope of this article: see, *inter alia*, C. Barthelmy and D. Peat, ‘Trade Remedies in the Renewable Energy Sector: Normal Value and Double Remedies’, 16(3) *Journal of World Trade & Investment* 436 (2015).

116 Commission Implementing Regulation 2017/366 of 1 March 2017, OJ 2017 L56/1; Commission Implementing Regulation 2017/367 of 1 March 2017, OJ 2017 L56/131.

117 Kulovesi, *supra* n 113, at 349.

118 EU Regulation 2017/367, *supra* n 116, para 1.

119 EU Regulation 2017/366, *supra* n 116, paras 1–2. Note, however, that a Minimum Price Undertaking was accepted by the Commission, which reportedly covers roughly 75% of the solar panel imports from China being thus exempt from the definitive CVDs.

120 EU Regulation 2017/366, *supra* n 116, para 784; EU Regulation 2017/367, *supra* n 116, para 373.

high rates of anti-dumping and countervailing duties on (allegedly) subsidized Chinese imports of solar cells and wind towers.¹²¹

Whereas the SCM and Anti-Dumping Agreements lay down similar procedural rules on the conduct of investigations, they differ in relation to the substantive conditions to be established for the imposition of trade remedy measures.¹²² Nonetheless, both agreements have an important feature in common: even where all stipulated substantive and procedural requirements are met, whether or not ADs/CVDs are ultimately imposed remains voluntary and at the full discretion of the investigating WTO member.¹²³ This means that nothing in WTO law prevents such a member from balancing the injurious effects on its domestic industry of subsidized (or dumped) imports of RE technology products against their positive contribution towards the common global objective of fighting climate change. In this regard, EU trade remedy legislation is quite distinctive in that it subjects the application of ADs/CVDs to an additional criterion vis-à-vis WTO rules—namely, consideration of the ‘Union interest’, broadly defined as an ‘appraisal of all the various interests taken as a whole, including the interests of the domestic industry and users and consumers’.¹²⁴

Interestingly, this provision served as a basis for the European Commission to consider during the expiry review whether the continuation of the CVDs in force on imports of Chinese solar technology products was in the ‘Union interest’ including from a climate policy perspective.¹²⁵ In this respect, a significant number of parties, including EU upstream and downstream companies operating in the solar sector as well as five environmental non-governmental organizations, called for the termination of the CVDs on grounds (*inter alia*)¹²⁶ of their negative impact on the promotion of renewable energy and thus the achievement of the EU’s climate policy objectives. In particular, they pointed to changed circumstances since the CVDs were adopted in December 2013, and notably the adoption of the EU Climate and Energy Policy Framework setting a new target of increasing the share of renewable energy sources to at least 27% in EU final energy consumption by 2030,¹²⁷ as well as the ratification by

121 For a discussion, see Shadikhodjaev, *supra* n 5, at 488–9; Salzman and Wu, *supra* n 25, at 437–40; and E. Vermulst and M. Meng, ‘Dumping and Subsidy Issues in the Renewable Energy Sector’, in Cottier and Espa, *supra* n 14, at 340–42.

122 Under the Anti-Dumping Agreement, three basic requirements need to be met: (i) there are dumped imports (instead of *subsidized* imports); (ii) there is material injury (or threat thereof) to the domestic industry producing the like product; and (iii) there is a genuine and substantial causal link between the dumped imports and the injury.

123 Article 9.1 Anti-Dumping Agreement; Article 19.1 SCM Agreement.

124 Council and EP Regulation 2016/1037 of 8 June 2016, OJ 2016 L176/55, Article 31; Council and EP Regulation 2016/1036 of 8 June 2016, OJ 2016 L176/21, Article 21.

125 For a discussion of similar considerations in the anti-dumping context, see Kulovesi, *supra* n 113, at 351–52.

126 Other arguments advanced were that the measures have had negative consequences for an overwhelming majority of jobs in the European solar sector and the lack of sufficient module manufacturing capacity in the EU to cover internal demand: see Regulation 2017/366, *supra* n 116, para 636.

127 European Commission, ‘Communication on a Policy Framework for Climate and Energy in the period from 2020 to 2030’ (COM(2014) 15 final), 22 January 2014, at 6. This follows Council and EP Directive 2009/28/EC of 23 April 2009, OJ 2009 L140/16, Articles 3(1) and (4) establishing the target of increasing the share of renewable energy to at least 20% in EU final energy consumption and to at least 10% of energy used in the transport sector in each Member State by 2020.

the EU of the UNFCCC Paris Agreement in October 2016.¹²⁸ They further submitted that the CVDs at issue ‘make the achievement of these climate targets more difficult by slowing down the deployment of solar energy’, and argued that ‘restoring market global prices for solar will allow the Union to decarbonize faster its power generation’.¹²⁹ From this angle, they criticized the inconsistency between the EU’s climate and trade policies: ‘[w]hile the former is promoting and subsidizing the renewables, the latter is increasing their price and affecting availability’.¹³⁰ The European Commission, however, considered that the CVDs on Chinese solar imports have ‘only a limited impact on the achievement of the short term Union climate objectives’, mainly because ‘the Union’s demand for solar installations in the two to three years to come will only be affected to a limited extent by [these] measures.’¹³¹ This position may certainly be challenged, and indeed was by a number of parties during the expiry review,¹³² but most importantly for our purposes, it raises a broader question: is it reasonable to leave a balancing between the negative (trade-distortive) and positive (climate change mitigation) effects of green energy subsidies to the discretion of domestic authorities, as current WTO trade remedy rules do?

To sum up, our analysis in this section shows that different forms of clean energy subsidies are exposed to varying degrees of legal risk under the SCM Agreement, as reflected in Table 2 below. On one side of the spectrum, the probability of SCM-inconsistency is very high for any RE support measure that is linked to local content requirements. However, for the reasons previously stated,¹³³ this should not be mislabelled as a direct conflict between WTO law and international climate change mitigation objectives. On the other hand, non-discriminatory FIT programmes are generally on a safer footing, not only because of the flexibility created by the Appellate Body’s interpretative approach to the benefit analysis in *Canada – Renewable Energy/FIT Program (2013)*, but critically because the probability that such FITs can cause trade distortions (and hence, be SCM-inconsistent) is inherently limited (though not impossible) by the geographical and infrastructural constraints on cross-border electricity trade. For the opposite reason, public incentives to manufacturers of RE technologies face a comparatively higher risk of SCM-inconsistency, with the added complexity that these are being mainly counteracted via unilateral countervailing duty (and anti-dumping) proceedings.

IV. RECALIBRATING THE CASE FOR REFORM—TESTING REFORM PROPOSALS AGAINST LEGAL RISKS

A. Applying Article XX GATT—a popular suggestion, yet ineffective

In the aftermath of the *Canada – Renewable Energy/FIT Program (2013)* dispute, the possibility of extending the application of Article XX GATT to justify violations of

128 EU Regulation 2017/366, supra n 116, para 725.

129 Ibid, para 726.

130 Ibid.

131 Ibid, paras 727, 729, 731; and section 6.3 for the Commission’s full analysis and finding that the CVDs have only had a limited impact on solar demand in the EU thus far.

132 Ibid, paras 720–724.

133 See Section II.A above.

Table 2. Legal risks of renewable energy subsidies under the SCM agreement

Type of measure	SCM-coverage			SCM-inconsistency		Overall risk	Challenge track
	Financial contribution	Benefit	Specificity	Prohibited	Actionable (Adverse Effects)		
FIT with LCRs	Certain	Uncertain	Certain	Certain	-	High (very high under GATT/TRIMS)	Multilateral proceedings only
FIT without LCRs	Certain	Uncertain	Almost Certain	-	Unlikely (limited cross-border trade in electricity)	Low (for most WTO members)	Multilateral proceedings only
Fiscal/financial incentives to RE technologies (with LCRs)	Certain	Almost Certain	Almost Certain	Certain	-	Very high	Both available, but mainly unilateral proceedings in practice
Fiscal/financial incentives to RE technologies (without LCRs)	Certain	Almost Certain	Almost Certain	-	Very likely (extensive cross-border trade)	High	Both available, but mainly unilateral proceedings in practice

the SCM Agreement has been often voiced in the literature as a means to address the perceived tension between the international trade and climate change regimes.¹³⁴ At first sight, this suggestion appears attractive since it would overcome the lack of an exception clause in the SCM Agreement¹³⁵ through flexible interpretation by the Appellate Body, without need for law reform requiring consensus among the WTO membership. Various legal arguments have been made in favour and against such a GATT Article XX-applicability, and it is not our intention to contribute to this academic debate.¹³⁶ Rather, we would like to address what is arguably a more fundamental point that has been largely overlooked in the scholarship: assuming *arguendo* GATT Article XX-defence was made applicable to the SCM Agreement, would it actually work in securing policy space for trade-distortive RE subsidies? In answering this question, it is again important to distinguish among different types of such subsidies.

Starting with Article XX(g) GATT as the environmental exception, renewable energy subsidies should meet without much difficulty the first element of the test under this provision,¹³⁷ as they are ‘reasonably related’ to reducing GHG emissions and thereby preventing dangerous anthropogenic interference with the climate system.¹³⁸ Conversely, a first obvious limitation is the additional requirement that any measure justified under Article XX(g) GATT be ‘made effective in conjunction with *restrictions* on domestic production and consumption’,¹³⁹ which is unlikely to be satisfied by FIT programmes or other public measures promoting renewable energy. In the alternative, recourse could be made to Article XX(b) GATT, which provides justification for measures ‘*necessary*’ to protect human, animal or plant life or health’.¹⁴⁰ In this regard, the Appellate Body has already indicated that ‘measures adopted in order to attenuate global warming and climate change’ may in principle fall under Article XX(b) GATT.¹⁴¹ Thus, the key question is whether renewable energy subsidies would be deemed ‘*necessary*’ towards climate change mitigation, and in particular whether there are any less trade-restrictive alternative measure(s) reasonably available that would make an equivalent contribution to this policy goal.¹⁴² Although

134 See e.g. see P. D. Farah and E. Cima, ‘WTO Law and Renewable Energy: Lessons from the Case Law’, 49(6) *Journal of World Trade* 1103 (2015), at 1113–16; Howse, *supra* n 83, at 2; Shadikhodjaev, *supra* n 5, at 499–505; and more recently, B. J. Condon, ‘Disciplining Clean Energy Subsidies to Speed the Transition to a Low-Carbon Economy’ 51(4) *Journal of World Trade* 675 (2017), at 685–90. Even before the *Canada – Renewable Energy/FIT Programme* (2013) dispute, see Rubini, *supra* n 5, at 561–6.

135 Following the expired category of non-actionable subsidies under Article 8 SCM Agreement, discussed in the next Section IV.B.

136 See *supra* n 134.

137 That is, ‘related to the conservation of exhaustible natural resources’, which has been interpreted as requiring a ‘close and genuine relationship’ between ends and means: WTO Appellate Body Report, *United States — Import Prohibition of Certain Shrimp and Shrimp Products*, WT/DSS8/AB/R, adopted 6 November 1998, para 141; WTO Appellate Body Report, *China — Measures Related to the Exportation of Various Raw Materials*, WT/DS394/395/398, dated 22 February 2012, para 355.

138 UNFCCC, *supra* n 1, Article 1.

139 Article XX(g) GATT (emphasis added).

140 Article XX(b) GATT (emphasis added).

141 WTO Appellate Body Report, *Brazil — Measures Affecting Imports of Retreaded Tyres – Report of the Appellate Body [Brazil – Retreaded Tyres (2007)]*, WT/DS332/AB/R, adopted 17 December 2007. See also, UNFCCC, *supra* n 1, Preamble, second recital.

142 Appellate Body Report, *Brazil – Retreaded Tyres (2007)*, *supra* n 141, para 156 on this necessity test.

these questions can only be answered on a case-by-case evidence basis, FIT programmes would appear more likely to meet this necessity test since, as seen above, these are widely recognized as the most effective policy instrument for promoting green electricity while can only have limited trade-restrictive effects in the current state of cross-border electricity trade.¹⁴³ Even so, as Howse aptly points out, '[a] Member that continues to subsidize dirty (fossil-fuel) energy might well have a difficult time justifying its measure [*in casu*, FIT] as necessary under Article XX, as there is the less trade-restrictive alternative of changing the relative pricing of clean and dirty energy through the removal of subsidies to dirty energy.'¹⁴⁴

An additional difficulty with Article XX(b) GATT is that the necessity test, as currently interpreted, is focused on the *trade-restrictive* impact of the measure at issue, whereas the *trade-distortive* effects of a subsidy are not limited to impeding imports into the market of the subsidizing WTO member (as per Article 6.3(a) SCM Agreement). That could well be the most plausible adverse effects of FIT programmes but, as we have seen, other RE subsidies (e.g. a grant or preferential loan to manufacturers of solar panels) could conceivably cause adverse effects through increased exports of the subsidized product—e.g. in the form of material injury to the import-competing interests of another WTO member (Article 5(a) SCM Agreement) or serious prejudice to the export-competing interests of another WTO member in a third-country or world market (Article 6.3(c) SCM Agreement).¹⁴⁵ Put simply, trade diversion refers to a policy measure that alters the amount and direction of trade flows down or up, and is thus a broader notion than trade restrictiveness under Article XX GATT. Furthermore, if LCRs are attached to any type of renewable energy subsidy, a clash with the chapeau requirements of Article XX GATT is almost certain, given the absence of a 'rational connection' between this discriminatory element and climate change mitigation objectives.¹⁴⁶ However, and precisely for this reason, such a tension should not be mislabelled as a direct conflict between international trade and climate change regimes.¹⁴⁷

In sum, while applying Article XX GATT may seem as an easy route at first sight, it becomes apparent upon closer analysis that it will not go a long way in safeguarding policy space for trade-distortive RE subsidies. At best, it could work for *non-discriminatory* FIT programmes but, as seen in Table 2 above, these are generally on a safer footing under the SCM Agreement and hence not so much in need of a legal shelter. But even if the aforementioned shortcomings of Article XX GATT could be adjusted through the introduction of a specific exception clause into the SCM Agreement, this would only be made available for justifying clean energy subsidies that are directly challenged in the WTO dispute settlement system. And yet, as

143 See Section II.A above.

144 Howse, *supra* n 83, at 2.

145 See Section III.B above.

146 On this interpretation of 'unjustifiable discrimination' under Article XX-chapeau, see: Appellate Body Report, *Brazil – Retreaded Tyres (2007)*, *supra* n 141, para 227; WTO Appellate Body Report, *European Communities – Measures Prohibiting the Importation and Marketing of Seal*, WT/DS400/DS401/AB/R, adopted 18 June 2014, para 5.320; and G. Marín Durán, 'Measures with Multiple Competing Objectives after EC – Seal Products: Avoiding a Conflict between GATT Article XX-Chapeau and Article 2.1 TBT Agreement', 19(2) *Journal of International Economic Law* 467 (2016), at 474–82.

147 On this point, see Section II.A above.

explained above, practice thus far reveals that the main threat to governments supporting green electricity is not coming from disputes being brought to the WTO, but rather the proliferating unilateral trade remedy actions against imports of subsidized RE technology products.¹⁴⁸

It could be argued, nonetheless, that the unilateral imposition of CVDs is less constraining on green policy space than multilateral remedies, insofar as the former does not result in the removal of RE subsidies.¹⁴⁹ In other words, under the unilateral track a WTO member is still allowed to subsidize RE technologies, just not exports of such products to the WTO members that decide to impose CVDs (or/and anti-dumping duties). However, this proposition overlooks the fact that a widespread application of (often, excessively high) trade remedy duties increases the prices of RE technologies, slows down the deployment of clean energy and prevents it from becoming a viable competitor with conventional energy from (heavily subsidized) fossil fuels—a situation that can hardly be seen as optimal in the face of the imperative to mitigate climate change globally.¹⁵⁰ Accordingly, from a trade/climate change mutual supportiveness standpoint, the only real solution is one that addresses both multilateral and unilateral challenges to RE subsidies. With this in mind, the next section turns to evaluate the other main reform proposal thus far advanced in the scholarship: namely, the revival (and renegotiation) of the now expired category of non-actionable (i.e. immune from multilateral *and* unilateral remedies)¹⁵¹ subsidies under Article 8 SCM Agreement.

B. An Article 8 SCM-type exemption—a more effective option, but feasible?

As just mentioned, another proposal often aired in the literature is the introduction of a specific exemption for certain ‘good’ RE subsidies (i.e. whose trade-distortive effects can be presumed to be limited and outweighed by their benefits in contributing to climate change mitigation), along the lines of the now expired category of non-actionable (and thus non-countervailable) subsidies under Article 8 SCM. This provision positively defined a legal shelter for three categories of so-called ‘green light’ subsidies: (i) research and development (R&D) subsidies; (ii) regional development subsidies; and (iii) environmental subsidies. The latter category, in particular, provided a safe harbour to those public support programmes aimed at promoting firms’ adaptation to new environmental regulations, provided the assistance met the following strict conditions: (i) is a one-time non-recurring measure; (ii) is limited to 20% of the cost of adaptation; (iii) does not cover the cost of replacing and operating the assisted investment, which must be fully borne by firms; (iv) is directly linked

148 See Section II.B above.

149 Conversely, see Articles 4.7 and 7.8 SCM Agreement for multilateral remedies.

150 For a similar view, G. N. Horlick, ‘Trade Remedies and Development of Renewable Energy’ (December 2013), <http://e15initiative.org/wp-content/uploads/2015/09/E15-Clean-Energy-Technologies-Horlick-FINAL.pdf> (visited 24 June 2018), at 2–4; K. Kampel, ‘Options for Disciplines the Use of Trade Remedies in Clean Energy Technologies’ (May 2017), https://www.ictsd.org/sites/default/files/research/options_for_disciplining_trade_remedies_in_cets.pdf (visited 24 June 2018), at 12–17, estimating that AD/CVD actions against RE technologies resulted in a global trade loss of approximately \$68 billion over the period 2008–12 and Salzman and Wu, *supra* n 25, at 466–8. For a more nuanced position, see UNEP (2014), *supra* n 28, at 106.

151 Article 8.2 SCM Agreement.

to and proportionate to a firm's planned reduction of nuisances and pollution, and does not cover any manufacturing cost savings which may be achieved; and (v) is available to all firms which can adopt the new equipment and/or production processes.¹⁵²

A number of scholars have analysed the merits of this defunct Article 8.2 (c) SCM Agreement as a starting point for discussing the pros and cons of re-introducing an exemption that could shield RE subsidies from both multilateral and unilateral challenges.¹⁵³ Broadly speaking, there seem to be consensus as to the limited usefulness of reinstating Article 8.2(c) SCM Agreement, negotiated during the Uruguay Round,¹⁵⁴ for a number of reasons. First, the narrowly defined eligibility criteria would only cover but a negligible portion of State practice in the renewable energy sector,¹⁵⁵ at best.¹⁵⁶ Secondly, the non-specificity requirement inherent to the definition of the fifth condition under Article 8.2(c) SCM Agreement would de facto eviscerate the rationale for designing a category of non-actionable environmental subsidies as such.¹⁵⁷ Thirdly, the burdensomeness of the notification requirements attached to the granting of the exemptions under Article 8 would act as a disincentive to WTO members from making recourse to such an exception.¹⁵⁸ Against this background, some scholars have suggested to either 'revive and enhance the scope for exemptions' under Article 8.2 (c) SCM Agreement,¹⁵⁹ or to negotiate 'an interim but extendable renewables-specific' exception from scratch.¹⁶⁰ Others have envisaged that RE subsidies are but one of the categories subject to green light within the context of a wider discourse on the re-establishment of permissible subsidies under the SCM Agreement.¹⁶¹

On a general level, such proposals purport to fix once and for all the lack of policy space allegedly resulting from the absence of an explicit exemption for 'good' RE subsidies under the SCM Agreement, on the one hand, and the lack of legal clarity and predictability potentially arising out of ad hoc judicial solutions provided through WTO litigation as emerged from *Canada – Renewable Energy/FIT Program (2013)*, on the other hand.¹⁶² While this proposition seems reasonable as a matter of principle, the big practical challenge is to get WTO members to agree on an SCM exemption clause that at once shields 'good' RE subsidies and yet is not to be abused.

152 Ibid, Article 8.2 (c).

153 See in particular S.Z. Bigdeli, 'Resurrecting the Dead? The Expired Actionable Subsidies and the Lingering Question of "Green Space"', 8(2) *Manchester Journal of International Economic Law* 2 (2011); Cosbey and Mavroidis, above n 5, at 37–43; Shadikhodjaev, supra n 5, at 494–7.

154 For a detailed analysis of the negotiating history and of the reasons why WTO Members failed to renew it, see Bigdeli, supra n 153, at 4–9; see also Cosbey and Mavroidis, supra n 5, at 38–42.

155 Bigdeli, supra n 153, at 17.

156 Shadikhodjaev, supra n 5, at 495.

157 Bigdeli, supra n 153, at 19.

158 See US Department of Commerce, 'Review and Operation of the WTO Subsidies Agreement – Report to the Congress' (June 1999), <http://enforcement.trade.gov/esel/reports/scm0699/scm-0699.htm> (visited 28 June 2018).

159 Bigdeli, supra n 153, at 20.

160 Shadikhodjaev, supra n 5, at 495 on a renewables-specific 'due restraint' clause.

161 See, e.g. Horlick and Clarke, supra n 114, at 679–80.

162 Warning against 'forcing' existing SCM disciplines through climate-friendly interpretations, see notably Rubini, supra n 65.

This requires consensus among over 160 WTO members not only on sufficiently detailed substantive criteria that determine which RE subsidies can be presumed to be more climate-friendly than trade-distortive and hence carved-out from SCM disciplines,¹⁶³ but also on appropriate notification and monitoring procedures.¹⁶⁴ The negotiating history of Article 8.2 (c) SCM Agreement already shows how difficult this may be when seeking agreement among (a now much higher number of) WTO members, having diverse and at times conflicting interests.¹⁶⁵ Furthermore, it also reveals that any exception needs to sufficiently calibrate the quest for legal clarity with the reasonableness of eligibility criteria in light of existing ‘good’ State practice. In other words, it is very unlikely that WTO members would be willing to sit and negotiate overly tough requirements if at the end such level of detail would eviscerate the very purpose of having an environmental exemption itself, namely the possibility for a Member to make confident recourse to it.¹⁶⁶

Scholars seem well-aware of the difficulties inherent to drafting a new exemption for ‘good’ RE subsidies from the SCM Agreement inasmuch as their proposals remain, indeed, quite general, often taking the form of guiding principles. When looking at the most sophisticated among them, the only fundamental point that seemingly appears undisputed is the need to distinguish between RE subsidies aimed at promoting the use of clean energy, potentially falling within the purview of the new exemption, from RE subsidies targeting domestic RE manufacturing (that is, discriminatory RE support programmes), always excluded from scope of this exemption in accordance with Article 3 SCM Agreement.¹⁶⁷ Other than that, debate is still open as to what (general and category-specific) conditions should be laid down for the purposes of positively defining non-actionable RE subsidies.¹⁶⁸ Some scholars suggest that the exemption be drafted in a way as to confine its applicability to

163 By way of illustration of the degree of detail and difficulties involved in drafting such types of exemptions or exceptions for RE subsidies, one could look at the EU’s regulatory experience: see in particular: (i) the 2014 General Block Exemption Regulation (Commission Regulation 651/2014 of 17 June 2014, OJ 2014 L187/1), which automatically authorizes RE aid within specified thresholds and under certain conditions without prior notification and individual scrutiny by the Commission; and (ii) 2014–20 Guidelines on State Aid for Environmental Protection and Energy (OJ 2014 C 200/1), which set out the principles and criteria against which the Commission assesses the compatibility of notified RE aid and authorizes it on a case-by-case basis. For a discussion, see R. Callaerts, ‘State Aid for the Production of Electricity from Renewable Energy Sources’, 24(1) *European Energy and Environmental Law Review* (2015) 17, at 21–24; and G. Marín Durán, ‘Sheltering Government Support to ‘Green’ Electricity: The European Union and the World Trade Organization’, 67(1) *International and Comparative Law Quarterly* (2018) 129.

164 Under the expired Article 8 SCM Agreement, non-actionable subsidies were subject to pre-notification (Article 8.3), review first by the Secretariat and then by the SCM Committee with possibility of arbitration if disagreement therein (Articles 8.4 and 8.5), as well consultations and authorized remedies in case of ‘serious adverse effects’ to the domestic industry of another WTO member (Article 9). However, during its formal application from 1994–99, not one single notification was made under Article 8.3, nor were the other provisions ever invoked: Bigdeli, *supra* n 153, at 8 and 11.

165 *Ibid.*, at 4–9.

166 Shadikhodjaev, *supra* n 5, at 494.

167 *Ibid.*, at 495; Horlick and Clarke, *supra* n 114, at 680.

168 In this regard, it has been suggested that the EU’s regulatory experience could be a source of inspiration for the WTO in terms of rule-design and procedural mechanisms: see notably, see L. Rubini, *supra* n 5, at 577, and L. Rubini, ‘Rethinking International Subsidies Disciplines: Rationale and Possible Avenues for Reform’ (November 2015), <http://e15initiative.org/publications/rethinking-international-subsidies>

minimally distortive RE subsidies via limiting the coverage to a specified list of renewable energy goods and differentiating the treatment of countries with various levels of clean technology development.¹⁶⁹ Yet, such proposals have not garnered wider consensus. Equally, scholars still disagree as to how to treat unavoidable ‘boundary’ cases and even as to whether any exemption may even be drafted in a way as to avoid such situations.¹⁷⁰ Some authors have suggested that in such cases a mix of hard and soft law approaches, including more stringent transparency and notification requirements, but again consensus is far from being established on the matter.¹⁷¹ The same holds true for the type and reach of procedural abuse-prevention safeguards to be associated with green-light subsidies more generally.¹⁷²

In conclusion, re-introducing a category of non-actionable subsidies that would focus or include RE subsidies would undoubtedly have the merit of granting them legal protection from both multilateral and unilateral challenges, and hence be the most effective solution from a trade/climate change mutual supportiveness perspective. Yet, the key challenge lays in the political and practical difficulties involved. Chances that WTO members may agree on a sufficiently clear and narrowly defined exemption clause for RE subsidies, while at the same time committing not to act, either multilaterally or unilaterally, against potentially boundary cases are very low. More generally, the possibility that WTO members agree on amending the SCM Agreement, be it for the sole purpose of re-introducing a (more or less extensive) category of permissible RE subsidies or within the framework of a much wider reform effort, are also ostensibly slim at least at the present juncture. This is notably corroborated by the tepid progress made at the latest WTO Ministerial Conference on fisheries subsidies, even though this item (unlike renewable energy subsidies) has been explicitly part of the Doha negotiating mandate since 2001.¹⁷³

V. CONCLUSIONS

Over the past five years, the WTO *Canada – Renewable Energy/FIT Program (2013)* dispute has been in the spotlight of academic discussions over the mutual supportiveness between international trade and climate change regimes, with a growing consensus that the SCM Agreement is in need of reform with a view to safeguarding policy space for climate-friendly RE subsidies. In this article, we have challenged this conventional wisdom in two important respects. Firstly, part of such a wisdom has revolved around a somehow false dilemma inasmuch as what was found WTO-illegal in *Canada – Renewable Energy/FIT Program (2013)*—and indeed, in subsequent

disciplines-rationale-and-possible-avenues-for-reform, at 4–5. For a different view, see Marín Durán, *supra* n 163.

169 Shadikhodjaev, *supra* n 5, at 495–6.

170 In this sense, see also Horlick and Clarke, *supra* n 114, at 680.

171 *Ibid.*, at 680, suggesting that ‘boundary cases’ may be handled through ‘discussions in relevant WTO committees on the role originally envisioned for the Permanent Group of Experts (PGE) in the ASCM – i.e. reviewing mandatory pre-notified “permissible” subsidies under Article 8 as originally drafted’.

172 Bigdeli, *supra* n 153, at 15–17.

173 WTO Ministerial Conference (Fourth Session), ‘Doha Ministerial Declaration’ (WT/MIN(01)/DEC/1), adopted on 14 November 2001, para 28; and WTO Ministerial Conference (Eleventh Session), ‘Fisheries Subsidies – Ministerial Decision of 13 December 2017’ (WT/MIN(17)/64), dated 18 December 2017.

WTO disputes involving RE subsidies—were the LCRs, whose environmental value-added is at best disputed and whose WTO-illegality does not raise primary concerns from a climate change mitigation viewpoint. Rather, from a mutual supportiveness perspective, the key concern is whether *non-discriminatory* FIT programmes and other RE support measures are actually at risk under current WTO subsidy rules.

Secondly, and following on from the previous point, any case for reform needs to be carefully evaluated in light of State practice beyond one particular WTO dispute, as well as informed by a proper understanding of the varying degrees of legal risk that each RE subsidy faces when scrutinized under existing SCM disciplines. In this regard, our analysis has demonstrated that the case for reform is not very strong for non-discriminatory FIT programmes promoting green electricity generation—notably, the single most widespread and praised RE subsidy—since these are generally on a safer footing under existing SCM rules. This is not only because of the flexibility built-in by the Appellate Body's interpretative approach to the benefit analysis in *Canada – Renewable Energy/FIT Program (2013)*, but crucially because the probability that non-discriminatory FIT schemes can cause trade distortions (and hence, be SCM-inconsistent) is inherently limited (though not impossible) by actual geographical and infrastructural constraints on cross-border electricity trade. For the opposite reason, public incentives to manufacturers of globally traded RE technology products conceivably face a higher risk of incompatibility with the SCM Agreement.

However, such a situation is particularly difficult to tackle because, among others, what is constraining policy space are not disputes brought to the WTO, but rather the proliferating unilateral trade remedy actions against imports of subsidized RE technology products. In fact, this is further corroborated by the recent United States' decision to apply safeguard tariffs on imported solar cells and modules as of 7 February 2018,¹⁷⁴ which has unsurprisingly sparked controversy in the WTO.¹⁷⁵ Unlike anti-dumping and countervailing duties, safeguards are not considered a 'trade remedy' measure against 'unfair' trade practices under WTO law,¹⁷⁶ but an 'economic emergency' action that is subject to a different set of substantive and

174 The safeguard tariffs are 30% in the first year, 25% in the second year, 20% in the third year and 15% in the fourth year. However, the first 2.5 gigawatts of imported solar cells will be exempted from these additional tariffs in each of the four years. Further, developing countries accounting for less than 3% of total exports are excluded from the safeguard measures: USTR, 'Fact Sheet – Section 201 Cases: Imported Large Residential Washing Machines and Imported Solar Cells and Modules' (January 2018), <https://ustr.gov/about-us/policy-offices/press-office/press-releases/2018/january/president-trump-approves-relief-us> (visited 28 June 2018).

175 Eight WTO members (including China, Korea and the EU) have raised concerns within the WTO Committee on Safeguards: WTO, 'US, EU Safeguard Actions under Discussion at WTO Committee Meeting' (23 April 2018), https://www.wto.org/english/news_e/news18_e/safe_23apr18_e.htm (visited 28 June 2018). See also WTO, *United States Safeguard Measure on Imports of Crystalline Silicon Photovoltaic Products*, Request for Consultations by Korea, WT/DS545/1, dated 16 May 2018.

176 In principle, safeguards are applied to 'fair' trade: WTO Appellate Body Report, *United States – Definitive Safeguard Measures on Imports of Circular Welded Carbon Quality Line Pipe from Korea*, WT/DS202/AB/R, adopted 8 March 2002, para 83. However, in this specific case, the US safeguard tariffs are being applied in addition to the ADs and CVDs on (allegedly) dumped/subsidized Chinese solar imports in place since 2012. According to USTR, these trade remedy measures failed to provide relief to the US solar industry, with 25 companies closing since 2012 and only one US producer of solar cells and modules remaining in 2017: USTR (2018), *supra* n 174, at 3.

procedural requirements.¹⁷⁷ Whereas a detailed examination is beyond the SCM focus of this article, such a move by the United States lends support to the key point made here that attempts at sheltering RE subsidies under WTO law cannot be limited to multilateral challenges but need to address as much—if not more—unilateral challenges.

Against this backdrop, we have argued that the often advocated applicability of Article XX GATT to the SCM Agreement would offer only a very marginal improvement from a mutual supportiveness standpoint. That is, it could shelter non-discriminatory FIT programmes in the rather improbable scenario any such a measure is challenged and found SCM-inconsistent by the WTO dispute settlement bodies. However, it would afford no protection to government measures supporting RE technologies that are being increasingly counteracted by unilateral trade remedy actions. This being so, the only meaningful solution would be to introduce a new sector-specific exemption that would shield certain ‘good’ RE subsidies from SCM-based challenges on both multilateral and unilateral fronts. However, the obvious difficulty here is to gather consensus among over 160 WTO members on which are those ‘good’ RE subsidies that warrant full protection (i.e. non-actionability) from the SCM Agreement, bearing in mind that a bright-line test is necessary for abuse-prevention purposes and yet would inevitably leave boundary cases behind.

Nonetheless, as a first modest step in this direction, the existing WTO transparency and institutional cooperation mechanisms could be used more effectively to collect better information on WTO members’ practice in relation to renewable energy subsidies, as well as on their environmental effectiveness and possible trade-distortive impact—something which is presently lacking, other than for non-discriminatory FIT programmes, even outside the WTO. Regrettably in this respect, the overall compliance record with the notification requirements of the SCM Agreement remains, in the words of the SCM Committee Chair, ‘discouragingly low’¹⁷⁸ and RE subsidies do not appear to have received focused attention in the

177 Article XIX GATT and Agreement on Safeguards in WTO Secretariat, *supra* n 4, at 311. On the one hand, unlike anti-dumping and countervailing duties, the application of safeguards measures does not require a finding of ‘unfair’ trade practices (i.e. that subsidized or dumped imports exist), but only that there are increased imports causing (or threatening to cause) ‘serious injury’ to the domestic import-competing industry (Article 2.1). On the other hand, unlike CVDs, safeguard measures cannot generally be applied on a selective basis (Article 2.2) and appropriate compensation must generally be paid by the WTO member imposing them to the WTO members whose trade is affected (Articles 8.1 and 12.3). If no agreement on compensation is reached, the affected exporting WTO members can suspend ‘substantially equivalent concessions’ to the trade of the WTO member applying the safeguard measure, although this right of suspension is subject to important limitations during the first three years that a safeguard measure is applied (Articles 8.2 and 8.3). For a more detailed examination, see Van den Bossche and Zdouc, *supra* n 42, 634–58.

178 WTO News Item, ‘Chair cites “discouragingly low” compliance with WTO subsidy notification requirements’ (25 October 2016), https://www.wto.org/english/news_e/news16_e/scm_28oct16_e.htm (visited 28 June 2018). As a result, the ASCM transparency and monitoring procedure have failed to produce the necessary breadth and depth of information on WTO members’ subsidy practice. Notably, to take the most recent data, in year 2017, 38 members notified subsidy measures in place and 29 notified that they not maintain any notifiable specific subsidies, meaning that the vast majority of the WTO membership did not observe the notification requirement under the SCM Agreement (Article 25): see WTO Committee on Subsidies and Countervailing Measures, ‘Report 2017’ (G/L/1195), dated 3 November 2017, at 2.

WTO, whether internally (e.g. within the Trade Policy Review Mechanism and the SCM and Trade and Environment Committees) or as part of institutional dialogues with other competent international bodies. And yet, without such a common knowledge on which green policy space is actually at stake, it seems quite unlikely that abstract discussions on reforming the SCM Agreement—even in the name of trade/climate change mutual supportiveness—will garner traction among the WTO membership, at least at the present juncture.