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THE WTO LAW ON SUBSIDIES AND CLIMATE CHANGE:
OVERCOMING THE DISSONANCE?

AVIDAN KENT*

The worrisome rise in the number of trade disputes relating to climate change policies leaves no doubt as to the relevance of WTO law to climate change policies. Perhaps the most contentious aspect of the relationship between trade law and climate change policies is the issue of subsidies — while many climate change policies rely heavily on the use of subsidies, WTO law considers subsidies a distortive force and aspires to limit the use of such measures. This article evaluates the compatibility of several climate change programs in light of the WTO law on subsidies. It argues that the current legal framework is unsuitable for the promotion of climate change abatement objectives. This is because relevant considerations such as the urgency of the climate change problem, the many market failures embedded in climate-friendly goods and services, and the political reality currently abundant in many states, are entirely disregarded by the WTO law on subsidies. The recent Canada FIT Panel and Appellate Body Reports seem to accept this critique, and consequently present a modified approach to the interaction between the WTO law on subsidies and the climate change challenge. Another promising route of action can be found in the model reflected in an agreement recently concluded between the EU and China, in which, prima facie, the parties decided to include non-commercial considerations as relevant for their own trading relations. These two recent developments may signify a change in the approach towards the interaction between trade law and climate change, as well as a realisation that the current legal framework should be re-evaluated.

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I. INTRODUCTION*A. Climate change under the WTO: The boiling point has been reached*

The interaction between trade law and climate change policies has never been so contentious. Attempts made by States to address climate change are met with challenges concerning the compatibility of these policies with WTO law. Such claims have been raised in the past concerning policies such as the newly introduced Australian carbon tax and Emission Trading System (“ETS”), the EU’s enhancement of its own ETS (especially its application to the aviation sector, and possibly also to the shipping sector); the United States’ (“US”) support policies for biofuels; the European Union’s (“EU”) policies on bio-fuels (mainly concerning sustainability criteria); China’s subsidisation of the production of equipment related to renewable energy (“RE”); the EU’s intention to label Canadian oil as highly

polluting, and feed-in tariffs (“FIT”) programs adopted by Canada (the Province of Ontario), India, as well as several US and European states.¹

In the last few years the boiling point has been reached as some of these claims have evolved into open trade disputes, or are at the verge of becoming so. For example, the US has recently decided to impose countervailing duties (“CVDs”) on the importation of Chinese-made solar panels, claiming that these were unlawfully subsidised.² Similarly, the EU has claimed that the US’ own subsidies on biodiesel are contrary to WTO law, and unilaterally retaliated with the imposition of CVDs on the importation of US biodiesel for a period of five years.³ In 2011, the American Soybean Association “expressed its concerns” regarding the EU’s Renewable Energy Directive, as soybean biodiesel does not fulfil the sustainability conditions set by the Directive, and therefore does not qualify for EU fuel-tax reductions or exemptions. This incident may possibly mature into yet another trade dispute.⁴ Recently, the EU decided to impose anti-dumping and anti-subsidy duties on Chinese-made solar panels, claiming that these were sold far below their market

¹ See for example, Joshua Meltzer, *Climate Change and Trade – The EU Aviation Directive and the WTO* 15(1) J. INT’L ECON. L. 111 (2012); GARY CLYDE HUFBAUER, STEVE CHARNOVITZ & JISUN KIM, *GLOBAL WARMING AND THE WORLD TRADING SYSTEM* 89 (2009) [hereinafter HUFBAUER, CHARNOVITZ & KIM]; Commission Regulation No. 194/2009, 2009 O.J. (L 67) 50, available at <http://eurlex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:067:0050:0084:EN:PDF> [hereinafter Commission Regulation No. 194/2009]; Consultations, *European Union and Certain Member States – Certain Measures on the Importation and Marketing of Biodiesel and Measures Supporting the Biodiesel Industry*, DS459, (May 15, 2013), [hereinafter *EU Biofuels*]; Damian Carrington, *Canada threatens trade war with EU over tar sands*, THE GUARDIAN, Feb. 20, 2013, <http://www.theguardian.com/environment/2012/feb/20/canada-eu-tar-sands>; Tom Miles, *India question U.S. green energy incentives at WTO*, REUTERS, Apr. 17, 2013, available at <http://uk.reuters.com/article/2013/04/17/us-india-usa-trade-idUKBRE93G11U20130417>; Concerning disputes between the US and China, see *infra* Part II(D)(2); Concerning the dispute between Canada and the EU & Japan, see *infra* Part II(D)(1).

² *Fact sheet: Commerce Preliminary Finds Countervailable Subsidization of Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules from the People’s Republic of China*, INT’L. TRADE ADMIN., U.S. DEP’T. OF COM. (Mar. 20, 2012), <http://ia.ita.doc.gov/download/factsheets/factsheet-prc-solar-cells-adcvd-prelim-20120320.pdf>; *Washington Announces Final Duties on Chinese Solar Cells*, INT’L. CTR. FOR TRADE & SUSTAINABLE DEV. (Oct. 15, 2012), <http://ictsd.org/i/news/biores/147229/>.

³ Commission Regulation No. 194/2009, *supra* note 1.

⁴ *ASA Expresses Concerns about EU Renewable Energy Directive to ESDA and USTR*, AM. SOYBEAN ASS’N (Mar. 9, 2011), <http://soygrowers.com/asa-expresses-concerns-about-eu-renewable-energy-directive-to-usda-and-ustr/> [hereinafter AM. SOYBEAN ASS’N].

value.⁵ However, this dispute has been resolved amicably for the time being.⁶

Four of these disputes, namely the US-China dispute concerning the subsidisation of RE equipment (complaints have been made by both parties on this matter); the China-EU disputes concerning measures adopted by several EU Member States; the US-India dispute concerning India's support scheme for solar energy,⁷ and the Argentina-EU dispute concerning the EU's biofuel policies, are currently being adjudicated under the WTO Dispute Settlement Body ("WTO DSB").⁸ In another dispute between Japan and the EU on one side, and Canada on the other, concerning Ontario's FIT program, an Appellate Body Report has been issued.⁹

All of the disputes described above share a commonality: they are all related to subsidies. This is perhaps unsurprising; while climate change policies require heavy public investment, the general attitude towards subsidies under WTO law is restrictive. Therefore, the interaction between the WTO law on subsidies and climate change policies demands academic attention, especially in light of the recent developments described in this article, which emphasise the effect of international trade law on certain kinds of industrial and environmental policies.

B. *The Dissonance*

The International Law Commission Report on the Fragmentation of International Law has sparked a debate on the interaction between the different fields of international law.¹⁰ It is argued, *inter alia*, that specialised self-contained legal

⁵ Press Release, European Commission, EU imposes definitive measures on Chinese solar panels, confirms undertaking with Chinese solar panel exporters (Dec. 2, 2013), available at http://europa.eu/rapid/press-release_IP-13-1190_en.htm [hereinafter Memorandum from Eur. Comm'n].

⁶ *Id.*

⁷ Consultations, *India – Certain measures relating to Solar Cells and Solar Modules*, DS456, (Feb. 6, 2013).

⁸ Panel Composed, *United States – Countervailing and Anti-Dumping Measures on Certain Products from China*, DS449, (Mar. 4, 2013), [hereinafter *United States-Countervailing Duties*]; Consultations, *European Union and certain Member States-Certain Measures Affecting the Renewable Energy Generation Sector*, DS452, (Nov. 5, 2012); *EU Biofuels*, *supra* note 1.

⁹ Appellate Body Report, *Canada – Measures Relating to the Feed-in Tariff Program*, WT/DS412/AB/R, WT/DS426/AB/R (May 6, 2013) [hereinafter AB Report, *Canada FIT*]; Appellate Body Report, *Canada – Certain Measures Affecting the Renewable Energy Generation Sector*, DS412, (adopted May 24, 2013) [hereinafter AB Report, *Canada—Renewable Energy*].

¹⁰ Rep. of the Study Group of the Int'l Law Comm'n, Fragmentation of International Law: Difficulties arising from the diversification and expansion of International Law, 58th Sess., May 1-June 9, July 3-Aug. 11, 2006, UN Doc. A/CN.4/L.682, available at

regimes and institutions have developed autonomously, each designed to deal with specific interests.¹¹ It is further claimed that on some occasions, these legal regimes have developed in isolation from other parallel fields.¹² The interaction between international trade law and climate change law serves as a striking example of such fragmentation. The trade delegations operating under the WTO are expected to achieve economic gains for their governments, most notably better market access for their national industry, based on reciprocal trading concessions. The leading concept of the trading system is similar to that of the capitalist system – if each state will pursue its *own* interests, the greater good (i.e. prosperity for all) will be achieved. There is no doubt today that international trade is affecting, and being affected by, climate change.¹³ However, while the trading system has proved itself capable of improving the economic well-being of billions around the world, can it also positively engage with non-economic goals such as the mitigation of climate change?

The author's principal argument in this article is that the attempts to address climate change objectives through the WTO have created a dissonance (or even a "cognitive dissonance"¹⁴). When asked to promote climate change objectives (or at least not to frustrate them), the free trade ideology conflicts with the aspiration to achieve a non-economic goal; one that requires a global, coordinated response, and by definition imposes costs on the actors rather than rewarding them with commercial gains.

The author does not question the fact that the global trading system is supportive of some elements related to climate change policies. Indeed, by reducing trade barriers and preventing 'protectionism', climate friendly technologies will achieve a better global distribution, the production of climate friendly goods will become cheaper, and their end prices will be lower. The author believes, however, that at

http://untreaty.un.org/ilc/documentation/english/a_cn4_l682.pdf [hereinafter ILC Report].

¹¹ *Id.* ¶ 15; Joost Pauwelyn, *Bridging Fragmentation And Unity: International Law As A Universe Of Inter-Connected Islands*, 25(4) MICH. J. INT'L L. 903 (2004) [hereinafter Pauwelyn, *Bridging fragmentation and unity*].

¹² ILC Report, *supra* note 10, ¶ 8; Pauwelyn, *Bridging fragmentation and unity*, *supra* note 11, at 903; Gerhard Hafner, *Pros and Cons Ensuing from Fragmentation of International Law*, 25 MICH. J. INT'L L. 849 (2004).

¹³ WORLD TRADE ORG. & UNITED NATIONS ENV'T PROGRAMME, TRADE AND CLIMATE CHANGE: WTO-UNEP REPORT (2009), available at http://www.wto.org/english/res_e/booksp_e/trade_climate_change_e.pdf.

¹⁴ *Cognitive Dissonance*, SCI. DAILY, http://www.sciencedaily.com/articles/c/cognitive_dissonance.htm (stating that the psychological term "Cognitive Dissonance" represents an uncomfortable tension created "from engaging in a behaviour that conflicts with one's beliefs").

least with respect to the law on subsidies, the nature of the climate change problem requires a temporary deviation from this system. This deviation can be achieved only once the dissonance has been resolved.

Until the year 2000 this dissonance had been partly addressed through the use of exceptions. However, these exceptions are no longer valid and no alternative solution has been adopted since. Moreover, due to the political sensitivity of this matter, the approach of leading figures such as the former WTO Secretary-General Pascal Lamy is that the issue of climate change should not be addressed by the WTO, at least not until a global consensus is achieved under the United Nations Framework Convention on Climate Change (“UNFCCC”).¹⁵ Such an approach however, ignores the urgency of the climate change problems, and the fact that a meaningful agreement is not likely to be achieved under the UNFCCC in the near future. This approach also overlooks the immediate effect that trade policies have on the objectives of climate change policies. Therefore the international community must react in order to align the work of the international trading system with the objectives of climate change abatement policies.

This article evaluates the interaction between the WTO law on subsidies and the objectives of climate change policies. In Part II, the conflict between the importance of subsidies to climate change policies on the one hand, and the unfavourable approach of trade law towards subsidies on the other, will be explained. It will be claimed in this part that a “dissonance” exists, as the objectives of trade law are ideologically and instrumentally conflicting with those of climate change policies. A brief introduction of the WTO law on subsidies will be provided, followed by a legal analysis of the compatibility of several types of climate change policies with WTO law. In Part IV, this article will conclude with several critical remarks regarding this interaction, and a few suggestions concerning the way forward.

II. THE WTO LAW ON SUBSIDIES AND THE CLIMATE CHANGE CHALLENGE

A. Introduction

In order to meet the obligations and goals set by international climate change agreements and declarations, many states have adopted appropriate domestic

¹⁵ See P.K. RAO, INTERNATIONAL TRADE POLICIES AND CLIMATE CHANGE GOVERNANCE 24 (2012).

climate change policies.¹⁶ These policies include national support schemes designed for the development and the promotion of Renewable Energy (“RE”). As in many cases investment in climate-friendly technologies is considered uneconomical, most of these support schemes are designed to overcome existing market failures through the granting of what can be defined as ‘subsidies’. What is a ‘subsidy’? There are numerous definitions, broad and narrow, for this term. The online Oxford Dictionary defines a ‘subsidy’ as “a sum of money granted to support an undertaking held to be in the public interest.”¹⁷ In the context of climate change, subsidies can appear as direct expenditure on the production of climate change goods; direct expenditure made for the research and development of new technologies; loan guarantees; tax credits; feed-in-tariff programs, and more.¹⁸

The way in which states attempt to rectify market failures and support the production of public goods related to climate change can be explained through the example of feed-in tariffs programs (“FIT”). A FIT usually aims to support the producers of RE by guaranteeing competitive prices for long-term periods. By doing so, FITs can reduce several types of risks.¹⁹ From the standpoint of investors in renewable energy, price risks are reduced due to the fixed tariffs that protect producers from price volatilities, and volume risks are reduced due to the state’s obligation to purchase the electricity produced. Furthermore, these reduced risks also cut the cost of the capital required for investment in RE, and consequently also the total costs of investment in RE. Therefore, FITs are popular with new, small-scale entrepreneurs that do not have sufficient capital or the

¹⁶ Until 2011, 119 countries have adopted support plans, almost a 100% increase from the numbers in 2005. See UN ENV’T PROGRAMME, GLOBAL TRENDS IN RENEWABLE ENERGY INVESTMENT 2011: ANALYSIS OF TRENDS AND ISSUES IN THE FINANCING OF RENEWABLE ENERGY (2011), available at http://www.unep.org/publications/contents/pub_details_search.asp?ID=6226.

¹⁷ *Subsidy*, OXFORD DICTIONARIES, <http://oxforddictionaries.com/definition/subsidy>.

¹⁸ For a complete list of possible subsidies, see Andrew Green, *Trade Rules and Climate Change Subsidies*, 5(3) WORLD TRADE REV. 377 (2006) [hereinafter Green, *Trade rules and climate change subsidies*]; Doug Koplow, *Subsidies in the US Energy Sector: Magnitude, Causes, and Options for Reform* EARTH TRACK (2007), <http://earthtrack.net/documents/subsidies-us-energy-sector-magnitude-causes-and-options-reform> [hereinafter Koplow, *Subsidies in the US Energy Sector*]; U.S. Dep’t of Energy, Energy Info. Admin. Office of Coal, Nuclear, Electric & Alternate Fuels, *Federal Financial Interventions and Subsidies in Energy Markets 2007*, SR/CNEAF/2008-1 (April 2008), <http://docs.wind-watch.org/eia-subsidy08.pdf> [hereinafter EIA Report, 2008]; see also Robert Howse, *Climate Mitigation Subsidies and the WTO Legal Framework: A Policy Analysis* INT’L INST. FOR SUSTAINABLE DEV., 5, 7 (May 2010), http://www.iisd.org/pdf/2009/bali_2_copenhagen_subsidies_legal.pdf [hereinafter Howse].

¹⁹ C. Mitchel et al., *Effectiveness Through Risk Reduction: A Comparison Of The Renewable Obligation In England And Wales And The Feed-In System In Germany*, 34(3) ENERGY POL’Y 297, 301 (2006).

advanced technology necessary to make such investments under free-market conditions.²⁰ Indeed, among EU states in which FITs have been used as the main support scheme, rates of deployment of solar, wind and biogas technologies have been relatively high.²¹

Other examples of subsidies designed to overcome the obstacles faced by the private sector include schemes such as green premiums, tax exemptions and direct expenditures. Green premiums and tax exemptions, for example, increase RE producers' returns, and thus also the competitiveness of this source of energy. Direct expenditures made to producers or for R&D activity have the same effect.

Subsidies are also given in order to compensate domestic industries, for which compliance with climate change regulation imposes a heavy financial burden. Such subsidisation is important in order to assist carbon-intensive industries to maintain their international competitiveness. While this may tantamount to protectionism at first glance, it should be remembered that due to phenomena such as carbon-leakage and the lack of a level international playing-field (when it comes to climate change regulation), without sufficient compensation, climate change regulation may result in no global reduction in emissions being achieved, and with economic loss to the regulating country.²² It can also be argued that without ways to soften the impact on domestic emitters, the political will to enact environmental

²⁰ According to Bloomberg New Energy Finance, in 2010, 86% of the investment in small-scale solar projects was made following the introduction of FIT programmes; see *Renewables 2011: Global Status Report*, REN21: RENEWABLE ENERGY POL'Y NETWORK FOR THE 21ST CENTURY 36, <http://www.ren21.net/>. For example, in Japan and Greece, a significant surge in small-scale PV projects was specifically attributed to the introduction of FIT. See *Global Trends in Renewable Energy Investment 2013*, FRANKFURT SCH. – UNEP CTR. 50, 52 <http://www.unep.org/pdf/GTR-UNEP-FS-BNEF2.pdf>; See also GLOBAL STATUS REPORT 2013, REN21: RENEWABLE ENERGY POL'Y NETWORK FOR THE 21ST CENTURY, 25, http://www.ren21.net/Portals/0/documents/Resources/GSR/2013/GSR2013_lowres.pdf. In the United Kingdom, the adoption of the FIT program in 2010 led to the registration of nearly 380, 000 RE installations, the vast majority of which are small-scaled; see *Feed-in tariff update*, OFGEM E-SERVE (June 2013), available at <https://www.ofgem.gov.uk/ofgem-publications/75735/feed-tariff-update-quarterly-report-issue-12.pdf>.

²¹ *Commission Staff Working Document on the support of electricity from renewable energy sources*, 8, SEC (2008) 57 (Jan. 23, 2008), available at http://ec.europa.eu/energy/climate_actions/doc/2008_res_working_document_en.pdf.

²² Regulated industry may migrate to less regulated countries; see Peter Wooders et al., *Addressing Competitiveness, Leakage and Climate Change: Options for Policy-Makers*, INT'L INST. FOR SUSTAINABLE DEV. (October 2009), <http://www.iisd.org/publications/pub.aspx?id=1206>.

regulation is likely to be less.²³

The political context in which climate-related subsidies are being adopted is indeed highly relevant for this discussion. The recent economic crisis has led many governments to invest large sums of money in domestic industry to revitalise their economies. These investments are often made as green stimulus packages, which are usually aimed at promoting local environmental friendly industry, and thereby supporting both environmental and domestic economic goals. While it is encouraging to see that public resources are being dedicated to the promotion of environmental goods, it is doubtful that these heavy investments would have been made if it was not for the economic benefits achieved by them for domestic economies.

To conclude, it can be seen that subsidies can be an efficient tool, both politically and economically, for achieving the objectives of climate change regimes. It could therefore be expected that the WTO's regulation of subsidies will explicitly address such subsidies, their unique character and the special role they are aimed to fulfil. However, as explained below, this is not always the case.

B. *Subsidies under Trade Law*

The general approach towards subsidies under international trade law is restrictive. Subsidies are considered as distorting the free market and granting advantages to manufacturers that are not necessarily the most efficient. Furthermore, the traditional WTO approach towards subsidies is also blind to policy-objectives and surrounding circumstances that led to the imposition of subsidies. This approach has been described in the following words:²⁴

“Generally, the motive for a subsidy is something that the ASCM does not take into account; the agreement treats subsidies to prevent market failure with the same rules as it treats subsidies to redistribute income.”

The WTO's blindness to the surrounding circumstances and rationales that are specific to each subsidy was criticised by authors such as Sykes, Cosbey and Howse, who argue that it could be that the WTO law on subsidies fails to make the distinction between harmful subsidies and those aimed at correcting market-failures and encouraging the production of public goods.²⁵

²³ Luca Rubini, *Ain't wastin' time no more: Subsidies for renewable energy, the SCM Agreement, policy space, and law reform*, 15(2) J. INT'L ECON. LAW 525, 551(2012) [hereinafter Rubini, *Ain't wastin' time*].

²⁴ HUFBAUER, CHARNOVITZ & KIM, *supra* note 1. .

²⁵ Howse, *supra* note 18; Aaron Cosbey, *Renewable energy subsidies and the WTO: The wrong law and the wrong venue*, SUBSIDY WATCH (Int'l Inst. For Sustainable Dev.),

If, as claimed by the authors mentioned above, the desirability of climate-related subsidies cannot by itself serve as a justification for these under trade law, the next level of this analysis should focus on whether these subsidies could be successfully challenged under the WTO. The next part of the article will evaluate certain types of climate change support schemes and their compatibility with the rules of the WTO Agreement on Subsidies and Countervailing Measures (“SCM Agreement”).²⁶

C. *The SCM Agreement and climate change policies: Possible conflicts*

1. The WTO Agreement on Subsidies and Countervailing Measures

Are the schemes reviewed above ‘lawful’ under the WTO’s laws on subsidies? According to Article 1 of the SCM Agreement, a ‘subsidy’ must include three elements. First, a relatively broad definition of financial contribution must be met. Article 1 lists several examples of what may be considered as a financial contribution, including– the transfer of funds or liabilities (including loan guarantees); foregone or uncollected governmental revenue (including tax credits); and the provision of goods and services other than infrastructure. Second, the financial contribution should be granted by a government, or by a public body within the territory of the state. Third, the financial contribution must be viewed as a ‘benefit’. WTO jurisprudence has interpreted the term ‘benefit’ as more advantageous conditions than those that would have prevailed under ordinary market conditions.²⁷ However, as mentioned by some, in an already distorted market such as the energy market, it is often difficult to determine whether a benefit actually exists.²⁸ The WTO Appellate Body in the *Softwood Lumber* dispute stated (with respect to the local Canadian timber market) that when determining ‘benefit’, the investigating authority “may use a benchmark other than private prices in the country of provision [...] if it is first established that private prices in that country are distorted because of the government's predominant role in

<http://www.globalsubsidies.org/subsidy-watch/commentary/renewable-energy-subsidies-and-wto-wrong-law-and-wrong-venue>; Alan O. Sykes, *The Questionable Case for Subsidies Regulation: A Comparative Perspective*, STANFORD UNIVERSITY SCHOOL OF LAW, L. & ECON. RES. PAPER SERIES, 24 (2009), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1444605 [hereinafter Sykes].

²⁶ Agreement on Subsidies and Countervailing Measures, April 15, 1994, 1867 U.N.T.S. 14 [hereinafter SCM Agreement].

²⁷ Appellate Body Report, *Canada – Measures Affecting the Export of Civilian Aircraft*, 157 WT/DS70/AB/R (1999), [hereinafter Appellate Body Report, *Canada-Civilian Aircraft*].

²⁸ Howse, *supra* note 18, at 5, 6; Sadeq Z. Bigdeli, *Incentive schemes to promote renewables and the WTO law of subsidies*, in INTERNATIONAL TRADE REGULATION AND THE MITIGATION OF CLIMATE CHANGE 155, 161 (Thomas Cottier, et al. eds., 2009) [hereinafter Sadeq Z. Bigdeli]; Sykes, *supra* note 25.

providing those goods.”²⁹

The SCM Agreement covers two types of subsidies: The first group comprises ‘prohibited subsidies’, which are either contingent on export performance (“export subsidies”), or on the use of domestic goods. The second group includes ‘actionable subsidies’.³⁰ When these subsidies are specific, and adversely affect the economy of other WTO Member States, they may be challenged by affected Member States. ‘Specificity’, in the context of the SCM Agreement, can be either *de jure* or *de facto*.³¹ As analysed by Bigdeli, the ‘specificity’ requirement has been interpreted very broadly by the WTO DSB, and can include a large number of industries (like the RE sector, for instance).³² ‘Adverse effect’, according to the SCM Agreement, can be found where the domestic industry of another state is injured, where benefits achieved by other states through trade concessions are being impaired, or where there is serious prejudice to the interest of another state.³³

Originally, a third group of ‘non-actionable’ subsidies was also covered by the SCM Agreement. Under this category certain subsidies were permitted. This included subsidies granted for research activity (including research activity conducted by private firms) and assistance to firms’ adaptation efforts to new environmental requirements imposed by regulation.³⁴ However, these exceptions are no longer valid since the end of 1999.³⁵

Where the existence of a ‘subsidy’ is established in accordance with the conditions mentioned above, adversely affected states can bring a case against the subsidising state before the WTO DSB and ask for the removal of the subsidy.³⁶ Alternatively, an injured state may also unilaterally impose countervailing duties, according to the rules set out by the SCM Agreement.³⁷

²⁹ Appellate Body Report, *United States – Final Countervailing Duty Determination with respect to certain Softwood Lumber from Canada*, ¶ 90, WT/DS257/AB/RW (May 12, 2005) [hereinafter Appellate Body Report, *United States Softwood Lumber*].

³⁰ SCM Agreement, *supra* note 26, Part III.

³¹ Article 2.1(c) of the SCM Agreement states that also *de facto* specific subsidies should be considered as ‘specific’.

³² Sadeq Z. Bigdeli, *supra* note 28, at 179, 180.

³³ SCM Agreement, *supra* note 26, art. 5.

³⁴ SCM Agreement, *supra* note 26, art. 8.

³⁵ SCM Agreement, *supra* note 26, art. 31.

³⁶ SCM Agreement, *supra* note 26, art. 4.

³⁷ SCM Agreement, *supra* note 26, Part V.

2. Ex-green light subsidies: Subsidies for research and development, and assistance to promote adaptation to new environmental regulation

Until its expiration in January 2000, Article 8 of the SCM Agreement included a list of ‘non-actionable’ subsidies (or ‘green-light’ subsidies, or ‘exceptions’). Most notably, this list included an exemption for certain kinds of expenditures on research and development (“R&D”),³⁸ and for subsidies aimed at assisting domestic industry to adapt to environmental regulation.³⁹ However, these exceptions expired at the beginning of 2000, and as no alternative provisions have been put forward in order to address these issues, these types of subsidies are currently actionable under WTO law.

The expiration of these exemptions is highly relevant for this analysis. There is currently a great need for investment in climate-related R&D. It is widely accepted that combating the adverse effects of climate change depends on the development of a wide range of new and existing technologies,⁴⁰ most notably in fields such as energy efficiency, RE, carbon capture and storage,⁴¹ crop management, forestry and transportation.⁴² However, due to current market conditions, private investors

³⁸ SCM Agreement, *supra* note 26, art. 8.2.a.

³⁹ SCM Agreement, *supra* note 26, art. 8.2.c.

⁴⁰ According to the IEA, the use of existing and new technologies can halve the world’s CO₂ emissions by 2050; see *Energy Technology Perspectives 2010: Scenarios & Strategies to 2050 - Executive Summary*, INT’L ENERGY AGENCY, 5 (2010), <http://www.iea.org/techno/etp/etp10/English.pdf>; for similar conclusions, see *Climate Change 2007: Mitigation of Climate Change*, INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, 218, 219 (2007), http://www.ipcc.ch/publications_and_data/publications_ipcc_fourth_assessment_report_wg3_report_mitigation_of_climate_change.htm [hereinafter IPCC 2007]; see also Brian Perusse et al., *Melting Down and Scaling up: Stabilizing Climate Change by Promoting Private Sector Technology Development*, 26(4) REV. POL’Y RES. 511 (2009); Jon Creyts, et al., *Reducing U.S. Greenhouse Gas Emissions: How Much at What Cost?*, MCKINSEY & CO., 34 (2007), http://www.mckinsey.com/client_service/sustainability/latest_thinking/reducing_us_greenhouse_gas_emissions [hereinafter McKinsey Report, 2007].

⁴¹ For a more detailed review, see IPCC 2007, *id.* at 218.

⁴² *Fact sheet: A technology revolution to address climate change*, UNFCCC (2010), http://unfccc.int/files/press/news_room/application/pdf/fact_sheet_a_technology_revolution_to_address_climate_change.pdf; Thomas L. Brewer, *International Energy Technology Transfers for Climate Change Mitigation: What, who, how, why, when, where, how much... and the Implication for International Institutional Architecture*, (CESifo Working Paper No. 2408, 2008), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1273516; see also Second synthesis report on technology needs identified by parties not included in Annex I to the Convention: Note by the secretariat, Subsidiary Body for Scientific and Technological Advice, 30th Sess., June 1-10, 2009, FCCC/SBSTA/2009/INF.1 (May 29, 2009), <http://unfccc.int/resource/docs/2009/sbsta/eng/inf01.pdf>.

are deterred from investing in this field. Therefore, governments must intervene in order to overcome market failures and encourage technological advancement, by subsidising private R&D.⁴³ But due to the expiration of Article 8, governments' provision of such support is no longer free of restrictions and must follow the general conditions pertaining to subsidies by the SCM Agreement.

Similarly, climate change regulation may cause uneven market conditions for local industry and impose high costs of adaptation. This situation may create political objections for environmental regulation due to projected loss of jobs and competitiveness. Subsidies, like those exempted by Article 8, are therefore necessary in order to level the international economic 'playing field', especially in light of the political trade-offs often necessary in order to pass environmental regulation. Yet, such subsidies are no longer exempted from the SCM Agreement.

This brings us to the question of whether the expiration of Article 8 results in conflicts between WTO law and the objectives of climate change policies? In order to validate the proposition that a potential for conflicts does exist in these cases, it must first be demonstrated that the above described 'ex-green light' subsidies could be successfully challenged before trade tribunals. Therefore, it must be affirmed that these subsidies are indeed 'specific', and adversely affect other Member States.

i. Specificity

In order to be considered as 'specific', a subsidy need not be granted to one specific producer alone, but may be distributed to a group of enterprises or industries (or as defined by the SCM Agreement, "certain enterprises").⁴⁴ Trebilcock mentions in this respect that it is currently unclear exactly how small a group of industries must be in order to be considered as 'specific'.⁴⁵ In addition, he believes that there is an "element of arbitrariness" in this decision.⁴⁶ For instance, with respect to RE, Bigdeli argues that in most cases the existence of specificity is rather straightforward.⁴⁷ This is due to the relatively small size of this

⁴³ The reader should note that according to some, under certain circumstances, R&D subsidies can also have negative impact on issues such as technology transfer; *see* Howse, *supra* note 18, at 7.

⁴⁴ SCM Agreement, *supra* note 26, art. 2.

⁴⁵ MICHAEL TREBILCOCK, UNDERSTANDING TRADE LAW 83 (Edward Elgar ed., 2011) [hereinafter TREBILCOCK]; *see also* LUCA RUBINI, THE DEFINITION OF SUBSIDY AND STATE AID: WTO AND EC LAW IN COMPARATIVE PERSPECTIVE 368, 373 (2009); Andrew Green, *Trade rules and climate change subsidies*, 5(3) WORLD TRADE REV. 377, 399 (2006) [hereinafter Green].

⁴⁶ TREBILCOCK, *supra* note 45.

⁴⁷ Sadeq Z. Bigdeli, *supra* note 2828, at 181; Green, *supra* note 45, at 400, 401.

sector, especially when regarded as a part of the much larger general energy sector. Bigdeli's argument was recently supported by Rubini, who explains that even when the criteria for the subsidy are *prima facie* neutral (i.e. granted to a certain technology, or to certain uses rather than to a specific actor), the small size of the RE sector makes it *de facto* specific, and thus, 'specificity' will be easy to demonstrate.⁴⁸ Rubini's assertion was also supported by other scholars.⁴⁹ It could therefore be that subsidies for R&D that are designed for the development of new RE technologies, will be regarded as 'specific'.

Further, subsidies aimed to assist domestic industry to adapt to environmental regulation may be considered as 'specific' under certain circumstances. For example, as part of its newly adopted carbon tax (intended to evolve into an ETS in the future), the Australian government has announced that it will distribute AUD 9.2 billion to emission-intensive trade-exposed industries, in order to assist its most polluting industries to cope with this regulation.⁵⁰ According to several media publications, this subsidy will be allocated "particularly for steel makers and aluminium producers that export their goods."⁵¹ Australia has also decided to allocate AUD 300 million to its steel industry, in order to encourage investment and innovation.⁵² While, it is difficult to predict whether the number of Australian subsidy recipients would be considered by WTO panels (were the policies to be challenged by another country) as 'specific', according to at least some commentators, it seems likely that it would be.⁵³ Moreover, if a similar subsidy were distributed by a smaller state with less 'emission-intensive-trade-exposed industries', *de facto* 'specificity' would be established even more easily.⁵⁴

⁴⁸ Rubini, *Ain't wastin' time*, *supra* note 23.

⁴⁹ Nigel Banks et al., *International trade and investment law and carbon management technologies*, 13, 14 (FSU College of Law, Public Law Research Paper No. 618, 2012), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2171054.

⁵⁰ *Key points of the carbon price package*, SYDNEY MORNING HERALD, July 11, 2011, available at <http://www.smh.com.au/environment/climate-change/key-points-of-the-carbon-price-package-20110710-1h8j0.html>; *Securing a clean energy future: The Australian government's climate change plan*, AUSTL. GOV'T, 51 (2011), <http://large.stanford.edu/courses/2012/ph240/aslani2/docs/CleanEnergyPlan-20120628-3.pdf> [hereinafter *Securing a clean energy future*].

⁵¹ *Australia releases rules for \$9.2 bln CO₂ price support*, REUTERS, Feb. 28, 2012, available at <http://www.reuters.com/article/2012/02/28/australia-carbon-idUSL4E8DS28M20120228> [hereinafter *Australia rules on CO₂ price support*, REUTERS].

⁵² *Carbon Pollution Reduction Scheme and Carbon Pricing Mechanism: Comparison*, PARLIAMENT OF AUSTL., http://www.aph.gov.au/About_Parliament/Parliamentary_Departments/Parliamentary_Library/Browse_by_Topic/ClimateChange/cprs (last updated July 18, 2011).

⁵³ HUFBAUER, CHARNOVITZ & KIM, *supra* note 1.

⁵⁴ Green, *supra* note 45, at 400.

ii. Adverse effect

The second question that must be asked is whether subsidies for R&D, or those aimed to assist domestic industry to adapt to environmental regulation, adversely affect other Member States. This question is economic in nature and would need to be reviewed on a case-by-case basis. However, it is possible that they could be, at least in theory. Certain kinds of subsidies for R&D, especially industrial research and pre-competitive development activity, can clearly provide a benefit for participating firms, which may confer them with an economic advantage over foreign competitors acting on the global markets.

It is more difficult to see how subsidies that are aimed at assisting domestic industry to adapt to environmental regulations can adversely affect foreign firms, as, in theory these subsidies should balance newly imposed costs on the domestic industry, and not create an advantage. Such a scenario however is not unimaginable, and depends on the nature of the subsidy, and on whether the subsidy indeed matches the industry's expenses due to environmental regulation and does not exceed them. With respect to the Australian Clean Energy Plan, it was claimed by some that "the government's proposed assistance is so generous that steel producers will receive an unjustified windfall gain".⁵⁵ Furthermore, as the Australian plan intends to support specifically "emissions-intensive, *trade-exposed* industries",⁵⁶ the possibility that the assistance granted to such "trade-exposed" industry will adversely affect foreign competitors is even more likely.

Even where a subsidy does not exceed the costs of adaptation, it may indirectly confer a 'benefit' and adversely affect other states' industry. For example, if a carbon tax is imposed on the sales of products based on their carbon footprints, assisting local industries to reduce their emission levels through subsidies will result in reduced carbon footprints, and consequently also with reduced taxation for such companies in the future. This will grant them an advantage vis-à-vis their foreign competitors which did not enjoy similar assistance, and consequently may have to pay higher carbon taxes. Such an advantage, may of course be enjoyed by subsidised companies throughout the world, wherever similar carbon taxes are applied, and not necessarily only in the company's home state.

In conclusion, at least theoretically, it seems possible that due to the expiration of the mentioned 'green-light' exceptions, these types of subsidies could be considered as actionable under certain conditions.

⁵⁵ Tony Wood & Tristan Edis, *New protectionism under carbon pricing: Case studies of LNG, coal mining and steel sectors*, GRATTAN INST. (Sept. 2011), grattan.edu.au/static/files/assets/aaa39bf4/101_report_new_protectionism.pdf.

⁵⁶ *Securing a clean energy future*, *supra* note 50, at 54.

3. Carbon tax

According to Article 1.1(a)(1)(ii) of the SCM Agreement, ‘subsidy’ also includes “government revenue that is otherwise due is foregone or not collected”. According to the Appellate Body, the term “government revenue that is otherwise due” refers to taxes collected by a certain state, from all actors who are in similar situations.⁵⁷ Excluding one such actor (or a group of actors) from taxation therefore, will be considered as a ‘subsidy’. In the context of carbon tax, it should be asked whether the mere existence of different carbon footprints is enough to establish that two, otherwise similar actors, are in a ‘different situation’, and thus could be taxed differently.

The question of whether environmental criteria may justify different treatment for two, otherwise similar products is in fact a much broader issue than the discussion over subsidies and touches on matters such as eco-labelling⁵⁸ and non-discrimination.⁵⁹ In essence, this question is related to the highly debatable topic of non-product-related process and production methods (“non-product-related PPM”), i.e. whether the manner in which a product was produced can justify different treatment for otherwise similar products.

The issue of PPM and its relation to climate change is beyond the scope of this research.⁶⁰ In a nutshell however, it can be mentioned that in the *Turtle-Shrimp* case the AB seemed to indicate that non-product-related PPM is prohibited by WTO law, but under certain conditions may fall within the exceptions of Art. XX GATT.⁶¹ This indeed seems to be the traditional approach of the WTO law

⁵⁷ Appellate Body Report, *United States – Tax Treatment for “Foreign Sales Corporations” Article 21.5*, ¶ 98, WT/DS108/AB/R (Feb. 24, 2002), [hereinafter AB Report, *United States – Tax Treatment*].

⁵⁸ Jasper Stein, *The Legal Status of Eco-Labels and Product and Process Methods in the World Trade Organization*, 1(4) AM. J. ECO. & BUS. ADMIN. 285 (2009); Arthur E. Appleton, *Private climate change standards and labelling schemes under the WTO Agreement on Technical Barriers to Trade*, in Cottier et al. eds., *supra* note 28, at 131.

⁵⁹ Donald Regan, *How to think about PPMs (and climate change)*, in Cottier et al. eds., *supra* note 28, at 97; Patrick Low, et. al, *The interference between the trade and climate change regimes: Scoping the issues* 6 (World Trade Org. – Econ. Research & Statistics Div., Staff Working Paper-ERSD-2011-1, Jan. 12, 2011), available at http://www.wto.org/english/res_e/reser_e/ersd201101_e.pdf [hereinafter Low et al.].

⁶⁰ For further discussion on this issue, see JASON POTTS, *THE LEGALITY OF PPMs UNDER THE GATT: CHALLENGES AND OPPORTUNITIES FOR SUSTAINABLE TRADE POLICY* (2008) [hereinafter JASON POTTS]; see also *Australia rules on CO₂ price support*, REUTERS, *supra* note 51.

⁶¹ Appellate Body Report, *United-States – Import prohibition of certain shrimp and shrimp products*, WT/DS58/AB/R (Oct. 12, 1998); see also JASON POTTS, *id.*, at 21.

towards non-product-related PPM-based discrimination.⁶² However, the relevance of the Art. XX GATT exceptions for the SCM Agreement is highly doubtful, as such exceptions were not included in the SCM Agreement itself.⁶³ Therefore, it could be that under the SCM Agreement differentiated treatment for low carbon products (i.e. lower taxation in this case) may not be justified. Although this conclusion was specifically confirmed by the Panel in the *Canada FIT* case,⁶⁴ the AB in this case has left room to believe that PPM-based discrimination of otherwise 'like' products could in fact be justified when it comes to climate change-related measures. When discussing the 'likeness' of RE and conventional energy, the AB stated:⁶⁵

“What constitutes a competitive relationship between products may require consideration of inputs and processes of production used to produce the product.”

While the AB's remark seems somewhat vague, its final ruling according to which the RE market is not the same as the conventional energy market⁶⁶ supports the conclusion that PPMs-related considerations are indeed relevant with respect to climate change-related measures, and therefore, may justify differentiated treatment. In other words, the AB's decision could be read as justifying the imposition of different pricing, tariffs, restrictions, taxes, etc., based on products' carbon foot-prints. According to this approach, the imposition of carbon taxes cannot be considered as violating WTO law.

i. Specificity and adverse effect

With respect to the 'specificity' and the 'adverse effects' tests, the discussion presented above regarding the compatibility of the ex-“green light” subsidies with WTO law is relevant also in this case as well. When regarded as a part of the much larger general energy sector, it was argued by some that the RE sector can be considered as 'specific'.⁶⁷ The imposition of a carbon tax on energy production for example, may be problematic in this respect. This can be quite straightforward where the main domestic energy producer relies on RE (for example, in the

⁶² Low et al., *supra* note 59, at 5.

⁶³ See Rubini, *Ain't wastin' time*, *supra* note 23, at 562.

⁶⁴ The Panel stated in this case that as the physical properties of electricity are not affected by the methods in which it was generated, RE cannot be priced differently than fossil fuel-based electricity; Panel Report, *Canada – Measures Relating to the Feed-in Tariff Program*, WT/DS412/R, WT/DS426/R (Dec. 19, 2012), [hereinafter Panel Report, *Canada FIT*].

⁶⁵ AB Report, *Canada FIT*, *supra* note 9, ¶ 5.63.

⁶⁶ AB Report, *Canada FIT*, *supra* note 9, ¶ 5.204.

⁶⁷ Sadeq Z. Bigdeli, *supra* note 28, at 181; Rubini, *Ain't Wwastin' time*, *supra* note 48, at 548, 549.

Canadian Province of Quebec the main domestic energy producer is Hydro-Quebec, which relies on hydro-power).⁶⁸

The evaluation of the ‘adverse effect’ element in this case depends on the specific circumstances of each case. But at least where international trade in electricity takes place, it is possible that those wishing to export fossil-fuel based energy to a state that taxes such energy will be adversely affected.

4. Feed-in-tariffs (“FIT”)

Can FIT programs be considered as an unlawful subsidy under the SCM Agreement? According to Article 1.1(a)(1) of the SCM Agreement, a ‘subsidy’ must include a financial contribution that was granted either directly by the government, or alternatively, by any public body within the territory of this state. “Financial contribution” in this respect can also include that provided through the governmental purchase of goods.⁶⁹ This can be linked to measures such as premiums or FIT programs, in cases where the state is committed to purchase the electricity generated by facilities benefiting from these subsidies.⁷⁰

The existence of a ‘financial contribution’ may seem evident where it is the government that purchases the electricity. However, where the power sector has been privatised the obligation to purchase electricity is imposed on private companies. Should such a situation be regarded as a ‘financial contribution’? In the *PreussenElektra AG* case, the European Court of Justice (“ECJ”) has given an answer to this question in accordance with EU law.⁷¹ It was argued in this case that the obligation (imposed on private firms) to purchase wind power electricity at above market-value prices, constituted a state aid. The ECJ however, considered the ‘transfer of a state resource’ as a condition for the existence of ‘state aid’, and specified that as no transfer of a state resource took place in this case, no ‘state aid’ was granted.⁷²

Unlike EU law, the SCM Agreement’s definition of ‘subsidy’ does include a situation in which private firms are instructed to perform a task that is “normally [be] vested in the government and the practice, in no real sense, differs from

⁶⁸ See *Quebec: Energy Facts and Statistics*, CTR. FOR ENERGY, <http://www.centreforenergy.com/factsstats/mapscanada/qc-energymap.asp>.

⁶⁹ SCM Agreement, *supra* note 26, art. 1.1(a)(1)(iii).

⁷⁰ Robert Howse & Antonia Eliason, *Countervailing Duties and Subsidies for Climate Mitigation: What Is and What Is Not, WTO Compatible?*, in CLIMATE FINANCE: REGULATORY AND FUNDING STRATEGIES FOR CLIMATE CHANGE AND GLOBAL DEVELOPMENT 259, 264 (Richard B. Stewart, Benedict Kingsbury & Bryce Rudyk eds., 2009).

⁷¹ Case 379/98, *PreussenElektra AG v. Schleswag AG*, 2001 E.C.R. I-02099.

⁷² *Id.* ¶¶ 56, 67.

practices normally followed by governments”.⁷³ The transfer of a ‘state resource’ in this respect is therefore less relevant under WTO law. Therefore, had the *PreussenElektra AG* case been adjudicated before the WTO DSB, the relevant question would not have been whether a ‘state resource’ has been transferred, but rather whether the purchase of electricity is a task that is normally performed by a government. As in many states the purchasing of electricity is indeed performed by the state, and in light of the fact that even where the power sector has been privatised it is still heavily regulated by the state (i.e. the state still bears responsibility), it is likely that the existence of a ‘financial contribution’ would have been established in this case.

In the dispute between the EU, Japan and Canada concerning the FIT program applied by the Canadian Province of Ontario (“*Canada FIT case*”),⁷⁴ all the parties seem to have accepted that FIT programs indeed include a ‘financial contribution’ component. The parties however, did not agree on its exact legal characterisation. While the complainants argued that the FIT should be described as a ‘direct transfer of funds’ (Art. 1.1(a)(1)(i) of the SCM Agreement), Canada argued that it should be described as a ‘governmental purchase of goods’ (Art. 1.1(a)(1)(iii) of the SCM Agreement). The implication of the exact legal characterisation is not relevant for the determination of ‘financial contribution’, but, as discussed in more detail below, it affects the result of another important legal test – the existence of a ‘benefit’. The Panel in this case accepted Canada’s view and defined the FIT program as a governmental purchase of goods, as defined in Art. 1.1(a)(1)(iii) of the SCM Agreement.⁷⁵

However, can prices provided by such programs be regarded as ‘benefits’? At least *prima facie*, the existence of a ‘benefit’ seems straight forward. In most cases, support schemes are in fact designed to provide conditions that are better than those available in the markets, in order to encourage RE producers. However, the WTO AB has stated in the past that other benchmarks, besides private market prices, may be used where markets are distorted due to a “government’s predominant role in providing those goods”.⁷⁶ With respect to RE, it could well be argued that prices are distorted due to the “government’s predominant role”, as governments tend to subsidise fossil fuels and thus artificially reduce the market’s price for energy. If such a claim were to be accepted, the benchmark for the ‘market price’, according to which the existence of a ‘benefit’ is calculated, would

⁷³ See Article 1.1(a)(1)(iv): “a government makes payments to a funding mechanism, or entrusts or directs a private body to carry out one or more of the type of functions illustrated in (i) to (iii) above which would normally be vested in the government and the practice, in no real sense, differs from practices normally followed by governments.”

⁷⁴ Panel Report, *Canada FIT*, *supra* note 74.

⁷⁵ *Id.* ¶ 7.222.

⁷⁶ Appellate Body Report, *United States Softwood Lumber*, *supra* note 29.

probably be higher. The existence of a ‘benefit’ in this case, should be evaluated according to this newly modified price, and the specific price paid by the government in each case. Indeed the finding of ‘benefit’ stood at the heart of the *Canada FIT* case and is described in more detail in part II(D)(1).

i. Specificity and adverse effect

If a FIT is to be considered as an actionable ‘subsidy’ under the SCM Agreement, in order to be successfully challenged it must also be ‘specific’, and adversely affect other Member States. As already discussed above, according to some, a FIT can be considered as ‘specific’ due to the relatively small size of the RE sector, especially when regarded as a part of the general energy sector.⁷⁷

With respect to the adverse effects created by a FIT in one or more other Member State(s), this is an economic question and would need to be answered on a case-by-case basis. However, where trade in electricity takes place between two countries,⁷⁸ subsidising the production of RE in one state can potentially adversely affect the importation of electricity from abroad. Furthermore, it could be suggested that energy producers are also developing new technologies or producing relevant machinery, and therefore, by subsidising their energy production the state is indirectly subsidising also the production of other, more easily exported goods. The exportation of these, as demonstrated in the U.S.-China dispute,⁷⁹ can be considered as adversely affecting other WTO Member States.

5. Emission trading schemes

Another point in which the objectives of climate change mitigation and WTO law on subsidies may conflict is the application of an emission trading scheme (“ETS”). The introduction of such schemes inherently imposes additional costs on local industry. In order to compensate for these costs, or to allow local industry more time to adjust and to maintain competitiveness, states may allocate free allowances to existing actors (“grandfathering”).⁸⁰ For example, Australia has announced that it will distribute AUD 9.2 billion in free carbon permits to trade-exposed polluting industries, in order to allow these industries to maintain their

⁷⁷ Sadeq Z. Bigdeli, *supra* note 28, at 181.

⁷⁸ Canada for instance, is selling electricity to the U.S. Close to USD 4 billion worth of electricity was sold in 2008 alone. See Stéphane Bordeleau, *Where Canada's surplus energy goes*, CBC NEWS, Mar. 30, 2011, <http://www.cbc.ca/news/canada/story/2011/03/17/f-power-2020-provincial-energy-export.html>.

⁷⁹ See *infra* Part II(D)(2).

⁸⁰ For example, according to the EU ETS, not all sectors are covered, and a large percentage of the allowances are to be distributed freely. See Council Directive 2003/87, 2004 O.J. (L 275) 32 (EC).

competitiveness.⁸¹ This situation has however already been discussed in other parts of this article previously.⁸²

The first question to be answered is whether ‘grandfathering’ should be regarded as conferring a ‘subsidy’. According to Nash, free allocations (or exemptions) of pollution allowances are equivalent to direct subsidies, and are in fact “tantamount to printing and distributing money to polluters” as recipients can sell these allowances on carbon markets.⁸³ Furthermore, ‘grandfathering’ can be seen as a clear advantage to existing (often local) actors over new entrants, who will have to purchase their allowances and endure higher costs.⁸⁴ This situation may be regarded as a discriminating taxation against those who were not ‘grandfathered’, and thus could be considered as a ‘subsidy’. Other authors have indeed agreed that it is most likely that trade panels will consider the free allocation of carbon permits as ‘subsidies’.⁸⁵

i. Specificity and adverse effect

In order to be successfully challenged under the SCM Agreement, subsidies must be specific and adversely affect foreign competition. With respect to adverse effect, it can be claimed that due to “grandfathering” it is more difficult for new entrants to operate in these markets, and therefore foreign firms might be adversely affected. The existence of specificity however, depends on the details of the ETS. The early stages of the EU ETS for example, dictated the free allocation of 90-95% of the allowances, a situation that can hardly be described as ‘specific’. However, as discussed above with respect to the Australian ETS (see further the discussion above under ‘ex-green light’ subsidies), where only a limited group of actors are receiving free allowances, this possibility does exist.

6. Subsidies for biofuels

The regulation of biofuels’ subsidies is another field in which the interaction between trade and climate change objectives may be relevant for this analysis. As this issue is complex in nature, only a short overview of the support schemes provided by states to biofuels producers and the legal framework regulating this field is provided. A more detailed overview of this topic is beyond the scope of this study and may be found elsewhere.⁸⁶

⁸¹ *Australia rules on CO₂ price support*, REUTERS, *supra* note 51; *Securing a clean energy future*, *supra* note 500, at 55.

⁸² See *supra* Part II(C)(2).

⁸³ Jonathan Remy Nash, *Too Much Market: Conflicts between Tradable Pollution Allowance and the Polluters Pays Principle*, 24(2) HARV. ENVTL. L. REV. 465, 505 (2000).

⁸⁴ *Id.*

⁸⁵ HUFBAUER, CHARNOVITZ & KIM, *supra* note 1, at 62.

⁸⁶ For detailed review, see Sadeq Z. Bigdeli, *supra* note 28; Toni Harmer, *Biofuels subsidies and the law of the WTO*, INT’L CTR. FOR TRADE AND SUSTAINABLE DEV., 5 (June 2009),

When discussing the legal framework of biofuels' subsidies, it is important first to notice that it is not entirely clear whether biofuels are covered by the SCM Agreement (as 'industrial goods'), or the WTO Agreement on Agriculture ("AoA").⁸⁷ The U.S., for example, has defined biofuels as industrial goods (under the heading 'energy and fuels'), which are covered by the SCM Agreement.⁸⁸ According to others however, at least certain types of biofuels (like ethanol⁸⁹) are clearly covered by the AoA.⁹⁰ It was claimed in this respect that while first generation biofuels can undoubtedly be characterised as derived from agricultural products (e.g. corn, soy, sugar). It is not clear at all whether the same can be claimed about second (based on non-edible crops, e.g. jatropha-based) and third (e.g. algae-based) generations of biofuels.⁹¹ Some biofuels, like biodiesel, are clearly placed under the SCM Agreement.⁹²

The question of classification is important as the rules of the SCM and the AoA agreements differ in nature. For example, unlike the SCM Agreement, the AoA does include 'green box' exceptions which exclude some subsidies from reduction commitments. For instance, among other types of permitted programs, Annex 2 of the AoA specifically mentions: "research, including general research, research in connection with environmental programs, and research programs relating to particular products".⁹³ However, as direct price support for producers remains prohibited, the value of this exception is rather limited.⁹⁴ The use of the AoA's 'green box' exceptions is further restricted by other conditions. They must not distort international trade and they must be provided by a governmental funded program.⁹⁵

There are many examples of biofuel support schemes.⁹⁶ The terms of each scheme may be different, and therefore their compatibility with WTO law may vary. In the

<http://ictsd.org/downloads/2012/02/biofuels-subsidies-and-the-law-of-the-wto.pdf> [hereinafter Harmer]; Stephanie Switzer & Joseph McMahon, *EU Biofuels Policy – Raising the Question of WTO Compatibility*, 60(3) INT'L & COMP. L. Q. 713, 719 (2011) [hereinafter Switzer & McMahon].

⁸⁷ Agreement on Agriculture, Marrakesh Agreement Establishing the World Trade Organization, Annex 1, April 15, 1994, 33 I.L.M. 1144 [hereinafter Agreement on Agriculture].

⁸⁸ Sadeq Z. Bigdeli, *supra* note 28, at 173.

⁸⁹ See Annex 1 to the Agreement on Agriculture (ethanol is classified under HS 22). See Sadeq Z. Bigdeli, *supra* note 28, at 172, 173.

⁹⁰ Harmer, *supra* note 86; Sadeq Z. Bigdeli, *supra* note 28, at 173, 174.

⁹¹ Switzer & McMahon, *supra* note 86.

⁹² Biodiesel is classified under chapter 38 of the HS Code (HS 382490).

⁹³ Agreement on Agriculture, *supra* note 87, ¶ 2(a), Annex 2.

⁹⁴ Harmer, *supra* note 86, at 10.

⁹⁵ Agreement on Agriculture, *supra* note 87, Annex 2.

⁹⁶ For a detailed review, see Harmer, *supra* note 86, at Annex I.

U.S., federal tax credits for blending biofuels have been used extensively.⁹⁷ Tax credits can be considered as ‘subsidies’ according to the SCM Agreement (which also covers uncollected government revenue). Other forms of government support that are being used include, *inter alia*, operating grants based on production output, loans, loan guarantees, feedstock subsidies and blending obligations. Depending on the exact details of each program, the vast majority of these schemes can potentially be considered as conferring a ‘subsidy’ according to the SCM Agreement.

Several authors have claimed that at least some of these subsidies can be successfully challenged under the SCM Agreement.⁹⁸ Again, such a determination would depend on the exact details of each support scheme, and these vary to a great extent. For example, Kerr & Loppacher argue that a former U.S. subsidy granted to biofuel refiners that was contingent on the use of soybean oil could have been regarded as a prohibited subsidy, as at the time soybeans were grown mainly in the U.S. and therefore the subsidy could be regarded as contingent on the use of local content and thus prohibited according to Art. 3.1(b) of the SCM Agreement.⁹⁹ A similar argument was made recently by Argentina concerning the sustainability criteria adopted by the EU.¹⁰⁰ It was argued, *inter alia*, that the EU’s decision according to which, soybean-based biodiesel (which Argentina exports to the EU in large volumes) does not qualify as ‘sustainable’, *de facto* supports EU biofuel producers, and thus should be regarded as contingent on the use of local content.¹⁰¹

Sustainability criteria could also be challenged more directly, based on their *raison d’être*. Sustainability issues were raised following the increased use of biofuels, often argued to result in increased food prices and deforestation. Second generation biofuels are therefore being developed in order to address many of these ethical and environmental problems. Problems with respect to the WTO law on subsidies may arise where, for example, second generation biofuels are taxed at lower rates than first generation biofuels, because chemically the final products are identical, and the only way to differentiate the two is on the basis of how they were

⁹⁷ Harmer, *supra* note 86, at 8, 9.

⁹⁸ Harmer, *supra* note 86 at 8-12; William Kerr & Laura Loppacher, *Trading Biofuels – Will International Trade Be a Constraint?* 5 CURRENT AGRIC., FOOD & RESOURCE ISSUES 50, 52 (2005), available at <http://caes.usask.ca/cafri/search/archive/2005-kerr6-1.pdf>; Phoenix Cai, *Think Big and Ignore the Law: U.S. Corn and Ethanol Subsidies and WTO Law*, 40(3) GEO. J. INT’L L. 865 (2009); Sadeq Z. Bigdeli, *supra* note 28, at 183.

⁹⁹ Kerr & Loppacher, *id.* at 52.

¹⁰⁰ EU *Biofuels*, *supra* note 1, at 6.

¹⁰¹ *Id.*

processed and produced, i.e. via a PPM-based measure.¹⁰²

At the moment it is not clear whether it would be accepted that the two are not in a “similar situation”,¹⁰³ and therefore the exemption of one type of biofuels from taxation might be considered as “government revenue that is otherwise due is foregone or not collected”, and therefore be considered as a ‘subsidy’.¹⁰⁴ In the author’s view, the comment made by the AB in the *Canada FIT* case, according to which the “inputs and processes of production used to produce the product”¹⁰⁵ are in fact relevant for the ‘like products’ test, may indicate that sustainability criteria should be considered as compatible with WTO law. This is so especially in light of the context in which sustainability criteria are often adopted, as a part of obligations to blend, or to purchase sustainable biofuel. These obligations can be connected to the government’s “choice of supply mix”,¹⁰⁶ as well as to “supply-side” factors (i.e. different production “costs and characteristics”¹⁰⁷), which are the very elements on which the AB based its decision to differentiate RE from conventional types of energy in the *Canada FIT* case.

i. Specificity and adverse effects

Whether biofuel subsidies can be regarded as ‘specific’ depends on the circumstances of each market, and the exact details of each support scheme. The subsidisation of only certain biofuels for example, may be regarded as ‘specific’. Furthermore, if biofuels are to be considered as a part of the general energy market, it is likely that ‘specificity’ would be determined.

Claims of adverse effects may also arise as a result of the application of sustainability standards to trade in biofuels. For example, certain producers of first generation biofuels may be adversely affected by current sustainability criteria. The American Soybean Association has already expressed concerns to the U.S. Trade Representative that soy bean exports to European states have “declined significantly” since the EU began to implement its sustainability criteria for biofuels.¹⁰⁸

¹⁰² Andrew Mitchell & Christopher Tran, *The consistency of the EU renewable energy directive with the WTO Agreements*, ¶ 6 (Georgetown Bus., Econ. & Regulatory Law Research Paper No. 1485549, Oct., 2009), available at http://scholarship.law.georgetown.edu/cgi/viewcontent.cgi?article=1121&context=fwps_papers.

¹⁰³ AB Report, *United States – Tax Treatment*, *supra* note 57.

¹⁰⁴ SCM Agreement, *supra* note 26, art. 1.1(a)(1)(ii).

¹⁰⁵ AB Report, *Canada FIT*, *supra* note 65, ¶ 5.63.

¹⁰⁶ *Id.* ¶ 5.175.

¹⁰⁷ *Id.* ¶ 5.174.

¹⁰⁸ AM. SOYBEAN ASS’N, *supra* note 4.

D. *Current disputes under the WTO*

Part II(C) of this article includes mostly hypothetical conflicts i.e., scenarios in which trade disputes could potentially arise due to climate change regulation. However, in recent years it has become clear that such potential for disputes is quite real, as several international trade disputes related to climate change support schemes have been initiated by states. Not all of these disputes have resulted in WTO panel reports, or even in an official complaint.¹⁰⁹ These incidents do, however, demonstrate that the potential for trade disputes in this field should indeed be taken seriously. The following part reviews two disputes that have recently made their way to the WTO DSB – The first involves the Canadian Province of Ontario's FIT program, and the second China's support schemes for the production of RE goods.

1. The Canada FIT dispute

In 2011, two WTO disputes (later merged into one case) were launched by Japan and the EU against the FIT program adopted by the province of Ontario in Canada.¹¹⁰ Both Japan and the EU argued that Ontario's FIT program includes the allocation of subsidies contingent on the use of domestic goods, which is prohibited according to the SCM Agreement.

Ontario's FIT program guarantees high prices for the producers of clean energy, for a period of 20 years (40 years for hydropower). Unlike the German program that was disputed in the *PreussenElektra AG* case, this case concerns state controlled companies, most notably Hydro One, the largest transmission company in Ontario and owner of 96% of the transmission facilities in this province.¹¹¹ The FIT program, as reported by the media, was considered as successful and attracted *inter alia* a USD 6.7 billion investment from Samsung for the purpose of building wind and solar power facilities.¹¹²

Ontario's objectives, however, were not only the promotion of green energy, but also the creation of jobs and the revitalisation of its domestic economy. The FIT

¹⁰⁹ See for example, AM. SOYBEAN ASS'N, *supra* note 4; also see the Australian climate change regulation <AUTHOR: Please specify the particular regulation being referred to>.

¹¹⁰ AB Report, *Canada—Renewable Energy*, *supra* note 9; AB Report, *Canada FIT*, *supra* note 9.

¹¹¹ *Quick Facts, HYDRO ONE*, <http://www.hydroone.com/OurCompany/Pages/QuickFacts.aspx>.

¹¹² Sustainable Prosperity, *Domestic Content Requirement for Renewable Energy Manufacturing*, SUSTAINABLE PROSPERITY POL'Y BRIEF, 5 (Apr. 2012), <http://www.sustainableprosperity.ca/dl789&display>.

program was therefore also aimed at creating about 50,000 new jobs.¹¹³ In order to reach this objective a domestic content requirement was included in this program, according to which large installations are required to use a minimum domestic content of 25-60% (calculated upon expenditures on equipment, resources, services, etc.).¹¹⁴

This case emphasises the connection between environmental and economic objectives, and the political trade-offs often necessary in order to achieve mutually beneficial policies. On the one hand, it could very well be that Canada's subsidies are distorting the global market for environmental goods and services. On the other hand, it could also be that without such a 'sacrifice', the governmental resources invested in the promotion of clean energy would have been invested elsewhere. The green benefits in this respect, are highly contingent on the potential for domestic economic and social gains. Following the annulment of Ontario FIT program's 'local content' requirement (due to the AB ruling described below¹¹⁵), Ontario decided to significantly cut its obligation to buy electricity from RE generators. This fact may be seen as supportive of this conclusion.¹¹⁶

The implications of this case may have importance for other countries besides Canada, and may affect more than just economic or environmental interests. Recently it was reported that South-Africa is contemplating similar 'local content' rules for its own RE programs.¹¹⁷ According to this media report, the South African local content requirement is intended to support objectives "beyond the mere production of energy from renewable sources", such as "the sustainable economic empowerment of all black people".¹¹⁸ South Africa indeed placed "localisation targets" in several of its green economy plans, including a 35% local content requirement for solar water heaters by 2016, which is expected to increase

¹¹³ Global Subsidies Initiative, *WTO subsidy dispute round-up*, INT'L INST. FOR SUSTAINABLE DEV. (Nov. 9, 2010), <http://www.iisd.org/gsi/news/wto-subsidy-dispute-round-0>.

¹¹⁴ *Id.*

¹¹⁵ AB Report – *Canada FIT*, *supra* note 9.

¹¹⁶ Shaun Campbell, *Ontario slashes Samsung deal following WTO ruling*, WIND POWER MONTHLY, June 24, 2013, <http://www.windpowermonthly.com/article/1187471/ontario-slashes-samsung-deal-following-wto-ruling> [hereinafter Campbell].

¹¹⁷ Happy Masondo, *South Africa: What Is Contained In Local Content Under The Renewable Energy Procurement Programme?*, MONDAQ, Apr. 5, 2012, <http://www.mondaq.com/x/171708/Renewables/What+Is+Contained+In+Local+Content+Under+The+Renewable+Energy+Procurement+Programme> [hereinafter Masondo].

¹¹⁸ Masondo, *id.*; see further on the connection between the black empowerment legislation and the local content requirement in, WTI Advisors, *Local Content Requirements & the Green Economy*, UNITED NATIONS CONF. ON TRADE & DEV., 37 (Feb. 2013), http://unctad.org/meetings/en/Contribution/DITC_TED_13062013_Study_WTI.pdf [hereinafter WTI Advisors].

up to 75% in the future.¹¹⁹ As the use of ‘local content’ requirements is becoming increasingly popular in green economy strategies around the world,¹²⁰ it is to be expected that such measures will be repeatedly challenged before the WTO also in the future.

i. The Panel Report

A Panel report was issued on 19 December 2012.¹²¹ The Panel did not directly address the local content requirement in the context of the SCM Agreement, as it decided that the complainants were not able to demonstrate that the FIT program should be considered as an actionable subsidy. The Panel agreed that the FIT program includes a ‘financial contribution’, as it involved the “governmental purchase of goods”,¹²² but was divided as to the second component of the definition of ‘subsidy’ - the existence of a ‘benefit’.

The complainants in this case argued that the prices provided by Ontario were higher than those offered in the markets. In order to determine the market price, the complainants proposed several benchmarks. First, it was suggested that the wholesale/retail prices of electricity in Ontario could be used. Secondly, it was suggested that the prices in four other neighbouring jurisdictions (in which, it was argued, the electricity markets were not distorted) could be used.¹²³ As a third alternative, it was suggested that the prices at which electricity was exported from, and imported to, Ontario, could serve as an indicator for the a genuine, non-distorted market price.¹²⁴

The claimants further argued that without the FIT program, the RE generators would not have been commercially viable under the current market conditions, and therefore it should be accepted that this program is providing a ‘benefit’.¹²⁵ Lastly, it was argued that the fact that the FIT program provided guarantees for 20 years of activity in itself constitutes a ‘benefit’, as such a guarantee is not otherwise available in the markets.¹²⁶

Canada on the other hand, argued that the correct benchmark for the determination of the ‘benefit’ component should not be the market prices provided by the complainants (which represent the general prices of energy,

¹¹⁹ WTI Advisors, *id.* at 41, 44.

¹²⁰ WTI Advisors, *id.* at 38.

¹²¹ Panel Report, *Canada FIT*, *supra* note 74.

¹²² SCM Agreement, *supra* note 26, art. 1.1(a)(1)(iii).

¹²³ Panel Report, *Canada FIT*, *supra* note 74, ¶¶ 7.250, 7.258.

¹²⁴ *Id.* ¶ 7.299.

¹²⁵ *Id.* ¶ 7.252.

¹²⁶ *Id.* ¶ 7.255.

regardless of source), but rather the market prices of RE alone.¹²⁷ Canada also argued that the higher costs of production inherent in RE should be included in the calculation of such a benchmark.¹²⁸ Lastly, it was argued by Canada that the general energy market is distorted to begin with, and therefore the prices provided by the complainants do not genuinely reflect ‘competitive market prices’.¹²⁹

The Panel rejected Canada’s argument that the determination of the market price benchmark should be in accordance with the RE market alone.¹³⁰ *First*, as stated by the complainants (as well as by other third parties to this dispute¹³¹), consumers in Canada purchase electricity according to a ‘general’ electricity price (i.e. the price that represents a blend of *all* sources), and cannot in reality choose to pay the RE prices, as assumed by Canada. The RE energy market, in this respect, is completely theoretical. *Secondly*, according to WTO law where the final products are identical, the manner in which each was produced cannot serve as a justification for treating them differently. Therefore, the electricity produced from RE sources cannot be distinguished from electricity produced by non-renewable sources.

However, the Panel rejected also the complainants’ arguments concerning the correct benchmark for the determination of a market price. It described in great length the fact that the energy market in Ontario is distorted, and therefore the market-prices relied upon by the complainants do not represent the correct benchmark for the determination of a ‘benefit’. The Panel also rejected the EU’s attempt to use the prices at which electricity was traded between Ontario and its neighbouring states/provinces as the right benchmark, as the EU failed to demonstrate that the prices in these provinces or U.S. states were not distorted as well.¹³² The Panel also rejected the comparison between Ontario and the four neighbouring provinces or states, in which, according to the complainants, free energy markets existed. The Panel explained that there were additional sources of revenues available to electricity generators in these territories,¹³³ and that different conditions in these markets invalidate the comparison between them and Ontario’s.¹³⁴

Interestingly, the Panel also stated that even if a competitive market price would have been demonstrated, it cannot serve as the appropriate benchmark in such a

¹²⁷ *Id.* ¶ 7.259.

¹²⁸ *Id.* ¶ 7.260.

¹²⁹ *Id.* ¶ 7.261.

¹³⁰ *Id.* ¶ 7.318.

¹³¹ *See for example*, the position of Australia, Brazil, China on this issue, *id.* ¶¶ 7.264, 7.266.

¹³² *Id.* ¶ 7.301.

¹³³ *Id.* ¶ 7.305.

¹³⁴ With respect to the comparison with the Alberta market, in which it was agreed that indeed competitive conditions existed, *see id.* ¶ 7.306.

case.¹³⁵ The reason for this is that where a competitive price exists, public policy objectives such as the diversification of energy sources and the reduction of GHG emissions (mentioned in the report only as “environmental impacts”), could not be achieved.

The Panel’s rejection of the numerous benchmarks presented by the parties, as well as the use of the competitive market price benchmark in general, leaves the WTO Members wondering what should be the right benchmark for evaluating the existence of ‘benefit’ in similar cases. Indeed the EU has asked the Panel to identify the proper benchmark in such a case.¹³⁶ The Panel made the following suggestion:¹³⁷

“one way we believe it is possible to evaluate whether the challenged measures confer a benefit, that at the same time maintains a market-based discipline, is by evaluating the commercial nature of the FIT and microFIT Contracts against the actions of private purchasers of electricity in a wholesale market where the conditions of supply and demand mirror those that currently exist in Ontario.”

As part of the relevant conditions, the Panel mentions Ontario’s ambitious plans to eliminate coal-fired electricity plants, and Ontario’s decision that at least part of its future additional energy supply should be derived from RE sources. The complainants, according to the Panel, should have compared the FIT contracts to other commercial electricity contracts offered by distributors, acting under similar obligations to purchase electricity from RE sources.¹³⁸ The Panel further suggests comparing the rate of return available under the FIT program with the cost of capital for other projects with a comparable risk profile.¹³⁹

Although the Panel refrained from evaluating the local-content requirement against the SCM Agreement, eventually it did find it incompatible with other WTO rules, namely the non-discrimination rules as prescribed by Article 2.1 of the TRIMs Agreement, and Article III:4, GATT. The national treatment rule and its relevance to climate change policies however are beyond the scope of this article, and the author will not elaborate on these issues.¹⁴⁰

¹³⁵ *Id.* ¶ 7.320.

¹³⁶ *Id.* ¶ 7.321.

¹³⁷ *Id.* ¶ 7.322.

¹³⁸ *Id.* ¶ 7.323.

¹³⁹ *Id.* ¶ 7.323.

¹⁴⁰ In a nutshell, the local-content requirement was ruled to be similar to one of the examples provided by the TRIMs Agreement’s Illustrative List, which is intended to

ii. The AB Report

The Panel Report was appealed by both parties to this dispute and the matter was brought before the AB. Although the outcome of the AB decision was similar to that of the Panel, it strongly disagreed with the Panel's interpretation of the SCM Agreement. The AB started by rejecting the Panel's determination that non-economic considerations, such as the necessity to promote investment in RE and protect the environment, are relevant for the 'benefit' test. It was explained that accepting such considerations as being relevant would be similar to creating an exception to the 'benefit' test.¹⁴¹

The AB continued by also rejecting the Panel's determination concerning the (non-)existence of two separate energy markets. The AB ruled that the market for RE is separated from the market for conventional sources of energy, and therefore a 'benefit' could not be evaluated in light of the lower, general prices paid for electricity in Ontario.¹⁴² The AB provided three reasons for this determination. First, the costs of RE production are significantly higher than those of traditional electricity.¹⁴³ Second, there is no 'market-intervention', as the state in fact creates the market for RE (i.e. without state intervention there would be no market).¹⁴⁴ Lastly, the state is free to define its own supply-mix of electricity generation technologies¹⁴⁵ (a decision that could be affected by environmental considerations), and such a decision cannot be considered as conferring a benefit.

In the author's view, the AB's considerations are essentially not much different from the Panel's approach, as they result from the same policy-objectives relied upon by the Panel. The reasons for the creation of the RE market, or for the state's decision on its energy supply-mix, are in fact the implementation of the very policy-objectives stated by the Panel. Similarly, it is hard to imagine that without these policy-objectives the AB would have deemed higher production costs to be a sufficient reason for holding two, otherwise similar products, as competing in separate markets. In short, both the AB and the Panel seem to accept that the unique circumstances surrounding RE production justify an approach which *de facto* exempts RE from the rules applying to the general energy market.

iii. Canada FIT: Conclusion

demonstrate which situations should be considered as clearly violating the national treatment rule; *id.* ¶ 7.166.

¹⁴¹ AB Report – *Canada FIT*, *supra* note 65 ¶ 5.182.

¹⁴² *Id.* ¶ 5.190.

¹⁴³ *Id.* ¶ 5.189.

¹⁴⁴ *Id.* ¶ 5.188.

¹⁴⁵ *Id.* ¶ 5.175.

In the author's view, both the Panel's and the AB's determination seem to bridge some of the difficulties inherent in the WTO law on subsidies with respect to climate change policies. Most notably, the Panel accepts that other non-economic factors should be evaluated as part of the relevant legal tests. Similarly, the AB accepts that elements such as the production method used for the generation of energy, and considerations such as the state's right to choose its preferred supply-mix of electricity, are all relevant for the legal analysis of the 'benefit' test. This can be seen as an evolution in the interpretation of the SCM Agreement, which prior to this case was described as operating in isolation from the motives for the subsidies,¹⁴⁶ but now accepts policy-considerations such as the need to encourage RE generation.

2. China-U.S. RE dispute(s)

In December 2010, the US brought a complaint against China under the WTO, *inter alia* due to the latter's "Special Fund for Wind Power Manufacturing" program.¹⁴⁷ The Chinese program allegedly provided subsidies (according to some publications, between USD 6.7-22.5 billion¹⁴⁸) that were contingent on the use of domestically manufactured components. Following the complaint made by the U.S., China cancelled this program and the case was discontinued.¹⁴⁹

Interestingly, however, China has argued that the subsidies mentioned were aimed at enhancing investment in R&D, a claim that may have been helpful if 'green light' exemptions had not expired. In a statement made by China's mission to the WTO following the revocation of the Chinese measures, it was stated:

"China noticed that the US had misunderstandings on the measure at issue, and has made clarifications in the consultations for this dispute,

¹⁴⁶ HUFBAUER, CHARNOVITZ & KIM, *supra* note 1, at 63, 64; Written Submission of Non-Party Amicus Curiae, *Canada – Certain Measures Affecting the Renewable Energy Generation Sector*, ¶ 57 (Mar. 12, 2013), available at <http://www.worldtradelaw.net/amicus/RubiniCanadaRenewableEnergyAmicus.pdf>.

¹⁴⁷ Consultations, *China – Measures concerning wind power equipment*, DS419 (Dec. 22, 2010). [hereinafter *China wind-power*].

¹⁴⁸ Jonathan Watts, *Wind Direction Unchanged by US Trade Victory over China*, THE GUARDIAN, June 9, 2011, <http://www.guardian.co.uk/environment/blog/2011/jun/09/china-us-trade-dispute-wind-power-subsidies> [hereinafter Watts].

¹⁴⁹ See *Regular Press Conference of the Ministry of Commerce on June 15, 2011*, MINISTRY OF COM., CHINA (June 29, 2011), <http://english.mofcom.gov.cn/aarticle/newsrelease/press/201106/20110607623883.html>; see also Press Release, U.S. Trade Representative, *China Ends Wind Power Equipment Subsidies Challenged by the United States in WTO Dispute* (June 2011), available at <http://www.ustr.gov/about-us/press-office/press-releases/2011/june/china-ends-wind-power-equipment-subsidies-challenged>.

[...]. The aim of the measure at issue is to enhance investments on research and development in wind power technology, but not to use domestic goods instead of imported goods.”¹⁵⁰

Several commentators have criticised the result of this case.¹⁵¹ It was argued for example, that while Chinese subsidies undeniably distorted the wind turbines market, they in fact levelled the playing field concerning a much more important competition – with the heavily subsidised fossil fuel-based energy.¹⁵² Others have added that instead of frustrating China’s heavy support for its domestic wind power industry, the U.S. would have done well to have levelled this playing field by increasing its own green investment.¹⁵³

Despite China’s revocation of the above mentioned scheme, the U.S.-China trade war is yet far from over. In December 2011, the U.S. Wind Tower Trade Coalition filed another petition to the U.S. International Trade Commission (“ITC”), requesting that anti-dumping and countervailing duties’ investigations be conducted concerning alleged Chinese and Vietnamese subsidies on wind power equipment imported into the U.S.¹⁵⁴ The complainants argued *inter alia*, that these subsidies are contingent on the use of domestic content and on an export requirement, and therefore should be regarded as prohibited under the SCM Agreement. On 30 May 2012, the U.S. Department of Commerce accepted the complaint and imposed countervailing duties of 13.7-26% on the above mentioned goods.¹⁵⁵ On 27 July 2012, the U.S. Department of Commerce imposed further anti-dumping duties of 20.85-30.93% on wind power equipment manufactured by

¹⁵⁰ As quoted in ICTSD, *China to End Challenged Subsidies in Wind Power Case*, INT’L. CTR. FOR TRADE AND SUSTAINABLE DEV. (June 13, 2011), <http://ictsd.org/i/news/biores/108435/>.

¹⁵¹ Watts, *supra* note 148; see also Kevin Gallagher, *US should exercise green power*, ENVIRONMENT BLOG – THE GUARDIAN (Jan. 6, 2011), <http://www.guardian.co.uk/commentisfree/cifamerica/2011/jan/06/china-renewableenergy> [hereinafter Gallagher].

¹⁵² Watts, *supra* note 148; Ronald Steenblik, *Subsidies in the Traditional Energy Sector*, in GLOBAL CHALLENGES AT THE INTERSECTION OF TRADE, ENERGY AND THE ENVIRONMENT 183 (Joost Pauwelyn ed., 2010).

¹⁵³ Gallagher, *supra* note 151.

¹⁵⁴ U.S. *Manufacturers of Utility Scale Wind Towers File Dumping and Subsidy Petitions Against China and Vietnam*, WILEY REIN LLP (Dec. 29, 2011), <http://www.wileyrein.com/newsroom.cfm?sp=newsreleases&id=701>.

¹⁵⁵ *Fact Sheet: Commerce Preliminary Finds Countervailing Subsidization of Imports of Utility Scale Wind Towers from the People’s Republic of China*, INT’L TRADE ADMIN., U.S. DEP’T OF COM. (May 30, 2012), <http://ia.ita.doc.gov/download/factsheets/factsheet-prc-towers-cvd-prelim-20120530.pdf>.

several Chinese companies.¹⁵⁶ As a response, China has initiated its own investigation into U.S. support schemes and subsidies for its RE industry, and imposed anti-dumping and anti-subsidy duties on U.S. exports of polysilicon (which is used for the production of solar panels).¹⁵⁷

Another complaint by solar panel manufactures was launched in the U.S. against China's alleged subsidisation of its solar panels industry. This complaint was also successful and resulted in the imposition of anti-dumping duties of 31% on Chinese-made solar panels.¹⁵⁸ It seems the US-China dispute is expanding. Following a complaint made by 25 European solar companies (headed by the same SolarWorld who led the U.S. proceedings), the EU Commission in September 2012 has launched its own anti-subsidy and anti-dumping investigations concerning Chinese exports of solar equipment.¹⁵⁹ The dispute between China and the EU however, has been amicably resolved for time being, as the two agreed that a minimum price will be imposed on the products of major Chinese firms.¹⁶⁰

On May 2012, this long-standing saga found its way again to the WTO. At the time of writing this article, China had submitted a 'request for consultation' (on 25 May 2012) to the WTO with respect to, among other things, the above mentioned U.S. duties on its exports, and on 28 September 2012, a Panel was established.¹⁶¹ In its submission, China has contested the determination of the U.S. that the support granted to its industry constitutes a 'subsidy' according to the SCM Agreement. More specifically, China has claimed that the alleged subsidies were not granted by

¹⁵⁶ *Fact Sheet: Commerce Preliminary Finds Dumping of Imports of Utility Scale Wind Towers from the People's Republic of China and the Socialist Republic of Vietnam*, INT'L. TRADE ADMIN., U.S. DEPT. OF COM. (July 27, 2012), <http://ia.ita.doc.gov/download/factsheets/factsheet-china-vietnam-uswt-ad-prelim-20120727.pdf>.

¹⁵⁷ *China Levies 6.5% Tariff on U.S. Solar-Panel Materials*, WALL ST. J., Sept. 18, 2013, <http://online.wsj.com/news/articles/SB10001424127887323527004579079070572200630>.

¹⁵⁸ *Fact Sheet: Commerce Preliminarily Finds Dumping of Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules from the People's Republic of China* INT'L. TRADE ADMIN., U.S. DEPT. OF COM. (May 17, 2012), <http://ia.ita.doc.gov/download/factsheets/factsheet-prc-solar-cells-ad-prelim-20120517.pdf>.

¹⁵⁹ For the result of the anti-dumping investigation, Memorandum from the Eur. Comm'n on imposition of provisional anti-dumping duties on Chinese solar panels by EU (June 4, 2013), available at http://europa.eu/rapid/press-release_MEMO-13-497_en.htm; for details on the anti-subsidy investigation, see Memorandum from Eur. Comm'n, *supra* note 5.

¹⁶⁰ Press Release, European Commission, Commissioner De Gucht: "We found an amicable solution in the EU-China solar panels case that will lead to a new market equilibrium at sustainable prices" (July 26, 2013), available at http://europa.eu/rapid/press-release_MEMO-13-729_en.htm [hereinafter EU Press Release from 26/07/2013].

¹⁶¹ *Unites States – Countervailing Duty Measures on Certain Products from China*, WT/DS437/1 (2012), http://www.wto.org/english/tratop_e/dispu_e/cases_e/ds437_e.htm.

a 'public body'; that they were not 'specific', and that they did not confer a 'benefit' to their recipients. More details concerning China's claims were not made available by the time this article was written.

From what has emerged to date, the outcomes of these disputes are expected to negatively affect the sale and distribution of solar panels in important markets such as those of the U.S. and Europe. Due to the U.S.'s imposition of countervailing duties on low-priced Chinese-subsidised solar panels, such panels are expected to become less popular among U.S. consumers. Chinese producers of solar panels have indeed stated (with respect to possible EU sanctions) that further trade measures will prevent them from maintaining low prices.¹⁶² Indeed US companies that install solar panels opposed the imposition of countervailing duties on Chinese-subsidised solar panels, as such duties were expected to reduce the installation of solar panels in the American market.¹⁶³ Similar concerns were also expressed by European installation companies,¹⁶⁴ and indeed research performed on this issue indicates that duties imposed on subsidised Chinese solar panels will result in the shrinking of the European photovoltaic market, and a decrease in the demand for solar panels installations.¹⁶⁵

III. WTO LAW ON SUBSIDIES AND THE CLIMATE CHANGE CHALLENGE: SETTLING THE DISSONANCE

While it is evident that the WTO law on subsidies and climate change objectives are interlinked, the cases discussed in part II of this article demonstrate that this relationship includes many conflicting elements. At least legally, the result of the U.S.-China WTO dispute¹⁶⁶ seems correct (i.e. the revocation of Chinese subsidies and the imposition of CVD and AD duties). However, while such an outcome may be compatible with economic theories related to free trade, it seems to conflict with climate change abatement objectives, which in fact require the immediate subsidisation of climate friendly goods, services and investment. Consequently,

¹⁶² Swetha Gopinath & Thyagaraju Adinarayan, *Anti-dumping row casts shadow on Yingli*, *JA Solar outlook*, REUTERS, Aug. 29, 2012, <http://af.reuters.com/article/commoditiesNews/idAFL4E8JT4I420120829?sp=true>.

¹⁶³ Uclia Wang, *U.S. Solar Installers Oppose China Trade Complaint*, FORBES, Nov. 8, 2011, <http://www.forbes.com/sites/uciliawang/2011/11/08/solar-trade-dispute-over-china-intensifies/>.

¹⁶⁴ *Solar panel duty on Chinese imports could cost UK billions*, THE GUARDIAN, Feb. 19, 2013, <http://www.guardian.co.uk/environment/2013/feb/19/solar-panel-duty-chinese-imports>.

¹⁶⁵ Oliver Ehrentraut et al., *The impact of anti-dumping and/or countervailing measures on imports of solar modules, cells and wafers from China on EU employment and value added*, PROGNOS (Feb. 11, 2013), <http://www.solar-trade.org.uk/media/prognos%20report.pdf>.

¹⁶⁶ *China wind-power*, *supra* note 147.

both the disputes described above, as well as the legal analysis performed by the author with respect to other climate change policies, demonstrate that the dissonance described in the first part of this article, is detrimental and must be resolved.

In order to settle this dissonance, it could be that at least with respect to climate change, the WTO law on subsidies should not be based entirely on free market theories. This is mainly due to the unique features surrounding the problem of climate change, and the relevance of several non-commercial factors which must be taken into account.

First, the problem of climate change is extremely urgent and requires *immediate, heavy* investment. Even if one is to assume that the free market's 'invisible hand' will eventually make climate friendly technologies commercially-viable, such a process may take years to mature.¹⁶⁷ The trade-off in this case is therefore clear. On the one hand, subsidies such as those granted by China, may result with the immediate "flooding" of the markets with low-priced equipment and infrastructure, followed by a speedy reduction of emissions. There will be an immediate increase in the deployment of climate change infrastructure (which will in fact secure long-termed reductions). Such an option however, is accompanied by hypothetical damage to long-term competition. On the other hand, prohibiting such subsidies could perhaps result in hypothetical long-term gains, which are only speculative at the moment, and may arrive too late for the planet. From the climate change policy-making perspective, the first option seems more desirable as it provides immediate and concrete action (rather than a vague promise provided by the second option), which is more compatible with the urgency of the climate change problem.

Second, there is a political 'tragedy of the commons' element to climate change. Most politicians still consider climate change regulation as damaging for domestic economies' competitiveness (and local employment), and therefore are unwilling to support significant climate change mitigation efforts. Political commitments for climate change efforts in this respect, may come only once the advantages for domestic economies have been secured. A level of 'unfair' competition therefore, seems to be inevitable in order to convince governments to act, especially in light of the weak prospect for significant multilateral action. This argument is especially relevant with respect to the highly controversial 'local content' requirements.¹⁶⁸ While most economists will probably find these requirements to be damaging for

¹⁶⁷ Robert W. Fri, *The Technological Challenge of Climate Change* 40(3) THE BRIDGE: LINKING ENGINEERING AND SOC'Y 40 (2010), available at <http://www.nae.edu/File.aspx?id=24518>.

¹⁶⁸ For example, following the cancellation of the local content requirement due to the WTO AB's decision, Ontario slashed its investment; see Campbell, *supra* note 116.

the long-term competition,¹⁶⁹ it is hard to deny the added value of such when it comes to the political will to adopt support schemes in the first place, especially in times of economic difficulties. In other words, it could be that the choice in this respect is not between support schemes with no 'local content' requirements versus support schemes that include 'local content' requirements, but rather support schemes with 'local content' requirements, versus no support schemes at all.

Third, a deviation from the current rules may be justified from an economic point of view as well. Indeed authors like Sykes,¹⁷⁰ Hufbauer, Charnovitz & Kim,¹⁷¹ argue that the regulation of subsidies focuses exclusively on the measure taken by a state, and is blind to any surrounding economic circumstances. There is no investigation of other state measures that may have imposed difficulties on domestic industries, or affect their competitive position in international markets.¹⁷² As mentioned by the AB in the *Canada FIT* case, due to lack of competitiveness, much of the climate friendly industry cannot survive in free market conditions and requires subsidisation. Therefore the classic view of eliminating subsidies due to their distortive effect on free markets is simply not valid in this case, as without subsidies there will hardly be any market for these goods and services in the first place.

In light of the above, the recent approaches deployed by both the *Canada FIT* Panel and the AB seem promising. If adopted in future cases, these could offer a practical resolution of some of the conflicting aspects described above, most notably to the "blindness" shown by the WTO law to the circumstances surrounding each subsidy, and the existence of non-economic considerations that must be taken into account. On the other hand, the impact of the approaches presented in this case is naturally limited and cannot influence the first and the second points described above. In this respect, the AB's ruling will not change the result of disputes such as between the U.S. and China or the EU and China, nor can it legitimise taboos such as 'local content' requirements, which may be politically necessary.

In the author's view, a specialised regime that will balance the advantages of free trade, in light of the unique circumstances of the climate change issue may better

¹⁶⁹ For a review of the arguments against local content requirements, see Jan-Christoph Kuntze & Tom Moerenhout, *Local Content Requirements and the Renewable Energy Industry – A Good Match?*, INT'L CTR. FOR TRADE AND SUSTAINABLE DEV., 7 (May, 2013), <http://ictsd.org/downloads/2013/06/local-content-requirements-and-the-renewable-energy-industry-a-good-match.pdf>.

¹⁷⁰ Sykes, *supra* note 25.

¹⁷¹ HUFBAUER, CHARNOVITZ & KIM, *supra* note 1, at 63, 64.

¹⁷² Sykes, *supra* note 170/170, at 24.

reflect the potential for mutual-supportiveness existing between international trade and climate change objectives. Through the adoption of such a balanced regime, the author believes that the dissonance displayed by this interaction, can be alleviated.

For example, under such a specialised regime certain types of subsidies, mostly subsidies that are necessary for the correction of market failures, will be permitted. This, of course, will require a far more liberal approach towards the notion of subsidies. Such an approach for example, could include the consideration of such factors as those mentioned by the AB in the *Canada FIT* case, most notably the costs of production. Such an agreement could also revive the expired “green light” subsidies with respect to climate change alone, and even increase the scope of some of these exceptions, for example by removing any obstacles on climate-friendly R&D subsidies.

Furthermore, in the author’s view the use of ‘local content’ requirements should not be entirely banned. In light of the importance of ‘local content’ requirements as a measure to “sweeten the pill” of adopting support schemes in the first place, it could be argued that a limited amount of ‘domestic content’ conditions should be permitted. A specific percentage and a phase-out time frame could be agreed upon for the purpose of this rule.

In order to reflect the advancement in climate friendly technologies, and as some of these technologies are expected to reach or already have reached, higher levels of commercial maturity, it could be agreed that such an agreement be limited to a specific period of time in order to allow the parties to re-evaluate the situation and re-negotiate accordingly.

Lastly, in light of the urgency of the climate change problem, it could be that a more radical solution should be considered. For example, an ‘open season’ solution with respect to subsidies, limited for 3-6 years, could be beneficial for long-termed emission reductions. Removing all restrictions on subsidisation of the climate change industry may result in an ‘armament race’ between states. Each state will attempt to equip its own industry as best possible, before the 3-6 years window is closed. Such a solution will benefit from the current timing, as governments are highly inclined to make large investments in order to recover from the current economic slowdown.¹⁷³

¹⁷³ See concerning the increase in investment following the economic slowdown in, Stephen Orava, *Incentives to stimulate renewable energy*, in GLOBAL CHALLENGES AT THE INTERSECTION OF TRADE, ENERGY AND THE ENVIRONMENT, 197 (Joost Pauwelyn ed., 2010); concerning the need to invest in the current timing, see Dimitri Zenghelis, *In praise of a green stimulus* 5(1) WILEY INTERDISC. REV.: CLIMATE CHANGE 7 (2014).

Such a solution would mirror the urgency embedded in the climate change problem, according to which substantive action must be taken immediately. Furthermore, the nature of climate change technology implies that such a massive, immediate investment would result in the immediate deployment of infrastructure, even if it would eventually frustrate the long-term competition in this field. In turn, this would result in long-term environmental benefits. Simply put, the environmental benefits from a solar panel installed today may last for many years.

The above suggestions require the amendment of the existing regulatory framework. However, in light of the difficulties to introduce meaningful changes into the WTO framework, and considering the fact that climate change is currently not even on the negotiations agenda, it could be that the most realistic way forward is the use of diplomatic, non-legal solutions, such as the application of political self-restraint by states (i.e. avoiding challenging one another's support schemes, where possible¹⁷⁴).

Alternatively, recourse to more flexible diplomatic channels, such as the agreement reached by the EU and China, could also be used. The two parties agreed to replace EU duties on Chinese solar panels with an agreed minimum price. According to EU Trade Commissioner De Gucht, this will represent "a new market equilibrium at sustainable prices".¹⁷⁵ According to the EU Press Release, the minimum prices agreed on in this agreement will "take account of the particular and unique circumstances of the solar panel market" and are "intended to strike a balance between two key elements: it permits to remove the injurious dumping found and allows at the same time for a stable solar panel supply to the EU market." In other words, the EU acknowledges in this agreement that the low prices of Chinese made panels are desirable, and should be balanced against the EU's local industry's interests.

Similar flexible, creative attempts to resolve the current state of affairs are also being made in the U.S., where the Solar Energy Industries Association (SEIA) is currently promoting a compromise between the US and China in order to resolve the ongoing trade dispute.¹⁷⁶ The SEIA draft recommendation is based on ending the use of trade remedies, and the establishment of a fund by Chinese

¹⁷⁴ The author is aware that in certain jurisdictions, such a solution will not be possible due to the rules concerning the initiation of AD and CVD investigations.

¹⁷⁵ EU Press Release from 26/07/2013, *supra* note 160.

¹⁷⁶ *Draft Recommendation to Governments for the Establishment of a U.S.-China Solar Agreement* SOLAR ENERGY IND. ASS'N (Aug. 14, 2013), <http://www.seia.org/research-resources/draft-recommendation-governments-establishment-us-china-solar-agreement>.

manufactures which will compensate the US industry.¹⁷⁷

Such bilateral solutions allow the parties to deviate from the existing rules and create a new framework, one in which external considerations (such as the importance of climate change abatement) as well as the unique circumstances surrounding this market, could be considered. In other words, it could be that the best way to settle this dissonance would be to avoid using the regulatory framework that created it in the first place.

IV. CONCLUSION

This article demonstrates the existence of concrete, and theoretical, conflicts between certain laws of the WTO and climate change abatement objectives. At the heart of this fragmentation lies what seems to be best described as a dissonance: a free market based system (the WTO) that is asked to promote economically-inefficient objectives (climate change abatement objectives). As this dissonance is detrimental to climate change policies, it is imperative that it should be settled. Settling it however, requires the making of significant legal reforms.

The recent *Canada FIT* case represents the beginning of a significant breakthrough in overcoming the dissonance. Although the impact of the decision of the AB may be limited in scope, it represents an attempt to address the most common critique on the WTO law on subsidies, namely the “blindness” to the surrounding circumstances of each subsidy, and to the attainment of non-economic policy-objectives. The agreement concluded between the EU and China represents another way in which states may bypass the difficulties imposed by the current regulatory framework. In the author’s view, these two developments may signify two parallel routes through which, eventually, the regulation of subsidies will be adjusted to cope with the climate change challenge and the subsidisation of RE.

¹⁷⁷ This idea is based on a similar fund that was established in an agreement between the US and Brazil, in order to compensate the Brazilian cotton industry for the use of subsidies in the US; see *Brazil, US Strike Framework Deal in Cotton Dispute*, BRIDGES WEEKLY TRADE NEWS DIGEST (June 23, 2010), <http://ictsd.org/i/news/bridgesweekly/78816/>.