Trade and Investment Law Clinic Papers, 2014

Addressing the rise of Trade Remedies against Environmental Goods

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List of Abbreviations

AD	Anti-dumping Duty
ADA	Anti-Dumping Agreement
APEC	Asia-Pacific Economic Cooperation
ASCM	Agreement on Subsidies and Countervailing Measures
CDSOA	The Continued Dumping and Subsidy Offset Act
DOC	United States Department of Commerce
ECT	Energy Charter Treaty
EGS	Environmental Goods and Services
EU	European Union
FIT	Feed in Tariffs
GATT	General Agreement on Tariffs and Trade
GEA	Green Energy Act
GHG	Greenhouse Gas
HS	Harmonized System
IPCC	Intergovernmental Panel on Climate Change
ITC	United States International Trade Commission
ITC	Investment Tax Credit
JCCT	U.S.-China Joint Commission on Commerce and Trade
JNNSM	Jawaharlal Nehru National Solar Mission
LCR	Local Content Requirements
MFN	Most-Favoured-Nation
MOFCOM	Chinese Ministry of Commerce
OECD	Organization for Economic Co-operation and Development
OEM	Original Equipment Manufacturer
POI	Period of Investigation
PV	Photovoltaic
PTC	Production Tax Credit
SEIA	Solar Energy Industries Association
UNCTAD	United Nations Conference for Trade and Development
US	United States of America
WTO	World Trade Organization

Executive Summary:

This research paper analyses the current problem of frequent resort to trade remedies for environmental goods and makes recommendations to resolve this problem. Specifically it tries to examine the issue, whether the imposition of trade remedies (that is levying of anti-dumping and countervailing duties) on environmental goods undermines the efforts at trade liberalisation, by tariff reduction for environmental goods.

This paper divided into 4 parts, part I establishes the context within which the issue of trade remedies arises. Part II examines the law under the WTO regime applicable to trade remedies. Part III in light of the findings of Part I and II tries to identify the problem and analysis the scope of the problem. Finally Part IV makes certain recommendations that could assist in overcoming the present crises.

Part I discusses the several contexts within the international sphere wherein the issue of international trade in environmental goods is relevant. Therefore it discusses the progress made by the Committee on Trade and Environment in Special Session at the WTO, the APEC members' consensus for a list of a list of 54 broad product categories (comprising of whole 6-digit HS sub-heading) as well as the context of Energy Charter Treaty. The specific context of trade remedies and environmental goods is also identified. This is the sub-category of environmental goods, that is renewable energy products; products important for the generation of solar, wind and biofuels.

Part II of the paper analysis the provisions of the trade remedy law (that is safeguards, anti-dumping and subsidies) of the WTO relevant to the context of renewable energy. The provisions of safeguards are not relevant for this specific context, since no instance safeguard imposing measure was found. In the context of anti-dumping investigations the decisions of the domestic authorities firstly reveal a systemic bias in favour of domestic industry and more indicates other factors that may have a mitigating effect on a finding of injury due to dumping. With respect to countervailing duty investigation in the area of renewable energy, apart from the complex nature of its market which may render the benchmark in gauging the conferral of benefit imprecise, another problem that transpires is the difficulty to

deviate the ultimate finding of specificity because, in reality, environmental policies are prone to being targeted to ensure effectiveness together with the fact that renewable energy industry is still developing and miniscule.

Part III of the paper analysis the findings of part I & II. It examines the dichotomy between tariff reductions (for liberalisation of international trade in environmental goods) and increase in use of trade remedies; and secondly, in the light of the first finding, identify the cause for this surge in trade remedies for certain environmental goods. As regards the first issue in the light of the finding that trade remedies have only been imposed on a smaller sub-group of environmental goods, that is, renewable energy products, the dichotomy only exists for renewable energy goods and not for all environmental goods. Secondly, as regards the second issue, modification and withdrawal of government support schemes has been identified as a major cause for the resort to trade remedies. In that, the domestic governments have been using trade remedies as a protectionist measure for their domestic industries. Further due to the 2008 economic crises governments were compelled to withdraw their support schemes, and in place, have allowed trade remedies, to take the place and support the withdrawn and modified support schemes.

Finally, in light of the above, part IV of the paper makes the following recommendations to overcome and deal with the problem of trade remedies on renewable energy goods:

1) Need for negotiations at a smaller forum of relevant WTO member countries (Member Countries),
2) Following a policy of accepting Price Undertaking,
3) Implementing a Public Interest Test,
4) Creating a fund compensating the domestic producers of renewable energy,
5) Binding the rates of duty imposed as a result of finding of injury,
6) Limiting the number of Trade remedies in time,
7) Limiting the total number of trade remedies for renewable energy goods,
8) Peace Clause.

Introduction:

This paper critically examines the significance of a recent surge in trade remedies on environmental goods (see Appendix 1 Table 1) in the context of current efforts to liberalise trade in environmental products. The issue that this paper tries to address is, whether the unilateral imposition of trade remedies by *national* jurisdictions undermines liberalisation of *international* trade in environmental products.

Therefore both the international as well as the domestic contexts are relevant for the current efforts to liberalise trade in environmental goods and the issue of trade remedies for environmental goods.

The issue of trade remedies is intrinsically linked to tariff reduction, in the sense that tariff reduction may result in a zero sum game, if the practice of trade remedies on environmental goods goes unabated. Since the benefits sought to be achieved through tariff reduction on environmental goods internationally maybe undermined if this tariff reduction is met with increase in tariff pursuant to a trade remedy investigation domestically. To give an example of the problem, recently, the U.S. Department of Commerce (DoC) and the International Trade Commission (ITC) imposed anti-dumping and countervailing duties pursuant to an investigation against the dumped imports of dumped and subsidized solar panels from China.[1] China, in turn, initiated an investigation into U.S. subsidies for the solar, wind and hydroelectric industries (renewable energy industry). Finally, China imposed anti-dumping and countervailing duties on solar-grade polysilicon imports from the U.S.[2] Please refer to Appendix 1 Table 3 for details and illustration of retaliatory trade remedy actions in other jurisdictions, like India and EU. The EU determination of anti dumping duties on solar modules has affected trade worth EUR 11.5 billion[3]. It was one of the biggest

[1] USITC Pub. 4360 (2012), *Crystalline Silicon Photovoltaic Cells and Modules from China,* Inv. Nos. 701-TA-481 and 731-TA-1190 (Final), available at: http://www.usitc.gov/publications/701_731/pub4360.pdf.

[2] MOFCOM Announcement No. 69 (2011), 25 November, Its decision to launch a trade barrier investigation into the U.S. policy support and subsidies for its renewable energy sector. And final decisions imposing duty available at: http://english.mofcom.gov.cn/article/newsrelease/significantnews/201401/20140100468686.shtml and http://english.mofcom.gov.cn/article/newsrelease/significantnews/201401/20140100468790.shtml

[3] Kasteng, Jonas, (2013) "Targeting the Environment: Exploring a New Trend in the EU's Trade Defence Investigations", available at http://www.kommers.se/Documents/dokumentarkiv/publikationer/2013/rapporter/Targeting-the-environment.pdf, page 6.

trade remedy measures of EU till now[4].

This paper is divided into the following parts for the purposes of analyzing of the problem identified. Part I of the paper will discuss the various forums in the international context relevant in the light of the issue of tariff reduction and trade remedy. Part II will discuss the WTO law in relation to Trade Remedies as applicable in the domestic jurisdictions. Part III analysis the effects of the developments at international level and domestic level and their inter se relationship. It examines the dichotomy between tariff reductions (for liberalisation of international trade in environmental goods) and increase in use of trade remedies; and secondly, in the light of the first finding, identify the cause for this surge in trade remedies for certain environmental goods. Part IV discusses recommendation to overcome this temporary impasse. This part will also refer to the recommendations discussed in this context in the UNCTAD conference (on the 3rd & 4th April 2014) of the Ad hoc Expert Group 2, on "Green Economy and Trade: Trade Remedies in Green Sectors: the Case of Renewables".("Ad hoc Expert meeting")[5]

[4] Ibid, the other biggest case and the case of biodiesel from the US. The trade remedies on clean energy taken together, affect an import value of about EUR 14 billion, which is almost 75 per cent of the total for all of the trade remedies currently in force.

[5] For the papers discussed and contributed for this meeting please see: http://unctad.org/en/pages/MeetingDetails.aspx?meetingid=531

2. Part I

2.1 Identifying the relevant international forums:

This part will discuss the various forums relevant at the international level in the context of tariff reduction and trade remedies for environmental goods.

2.1.1 WTO:

At the multilateral level, negotiations at the World Trade Organization (WTO) on environmental goods and services (EGS) are a part of the Doha Round. The objective of WTO Doha Declaration[6] in relation to environmental goods, was the "reduction or, as appropriate, elimination of tariff and non-tariff barriers to environmental goods and services." The declaration, however does not define environmental goods. The Committee on Trade and Environment in Special Session (CTESS) discusses the various issues relating to trade and environment.

There is no international agreement where environmental goods have been defined. This lack of consensus on which goods can be categorized as "environmental goods" has been one of the main barriers to progress in negotiations on liberalisation of trade in environmental goods. The discussed goods so far fall within a broad range of environmental categories, such as air pollution control, renewable energy (include products generating renewable energy, such as wind and hydropower turbines or solar water heaters), waste management and water and waste-water treatment. By the end of 2011, six lists of environmental goods, had been submitted by various Member Countries, covering 411 HS2002 tariff lines at the six-digit level.[7] Therefore there is still a lot of disagreement amongst the Member Countries as to which goods qualify as environmental goods and the CTESS is trying to identify ways to resume work on environmental goods.[8]

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[6] Paragraph 31(iii) of the Declaration 2001, available at:
http://www.wto.org/english/thewto_e/minist_e/min01_e/mindecl_e.htm#tradeenvironment
[7] WTO Annual Report for 2012, available at:
http://www.wto.org/english/res_e/booksp_e/anrep_e/anrep12_e.pdf
[8] WTO Annual Report for 201e, available at:
http://www.wto.org/english/res_e/booksp_e/anrep_e/anrep13_e.pdf

2.1.2 Asia-Pacific Economic Cooperation (APEC):

There has been some consensus regarding issues of trade and environmental goods among the APEC member countries.

The APEC was established in 1989. It is an intergovernmental grouping composed of 21 member countries. As opposed to the WTO, the APEC has achieved progress over the WTO in respect of environmental goods. Agreement has been reached for a list of 54 broad product categories[9] (comprising of whole 6-digit HS sub-heading) and not on specific environmental goods (which are more narrowly defined). The APEC members have agreed to reduce applied tariff rates to 5 per cent or less by the end of 2015. Applied tariff rates will be reduced only for certain 'environmental goods' or 'ex-outs' from this broad 54 product categories.[10]

The consensus at APEC is of significance, considering that the APEC membership comprises of key WTO members. The APEC countries represent a significant part of world trade, that is, around 44 percent of global trade ($16.8 trillion)[11], its membership includes the Australia, Russia, US and China. There is one significant way in which the APEC is different from that of the WTO. The APEC outcome will affect the MFN-applied tariff rates of APEC economies, the WTO negotiations on environmental goods aim at reducing bound tariff rates in a manner that is legally binding upon Member Countries.

Implications of the APEC consensus:

According to one report[12], the effect of the agreement to reduce tariff for environmental goods at APEC is not groundbreaking. This is because the overall

[9] Detailed list available at: http://www.apec.org/Meeting-Papers/Leaders-Declarations/2012/2012_aelm/2012_aelm_annexC.aspx

[10] For example, solar water heaters (SWH) have been included as an ex-out of HS 841919 (non-electric water heaters). However, in the area of environmental monitoring, analysis and assessment equipment, Annex C lists "optional ex-outs," which "may include" a range of products that might be selected for tariff reductions as part of the APEC tariff pledge.

[11] Asia-Pacific Economic Cooperation's States APEC, Key Indicators Database and Bilateral Linkages Database November 2011, available at: http://www.apec.org/About-Us/About-APEC/Achievements-and-Benefits.aspx#_ftn1

[12] Vossenaar Rene, "The APEC List of Environmental Goods: An Analysis of the Outcome & Expected Impact" (Issue paper 18, 2013) International Centre for Trade and Sustainable Development (ICTSD), available at: http://www.ictsd.org/downloads/2013/06/the-apec-list-of-environmental-goods.pdf

simple average MFN-applied tariff (excluding Russia) in the APEC region is only 2.6 percent. Therefore if, as a result of tariff reductions, the simple average MFN-applied tariff for all sub-headings in each APEC economy were cut to no more than 5 percent, the overall simple average would be reduced by only 0.8 percentage points, to 1.8 percent.[13] Further, the following inferences can be made from an analysis of MFN-applied tariffs for the 54 sub-headings the 20 member economies of the APEC (excluding Russia)[14]:

a. More than three-quarters of all sub-headings (842 out of 1076) already have tariffs of 5 percent or less; therefore these sub-headings will not be affected by the APEC tariff commitment to reduce MFN-applied tariffs to 5 percent or less.[15]
b. There are 234 sub-headings with a maximum of MFN-applied rate of more than 5 percent. Chile has a uniform MFN-applied tariff of 6 percent for all its imports[16].
c. There are only 74 sub-headings with Tariff Lines with applied tariffs of more than 5 percent. The MFN applied tariff will only be have to cut to the extent environmental goods are imported under the relevant subheading[17].
d. Australia, China, Hong Kong Japan, New Zealand and Singapore do not apply any tariff of over 5 percent.[18]
e. For more than half of all sub- headings imports are duty-free.
f. Of the countries with more than 5% tariff on sub-headings, Korea has the largest number of sub-headings (44) followed by Brunei Darussalam (38) and China (26).[19]

The Davos Declaration:

The commitment to further build on the APEC consensus was recently reiterated in the 'Davos declaration' by certain member countries of the APEC, wherein the members agreed to further "achieve global free trade in environmental goods", by

[13]Ibid, Page 1.
[14] WTO database provides no information for New Zealand's MFN-applied tariffs for 4 sub-headings, the dataset includes only 1076 sub-headings
[15] Page 9, Ibid Fn. no.10.
[16] Ibid.
[17] Ibid.
[18] Ibid.
[19] Page 10, Ibid Fn.No.10.

removing non-tariff barriers to trade in environmental goods.[20]

2.1.3 Energy Charter Treaty (ECT):

The Energy Charter Treaty (ECT), is a multilateral treaty setting legal obligations between member countries to it, relating to energy trade and investment. Its membership comprises of over 50 member states, and includes countries across Eurasia from the EU to former Soviet Union republics to Japan.

However the scope of the ECT is restricted in the debate about trade and environmental goods, firstly because of its limited membership; countries like Brazil, China and India are not members of this treaty.[21]Secondly, it is relevant in the specific context of environmentally sustainable energy sources like renewable energy within the larger group of environmental goods. The ECT imposes obligations on member countries to take account of environmental considerations while formulating their energy policies and take steps to improving energy efficiency[22]. Further the ECT has provisions dispute settlement between member countries as well as for investor state dispute settlement.

Despite this, as will be seen in the next section of this part, the context of renewable energy products is very important in for the issue of trade remedies. Firstly since, all the subject products of trade remedies are products related to renewable energy. Secondly, as of date, there are 15 investment arbitrations that have been instituted under the ECT challenging various support schemes of national governments for "Legal reforms affecting the renewable energy" or "Legal reforms affecting the renewable energy".[23] (For a detailed list of pending investment arbitrations instituted under the ECT dispute resolution provisions in the context of renewal energy see Appendix 1 Table 4) Though the focus of this paper is the impact of trade remedies on environmental goods; the institution of these arbitration disputes

[20] Declaration available at: http://www.ustr.gov/sites/default/files/EGs-Announcement-joint-statement-012414-FINAL.pdf
[21] See: http://www.encharter.org/index.php?id=61
[22] Article 19 ECT.
[23] More detailed information available at the ECT Secretariat website: http://www.encharter.org/index.php?id=213&L=0L%200%201¤7%206%201¤7%200%201¤7%201¤7%3ESite%20Map%3C%2Fa%3E%20-%20%3Ca%20class%3D%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%27168ohek7%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%5C%27%20href%3D; last accessed on 5 May 2014.

indicate that the problem may attributable to other factors and not confined to 'trade remedies for environmental goods' only.

2.2 Identifying the relevant context for 'trade remedies' on environmental goods: Renewable energy goods

For the purposes of this paper a search of the World Bank's Global Antidumping Database was made using the APEC list as a reference point[24]. One significant finding of this search is that majority of the products subject to AD were solar panels wind turbines products and biofuels. That is, goods those are important for generation of renewable energy, that is renewable energy goods. Which is a sub-category within the bigger group of environmental goods. Renewable energy resources rely on fuel sources that restore themselves over short periods of time and do not diminish. Such fuel sources include the sun, wind, moving water, organic plant and waste material (eligible biomass), and the earth's heat (geothermal).[25] Therefore the products within the grouping of environmental goods are identifiable by reference to a particular products used for generation of renewable energy within the bigger group of environmental goods. This identification of renewable energy products as the target category of trade remedies has been confirmed by other studies in this respect as well.[26]

Identification of renewable energy sector goods as the target of trade remedies indicates that there are possible other factors/ phenomenon other than trade remedies that could also be relevant. Specifically, in addition to the developments in the context of trade liberalisation generally for environmental goods, developments in the specific context of renewable energy could also be relevant. Part IV of the paper indicates that one of the significant reasons could be certain development within the sphere of national policy in relation to renewable energy.

[24] In certain prominent jurisdictions USA, European Union, China Canada India Australia. Further the APEC list does not include biofuels.
[25] As defined by the US Environmental Protection Agency; please refer to http://www.epa.gov/greenpower/gpmarket/
[26] See Kasteng, Jonas, (2013) Trade Remedies on Clean Energy: A New Trend in Need of Multilateral Initiatives, Hufbauer Gary & Cimino Cathleen, Trade Remedies Targeting the Renewable Energy Sector (2014) Peterson Institute for International Economics.

3. Part II

This part will analyse the WTO law on Trade Remedies. More specifically the provisions of the ADA and the SCM agreement that is relevant in the context of renewable energy goods. ADA and CVD are similar in that they both regulate anti competitive behavior, however, one unique character of anti dumping cases is that it is the result of the decision of private actors, unlike subsidies that are granted by sovereign governments. The provisions relating to safeguard agreement is not relevant for the issue of trade remedies on environmental goods.

An analysis of the certain decisions of the domestic authorities has revealed their systemic bias in favour of domestic industry and more specifically the member countries practice of using trade remedies as a protectionist tool.

3.1 Anti dumping duties:

Dumping is the introduction of goods below the normal price into the domestic market of another Member Country.[27] The Agreement on Implementation of Article VI of the General Agreement on Tariffs and Trade 1994, (ADA) forms the basis for the law on antidumping. The ADA is the benchmark for Member Countries' domestic anti-dumping laws and regulations. For a successful implementation of an anti -dumping duty, the complainant before the domestic authority will have to establish:

- Dumping;
- Injury to the domestic industry; and
- Causal link between the dumping and injury.[28]

3.1.1 Analysis of systemic bias in favor of domestic industry:

This section of the paper will present certain issues that arose in the context of certain domestic investigations reviewed. This review has helped to identify the covert reason for the frequent resort to trade remedies by domestic governments; which is to provide protection to domestic industries in the renewable energy sector.

[27] Article 2.1 of the ADA
[28] Article 3.5 of the ADA provides: "It must be demonstrated that the dumped imports are, through the effects of dumping, as set forth in paragraphs 2 and 4, causing injury within the meaning of this Agreement."

The prominent issues identified in this regard are as follows. Firstly, the criterion for 'domestic industry' for filling complains alleging dumping requesting of investigation. To ensure that the complain is based on injury to a sizeable percentage of domestic production. Secondly, the requirement of excluding the impact of 'other known factors' which at the same time are injuring the domestic market, so as to ensure that injury is attributable to dumping only. Thirdly, the requirement of 'public interest test' whereby the domestic authorities despite a finding of dumping may decide not to impose duties on account of the adverse effect on the public interest. Though the SCM agreement the AD Agreement do not provide for the 'public interest test'. They do provide for presentation before the domestic authorities the interests of 'industrial users' and 'consumers'. These three issues will be examined on a sample basis to demonstrate the inherent bias of the domestic trade remedy regime for a positive finding of dumping and injury and imposing anti dumping duty.

3.1.1.1 Requirement for the 'domestic industry' standing in the Indian determination regarding solar panels:

An application for requesting for an anti-dumping investigation has to be supported by domestic producers who account for at least 25% of the total domestic production.[29] In the case before the Indian authorities, the application by domestic industry[30] only represented 11.96% of the total production[31], however, despite this, the authority accepted the complaint and initiated the investigation.

The authority sought to justify this on the ground that "rest of the producers do not qualify to constitute domestic industry considering the imports made by such producers"[32]. However this is the precise reason why in the first place the requirement of 25% has been set, so as to ensure that there is a sizeable percentage of the domestic production which is affected by the dumping and that vested interests of the domestic industry do not misuse this measure. Therefore even though a sizeable portion of the

[29] Article 5.4 of the ADA
[30] Domestic Industry has been defined in Article 4.1 of the ADA as: domestic producers as a whole of the like products, or those of them whose collective output of the products constitutes a major proportion of the total domestic production of those products
[31] Decision by Indian authorities regarding anti-dumping Investigation concerning imports of Solar Cells whether or not assembled partially or fully in Modules or Panels or on glass or some other suitable substrates, originating in or exported from Malaysia, China PR, Chinese Taipei and USA. page 43 (Indian decision imposing anti-dumping duty)
[32] Ibid page 43

sector is dependent on imports, the Indian authorities accepted and proceeded with the complaint. This lack of qualification of the domestic industry in India, and the reliance of the domestic producers on imports, is also reflective of another reality in the renewable energy sector, that the production is very fragmented and the final output is a result of several additions at every stage of the global value chain.

3.1.1.2 Establishing the causal link: other known factors causing injury (Article 3.5)[33]

Article 3.5 of the ADA requires the examination of any known factors (other than dumping), which could be causing injury the domestic industry, and excluding them from the purview of injury analysis. This to ensure, that injury caused by other factors to the domestic market are not attributed to the dumped imports.

The causal link between dumping and injury is only established if the injury to the domestic industry is attributable to dumping. Dumping alone by itself is not a ground for imposing anti-dumping duty. In the case of renewable energy this issue becomes very important, since the renewable energy sector is still developing and there are several other influencing factors as well, which could be potentially influencing the operations within this industry.[34]

The methodology to be applied in relation to the obligation to take into account other known factors, the Appellate Body of the WTO[35] has ruled that "investigating authorities must make an appropriate assessment of the injury caused to the domestic

[33] Article 3.5 of the Agreement on Antidumping provides:
3.5 It must be demonstrated that the dumped imports are, through the effects of dumping, as set forth in paragraphs 2 and 4, causing injury within the meaning of this Agreement. The demonstration of a causal relationship between the dumped imports and the injury to the domestic industry shall be based on an examination of all relevant evidence before the authorities. The authorities shall also examine any known factors other than the dumped imports which at the same time are injuring the domestic industry, and the injuries caused by these other factors must not be attributed to the dumped imports. Factors which may be relevant in this respect include, *inter alia*, the volume and prices of imports not sold at dumping prices, contraction in demand or changes in the patterns of consumption, trade restrictive practices of and competition between the foreign and domestic producers, developments in technology and the export performance and productivity of the domestic industry.

[34] As discussed in section 2.1.3 of Part I, there are several investment arbitrations that have been initiated pursuant to modification and withdrawal of government policies.

[35] In *US — Anti Dumping Measures on certain Hot-Rolled Steel products from Japan, WT/DS184/AB/R (adopted Aug. 23, 2001)*

industry by the other known factors, and they must separate and distinguish the injurious effects of the dumped imports from the injurious effects of those other factors."[36].

Further, this assessment "**must** involve separating and distinguishing the injurious effects of the other factors from the injurious effects of the dumped imports. …. in the absence of such separation and distinction of the different injurious effects, the investigating authorities would have no rational basis to conclude that the dumped imports are causing the injury which, under the ADA, justifies the imposition of anti-dumping duties."[37]

In the light of the above interpretation, the EU determination in case of dumping of solar panels as well as the US determination regarding dumping of wind turbines, (as discussed below), demonstrates that the domestic authorities in practice fail to make such clear cut distinction between the different causes of injury.

EU investigation against Chinese solar products (panels, cells and wafers):

In the dumping investigations before the European Commission regarding the dumping by Chinese companies of three products namely, solar panels, cells and wafers in the EU causing material injury to the EU photovoltaic industry.[38] ("EU decision imposing anti-dumping duty on solar cells from China"), the effect of support schemes on the domestic industry was raised during the causal link analysis before the Commission.

In this regard it was alleged that market fluctuations in the EU had been caused by the introduction and then the withdrawal of support schemes for renewable energy and therefore part of the injury to the domestic industry was attributable to the change in government support schemes. However the Commission generally downplayed the role of these support schemes, and held that market conditions did not depend ***exclusively*** on support schemes.[39] It sought to justify its conclusion in this regard, on

[36] Ibid para 400.
[37] Ibid para 401.
[38] Text of the decision imposing the provisional measure: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:152:0005:0047:EN:PDF and text of the memo (press release) on imposing provisional measure : http://europa.eu/rapid/press-release_MEMO-13-497_en.htm
[39] EU decision imposing anti-dumping duty on solar cells from China, para 160.

the basis of the fact that, often solar power installations had achieved grid parity, on account of their geographical location (that is sun exposure of the panel) and hence consumer reliance on solar installations was not dependent on the benefits under the support schemes. However the Commission itself later admits that these claims could not be confirmed by the investigation so far and will be further investigated.[40] This sort of reasoning reveals that the Commission itself wasn't clear about the effect of factors and was proceeding on the basis of some predetermined notion.

Thereafter in another part of its order, the Commission admits that a variety of support schemes existed and "interaction between those and demand is highly complex and therefore their precise impact is difficult to quantify."[41] Thus despite acknowledging the existence and the possible effect of support schemes contributing to the injury to the domestic industry, the commission failed to carry out the obligation of "separating and distinguishing the injurious effects" of the other known factors. This is significant in the light of various studies that attributed the change in the market conditions to change in government policy.[42]

In addition to the general discussion on support schemes, (Feed -In -Tariffs) FITs were discussed as a main example of the support schemes. The Commission admitted that recent FIT suspensions (as in Spain) and similar such reductions in other member States did cause a decrease in consumption and did contribute to the injury suffered by the industry[43]. However, it concluded that the decrease in consumption did not break the causal link between the dumped imports and the injury suffered by the Union industry.[44]The Commission came to this conclusion on the basis that most *significant decrease* in the prices of the industry occurred in 2010 and 2011, before the major FIT cutbacks took place. Further that the consumption also did not decrease

[40] Ibid, para 169.
[41] ibid

[42] Lewis, Joanna I,(2013) "The Rise of Renewable Energy Protectionism:
Emerging Trade Conflicts and Implications for Low Carbon Development" (Forthcoming in Global Environmental Politics Volume 14, Number 4, November 2014) available at:
https://blogs.commons.georgetown.edu/jil9/files/2014/01/Lewis.RE_.Intl_.Trade_.Draft_.11.2013.pdf .

[43] EU decision imposing anti-dumping duty on solar cells from China, para 175.
[44] Ibid.

significantly despite the cuts in FIT[45].

Thus the cutbacks in FIT could have also been a cause of injury to the domestic industry. The injury attributable to this cause should have been separated from the determination of causation, which has been solely attributed to the dumping by China. And the injury attributable to changes in other support schemes should have also been separately analysed.

Therefore the commission held that though FITs played an important role in development of the market they did not break the causal link between dumping and injury, since exporters were able to maintain their market share, but maintenance of market share is not conclusive of injury due to dumping and selling below the normal price.

US determination in the Utility scale wind towers imported from China and Vietnam[46] (US decision on wind towers):

This domestic investigation was regarding the dumping of utility scale wind towers ("wind towers") from China and Vietnam in US markets. These wind towers are made to order on the basis of specifications OEM on the basis of requirements for the specific wind farm projects that is being developed by the OEM.

In this case as well, like in the case of solar modules determination in EU, government support schemes (production tax credit (PTC) and investment tax credit (ITC)) and incentives had a role to play in the demand of the product[47]. Since during the period of investigation there was uncertainty of the renewal of the PTC and federal incentives in the market. However the majority view of the US Department of Commerce (US DoC) again downplayed the influence of the support schemes in creating the demand and their effect on the market. In addition to these federal tax credits, a number of states in the US had also implemented renewable portfolio standards mandating that a certain percentage of electricity has to come from

[45] Ibid, para 182

[46] US determination regarding dumping of Utility Scale Wind Towers from China and Vietnam, Inv Nos. 701-TA-486 and 731-TA-1195-1196 (Final) available at: http://www.usitc.gov/publications/701_731/pub4372.pdf

[47] *US decision on wind towers,* page 15 of the decision for details on the theses incentive schemes

renewable sources by a particular date. However the majority decision of the US DoC did not find the effect of these support schemes on the domestic market to be a mitigating factor.

The dissent[48] in this case, acknowledged the context of the injury to the domestic market. It acknowledged causes that could have contributed to downturn in the market for the domestic producers of wind towers. The following factors were referred to by the dissent as possible other factors that could have also caused injury to the domestic market of wind towers:

- Impact of the financial crises: "The recent financial crisis had a significant impact on demand for wind towers because poor general financial conditions made financing harder to find for such projects in the first half of the POI."
- Deadline in the light of the impending expiration of the PTC (December 31, 2012): "created a firm deadline for new projects to qualify for benefits, which generated unusual demand in the latter part of the POI, particularly in 2012." And the market was less optimistic late in the POI about a further renewal in the current economic and budget climate.

Thus despite the presence of other known factors like changes in support schemes, the assessment of the real effect of the change in support schemes in the above cases have not comprehensive. In this context, the final awards in the investment arbitration initiated under the ECT will be illuminating. Since the dispute has been initiated on account of the changes in the support schemes (by the host government).[49] However the legal standards and law applicable in the present context of trade law and the one under the ECT which is investment law is different. Thus we can conclude there was other factor that could have had a possible impact (like changes in the policy sphere) on the domestic industry but the systemic bias of domestic authorities to find in favour of dumping prevented them from making a comprehensive analysis of this issue.

[48] Ibid, page 25.
[49] See Appendix Table 4 for the cases initiated.

3.1.1.3 Community Interest:

The Community Interest or Union Interest test is relevant for the EU determinations. The EU Regulation (as applicable to both anti-dumping and countervailing duties) requires a community interest test in the domestic injury analysis[50]. Article 21[51] of the EC Regulation requires the Commission to take into account other 'compelling reasons' for which it may not be in 'Union Interest' to levy anti-dumping duties. It requires the weighing of negative externalities of trade remedies with the mercantalistic reasons for imposition of the trade remedies. In the context of the renewable energy this is significant, even though EU law does not include 'protection of the environment' as community interest, other interests within the global value chain for renewable energy goods are also at stake. The EU determination regarding dumping of solar panels and modules the Commission carried out a very comprehensive analysis of the community interest test. In fact in addition to the other interests, the environmental factors were also discussed by the EU in this regard. However as in the earlier case regarding effect of other factors

[50] Since this test is not a mandatory provision of the WTO trade remedy regime, not all jurisdictions have such a provision in their domestic laws.

[51] Article 21 of the Council Regulation (EC) No 1225/2009 (30 November 2009) On Protection against dumped imports from countries not members of the European Community reads:

1. A determination as to whether the Community interest calls for intervention shall be based on an appreciation of all the *various interests taken as a whole*, including the interests of the domestic industry and users and consumers, and a determination pursuant to this Article shall only be made where all parties have been given the opportunity to make their views known pursuant to paragraph 2. In such an examination, the need to eliminate the trade distorting effects of injurious dumping and to restore effective competition shall be given special consideration. Measures, as determined on the basis of the dumping and injury found, may not be applied where the authorities, on the basis of all the information submitted, can clearly conclude that it is not in the Com munity interest to apply such measures.

2. In order to provide a sound basis on which the authorities can take account of all views and information in the decision as to whether or not the imposition of measures is in the Community interest, the complainants, importers and their representative associations, representative users and representative consumer organisations may, within the time-limits specified in the notice of initiation of the anti-dumping investigation, make themselves known and provide information to the Commission. Such information, or appropriate summaries thereof, shall be made avail able to the other parties specified in this Article, and they shall be entitled to respond to such information.

…..

5. The Commission shall examine the information which is properly submitted and the extent to which it is representative and the results of such analysis, together with an opinion on its merits, shall be transmitted to the Advisory Committee. The balance of views expressed in the Committee shall be taken into account by the Commission in any proposal made pursuant to Article 9.

causing injury the Commission's decision regarding injury did not change as a result of the application of the Community interest test.

Consumer Interest: It was alleged that the imposition of duty would make the final product, PV solar panel installations more expensive for the ultimate consumer. The commission held that "the consumers and other end- users would be affected only to a limited extent because the investigation revealed that the price of a module represents up to 50 % of the total costs of a PV installation. In view of the profit margins earned by the project developers and installers, it is reasonable to assume that the eventual price increase of modules for the consumer may be at least partly absorbed and therefore mitigated."[52] However the commission did not provide any evidentiary basis for its presumption that the price increase will be absorbed by the project developers at the cost of lowering their own profit margins. Therefore it seems unreasonable to expect that there would be no effect of this price increase.

Environmental Interest: The importance of renewable energy sources[53] for the goals of the EU Agenda 2020[54]were also discussed. The Commission held that EU Agenda 2020 goals did not depend upon solar energy exclusively. And that other green energies such as: wind, biomass, hydro etc., were equally important. Further it held that since no particular percentage of emission reduction is attributable to the solar energy for the 2020 goals, a slightly lower number of PV installations are not expected to raise the overall cost of the 2020 Agenda. [55] The Commission came to this conclusion without any reference to empirical data or other source of information on the basis of which it made this decision.

Therefore the Commission has taken a very restrictive view of the Union Interest to represent only the mercantalistic interests, though it could have been pragmatic and considered the consumer and environmental interests as well. Finally it concluded:

> The overall positive effects for the Union industry outweigh the likely negative impact on other operators on the PV market including

[52] EU decision imposing anti-dumping duty on solar cells from China, para 252.
[53] Ibid, para 257.
[54] EU policy for Climate Change Mitigation and requirements under it to reduce greenhouse gas emissions. In pursuance of this goal various state governments of the EU have national policies for the promotion of environmental good.
[55] EU decision imposing anti-dumping duty on solar cells from China, para 258.

consumers/other end-users[56].

So the decision started on the premise of the positive benefit to producers and negative impact on other operators, the environmental good or the climate change mitigation did not figure at all in the cognitive matrix of the decision makers.

Therefore based on the foregoing the following conclusion can be made:

1) That there was other factor that could have had a possible impact (like changes in the policy sphere) on the domestic industry but the domestic authorities did not consider them to be having any significant impact.
2) That the 'community interest' test, the EU Commission did not see the cases under renewable energy as a fit case, despite very obvious information on other interests at stake.
3) That the domestic authorities' interpretation of the various provisions of the ADA, like 'domestic industry', 'other factors causing injury' and 'community interest test' is demonstrative of their protectionist attitude towards the domestic industry; and in this regard make a positive finding of dumping.

3.2. Subsidy

The Agreement on Subsidies and Countervailing Measures (SCM Agreement) harnesses the use of subsidies and regulates the actions that Member Countries can take against the adverse effects of subsidies. The purpose of the SCM Agreement is to increase and improve GATT disciplines relating to the use of both subsidies and countervailing measures.[57] Under the SCM agreement, a Member Countries can avail itself of the WTO dispute settlement procedure to seek the withdrawal of the subsidy or its adverse effects. Another alternative is that a Member Countries can initiate its own investigation and impose countervailing duty on subsidized imports that are found to be posing material injury to domestic producers. As discussed below, countervailing duties can only be levied when subsidized imports are causing injury or threatening to cause injury to the domestic industry producing the like product.[58]

[56] Ibid, para 260.
[57] *US - Carbon Steel*, Appellate Body Report, WT/DS213/AB/R, para. 73
[58] GATT, Article VI:6(a).

It should be noted however, that for a measure to be covered by the SCM Agreement, it has to fall within the definition of subsidy provided in Article 1 of the SCM Agreement as well as meet the requirement of 'specificity' in Article 2. More specifically, Article 1 of the SCM Agreement contains the definition of subsidy as a financial contribution or income/price support provided by the government or public body that confers a benefit.[59] Therefore, according to Article 1 of the SCM Agreement, a subsidy consists of the following three characteristics:

1. A financial contribution;
2. Provided by a government or any public body within the territory of a Member Country;
3. Conferring a benefit.[60]

3.2.1 WTO law and its role in governing renewable energy subsidies:

This section focuses on how the WTO's provisions on subsidies and exemptions apply to disputes over renewable energy subsidies. It will also examine how vulnerable the relevant policies and measures might be in light of the WTO law. The typology of subsidies will also be discussed to demonstrate an alternative framework. This examination of the typology will be done with a view to ensuring that domestic trade linchpins are not discriminatory against trade partners and various views supporting renewable energy.

3.2.2 Renewable energy subsidies within WTO framework

Under the SCM Agreement, a financial contribution from the government is considered a subsidy if it confers a benefit on the recipient according to Article 1.1[61], the objective of which is to provide a definition of a subsidy for the purposes of the SCM Agreement.[62] Financial contributions in this regard cover:

- direct transfer of funds;
- forgone government revenue that is otherwise due; and
- when government provides goods or services.

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[59] SCM Agreement, Article 1.
[60] Ibid.
61 Ibid.
[62] *US—Softwood Lumber III*, the Panel did mention that "the object and purpose of Article 1.1 SCM Agreement is to provide a definition of a subsidy for the purposes of the SCM Agreement."

The above situations are also covered if the government entrusts a private body to carry out these functions. As for the benefit assessment, a benefit is conferred only when the government's contribution is more favorable than what would actually be available to the renewable energy producers in the ordinary market. This benchmark was clearly confirmed by the Appellate Body in *Canada-Aircraft* that the market provides an appropriate basis for comparison as to whether a benefit has been conferred, since the financial contribution aiming at distorting the market can be captured by considering whether the recipient received a financial contribution on the basis more favorable than those available to other recipients in the market or not.[63] Nevertheless, it could be argued that this may not be an absolute yardstick. In this regard one expert has opined that the Appellate Body itself underlined that the marketplace is just "an appropriate basis for comparison", thus opening the door to the use of other benchmarks. This indicates an issue of increasing importance, particularly in the energy markets which are influenced by the complex interactions of natural cartels, derivative trading, political events, governmental regulations, and so forth. Besides, large sums of subsidies transferred to the energy sector further distort the market. Thus, it could be difficult to determine the precise market standard to be used as a benchmark for renewable energy field.[64]

It is noteworthy that although the broad treatment of subsidies may include various types of measure, e.g. direct financial transfer, regulations in the form of government procurement policies as well as the special economic zone establishment, infrastructure support in terms of access to the grid and below-market price land, preferential tax treatment, and other trade restrictive policies like Local Content Requirements (LCRs), the SCM Agreement applies only to a measure that also confers a benefit. Therefore, if, for instance, a subsidy merely covers some of the costs of acquiring renewable energy systems, or which compensates enterprises for setting up their plants in remote venues, they need not necessarily have to be considered as conferring a benefit to the enterprises.[65] As a corollary, a strong

[63] *Canada – Measures Affecting the Export of Civilian Aircraft (Canada-Aircraft)*, Panel report, WT/DS70/P/R, para. 157.
[64] Luca Rubini and Ingrid Jegou (2011), "The Allocation of Emission Allowances Free of Charge: Legal and Economic Considerations", ICTSD Programme on Competitiveness and Sustainable Development, p.3.
[65] Howse, Robert, and Antonia Eliason (2009) "Countervailing Duties and Subsidies for Climate Mitigation What Is, and What Is Not, WTO-Compatible?", in Richard B. Stewart, Benedict Kingsbury,

argument that could be incorporated in these circumstances is that such government support aims at compensating to encourage actions that would otherwise not occur, and that the enterprises therefore have not necessarily obtained comparative advantage over other enterprises that do not have to perform such actions. Also, it would be preferable to precisely measure the difference between the gross cost incurred to the government funds allocated for the subsidy and the revenue resulting from the measure so as to calculate the net subsidy, thus making a more accurate assessment of the conferment of the benefit. The SCM Agreement nevertheless does not throw any light on this issue.

3.2.3 Categories of subsidies covered by the SCM Agreement

The SCM Agreement further classifies subsidies into 2 types, as either prohibited subsidies in Article 3 or actionable subsidies in Article 5.

3.2.3.1 *Prohibited Subsidies*

The SCM Agreement prohibits exports subsidies and those measures which favor domestic over imported goods, i.e. local content requirements, as stated in Article 3.[66] This type of subsidy is presumed to be damaging to other countries and, thus, required to be withdrawn without delay according to Article 4.7.[67]

In one of the recent disputes, *Canada – Renewable Sector*, over the LCR provisions in the Ontario's Green Energy and Green Economy Act, 2009 (GEA) were challenged. This law required that up to 60 percent of materials in renewable energy projects be locally sourced so as to be eligible for participating in the Ontario's Feed-in-Tariff (FIT) program.[68] Japan and the EU initiated consultations at the WTO Dispute Settlement Mechanism in 2010 and 2011, respectively, alleging that the Ontario's domestic content requirement in the FIT program is a prohibited subsidy according to Articles 3.1(a) and 3.2 of the SCM Agreement on account of the fact that the subsidy provided was contingent upon the use of domestic over imported goods,

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and Bryce Rudyk, *Climate Finance: Regulatory and Funding Strategies for Climate Change and Global Development*, New York University Press, p.265

[66] SCM Agreement, Article 3.

[67] SCM Agreement, Article 4.7.

[68] Ontario's Green Energy and Green Economy Act (2009), available at http://www.ontla.on.ca/web/bills/bills_detail.do?locale=en&BillID=2145&detailPage=bills_detail_the_b; accessed 9 November 2013.

i.e. renewable energy generation equipment manufactured in Ontario over those imported from Japan and the EU.[69] The EU, (as a significant wind power and solar photovoltaic power equipment exporter having its exports of EUR 300-600 million during 2007-2009), claimed that it was injured by Ontario's LCR scheme. In response, however, the Ontario Energy minister sought to defend these provisions based on the fact that they inevitably had to create jobs.[70] Under the scope of SCM Agreement, the Appellate Body concluded that the LCRs were not in breach of the SCM Agreement. It justified its finding on the ground that there were not sufficient factual findings by the Panel to complete the analysis as to whether the measures conferred a benefit within the meaning of Article 1.1 (b) of the SCM Agreement and whether the Ontario's LCR in the FIT program is a prohibited subsidy contrary to Articles 3.1 (a) and 3.2 of the SCM Agreement.[71] Thus the LCR provisions in the aforementioned dispute have remained opaque in terms of the SCM Agreement.

However, what is unambiguously concluded by the Appellate Body is that the Appellate Body supports the Panel's conclusions that LCR accord preferential treatment to products made in Ontario by requiring the purchase or use of products from domestic sources, which is prohibited in the illustrative list of the TRIMs Agreement, and therefore place Canada in breach of its national treatment obligation under GATT Article III: 4 and TRIMs Agreement Article 2.1.[72] The Appellate Body also rejects Canada's defense that the LCR should be considered as government procurement which can be exempted from the national treatment obligation.[73] This is due to the fact that in order to apply Article III:8(a) as a deviation from the national treatment obligation, the product that originated in foreign countries, and is being discriminated against must be in a competitive relationship with the product purchased. Nevertheless, in this case, the product Ontario claimed to be procuring was

[69] WT/DS412/1, 16 September 2010 and WT/DS426/1, 16 August 2011.
[70] International Centre for Trade and Sustainable Development (2011) "EU Joins Japan in Contesting Ontario Renewable Energy Plan", *Bridges Trade BioRes* Volume 11, Number 15, 5 September. Available at http://ictsd.org/i/news/biores/113213/; accessed 9 November 2013.

[71] WT/DS412/AB/R, p.142 and WT/DS426/AB/R, p.143.
[72] Ibid.
[73] Ibid.

electricity, whilst discriminating against renewable energy generation equipment. Thus Article III:8(a) did not apply.[74]

3.2.3.2 Actionable Subsidies

Actionable subsidies are not prohibited *per se*, they may be challenged, either at the WTO Dispute Settlement Mechanism or domestically by countervailing actions, provided that they cause adverse effects to another Member Country's interest.

With respect to the requirement of specificity, actionable subsidies could be contested if determined specific, being directed to a particular enterprise or industry, according to Article 2 of the SCM Agreement.[75] Subsidies provided to manufacturers of renewable energy may not be specific if they are available generally to prevailing enterprises in the economy. However, in reality, conventional environmental policies are prone to being targeted to ensure effectiveness, and often, discriminatory measures are preferable from a policy-based perspective. Thus, there has been a conflict between the environmental aims of the applicable policy and its legal requirements. The discriminatory effect in the legal requirements can be illustrated by the fact that, despite the criteria or conditions of the measure strictly adhering to the principle of non-discriminatory of Article 2.1 (b), the specificity could be found on the ground of Article 2.1 (c) if such subsidy benefits only certain enterprises. There have been many measures that are not sufficient to constitute the situation whereby the subsidy is general and not specific.[76] Hence, in order to accommodate subsidies in support of renewable energy, the specificity test remains a critical obstacle to be taken into account due to the fact that the renewable energy industry is still a small, yet pivotal player in the energy field. This means that even if the subsidies for renewable energy are carefully provided for in a neutral and non-discriminatory manner, it may still not be enough to prevent a finding of specificity.

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[74]Andrew Shoyer and Rajib Pal (2013) "Government Support For Green Energy: Is WTO Decision a Game-Changer?", *WHO'SWHOLEGAL*, December, available at http://whoswholegal.com/news/features/article/30990/; accessed 29 December 2013.
[75] SCM Agreement, Article 2.
[76] For instance, among others, see the Panel, *United States – Final Countervailing Duty Determination with Respect to Certain Softwood Lumber from Canada*, WT/DS257/R, paras 7.115.

Further, if such specific subsidy poses adverse effects to foreign firms, for instance, it becomes actionable under Article 5 of the SCM Agreement.[77] This means that, even if a subsidy is actionable, the complaining WTO member has to fulfill the burden of proving that the subsidy has caused injury to its domestic industry of the like product. Thus, apart from the existence of a specific subsidy, the complaining WTO member also has to demonstrate that such specific subsidy causes adverse effects. The different types of injury covered under the SCM Agreement are the following:

- Injury to the domestic industry of the like product in the territory of the complaining member country of the WTO;
- Nullification or impairment of benefits accruing under the GATT 1994;
- Serious prejudice to the interest of the complaining member country of the WTO.[78]

The level of harm afflicted by the actionable subsidies is different from by prohibited subsidies. While a prohibited subsidy must be withdrawn without delay pursuant to Article 4.7 of the SCM Agreement,[79] for actionable subsidies, the obligation is only to remove the adverse effects of the said subsidy rather than the measure itself in accordance with Article 7.8[80] of the SCM Agreement.[81]

Thus, the typology of the adverse effects includes the injury to the domestic industry of another Member Country; the nullification or impairment of benefits accruing directly or indirectly to other Member Country under the GATT; and serious prejudice to the interests of another Member Country.[82] In evaluating adverse effects, establishing whether injury has been caused, an assessment of the adverse effects must be based on each scenario that varies on a case-by-case basis, and thus generalizations are not easy. For example, subsidies not discriminating against

[77] SCM Agreement, Article 5.
[78] Ibid.
[79] SCM Agreement, Article 4.7.
[80] SCM Agreement, Article 7.8.
[81] Wilke, Marie (2011); *Feed-in Tariffs for Renewable Energy and WTO Subsidy Rules*; Trade and Sustainable Energy Series Issue Paper No. 4; International Centre for Trade and Sustainable Development, p. 7.
[82] Subsidies and Countervailing Measures: Overview, Agreement on Subsidy and Countervailing Measures (SCM Agreement), available at http://www.wto.org/english/tratop_e/scm_e/subs_e.htm; accessed 9 November 2013.

imported renewable energy, say regarding the origin of energy or technology, even if it is consumption subsidies, are likely not to cause adverse effects. On the other hand, unless the subsidies are fully technology-neutral, adverse effects may be alleged by any competitor, irrespective of whether conventional or renewable energy.[83]

Moreover, subsidies may cause harm in different ways. The likelihood of adverse effects depends upon trade patterns, considering the retaliatory trade remedies cases between the U.S. and China as an example. At the outset in October 2011, seven U.S.-based solar panel producers petitioned a case to the U.S. Department of Commerce (US DoC) against Chinese subsidies program on solar panels and demanded countervailing tariffs of more than 100 percent of the price of Chinese panels by claiming that Chinese subsidies unfairly promote Chinese firms while undermining market share for others.[84] The U.S. International Trade Commission (ITC) had unanimously decided in December 2011 that there was sufficient prima facie evidence that U.S. firms had been injured by Chinese subsidization, raising the trade dispute that could lead to anti-dumping and countervailing duties.[85] As a result, the US DoC's preliminary findings in March 2012, however, suggested an imposition of Countervailing Duties (CVD) far lower than as requested by the U.S. solar panels manufacturers: 4.73 percent on imports from Trina Solar, 2.9 percent from Suntech, and 3.59 percent from all other remaining Chinese manufacturers.[86] Parallelly, the U.S. Department of Commerce (DOC) imposed higher anti-dumping (AD) duties: 31.14 percent on panels from Suntech, 31.22 percent on panels by Trina Solar, 31.18 percent on all other companies that requested individual anti-dumping duty determinations, and nearly 250 percent to all other Chinese manufacturers, several of which are state-controlled companies.

[83] Luca Rubini (2012) "Ain't wastin' Time No More: Subsidies For Renewable Energy, The SCM Agreement, Policy Space, And Law reform" in *Journal of International Economic Law* 15 (2), Oxford University Press, p. 550.
[84] Bradsher, Keith (2011) "U.S. Solar Panel Makers Say China Violated Trade Rules", New York Times, 19 October, available at http://www.nytimes.com/2011/10/20/business/global/us-solar-manufacturers-to-ask-for-duties-on-imports.html?pagewanted=all&_r=0; accessed 2 November 2013.
[85] USITC Pub. 4295 (2011), Crystalline Silicon Photovoltaic Cells and Modules from China, Inv. Nos. 701-TA-431 and 731-TA-1190 (Preliminary).
[86] USDOC ITA factsheet (2012), Commerce Preliminarily Finds Countervailable Subsidization of Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules from the People's Republic of China, available for download at http://ia.ita.doc.gov/download/factsheets/factsheet-prc-solar-cells-adcvd-prelim-20120320.pdf.

On the other end of this retaliatory trade dispute, China initiated an investigation into U.S. subsidies for the solar, wind and hydroelectric industries (renewable energy industry) following the US probe into Chinese solar panels initiated earlier that spurred an opposition outcry among Chinese Solar Industry Association.[87] In addition, the interdependence between these two countries in solar energy trade could either escalate or mitigate an outright trade war. The U.S. exported approximately over USD 800 million of polysilicon, a key ingredient in solar panels, to China per year.[88] China eventually launched the anti-dumping and anti-subsidy probes into solar-grade polysilicon imports from the U.S. and South Korea in July 2012,[89] and the EU was included later in the case in November.[90]In the anti-subsidy case against the U.S., for instance, Chinese Ministry of Commerce (MOFCOM) announced that it will be imposing provisional anti-subsidy duties on imports of polysilicon from the U.S., the rate of which will be set at 6.5 percent. As mentioned in the announcement itself, such duty is meant to rectify the substantial damage that the Chinese domestic polysilicon industry has hitherto suffered from unfair subsidies by the U.S.[91]

However, not all subsidy-related issues have only arisen in the context of legal disputes. For example, a shift in trade policy was evident at the 20th meeting of the U.S.-China Joint Commission on Commerce and Trade (JCCT), where China agreed to remove a provision requiring 70 percent Local Content Requirement in its domestic policy on wind turbines.[92]

[87] MOFCOM Announcement No. 69 (2011), 25 November, Its decision to launch a trade barrier investigation into the U.S. policy support and subsidies for its renewable energy sector.
[88] Ed Crooks and Leslie Hook (2011) "China's rush into renewables: The way the world turns", *Financial Times*, 28 November, available at http://www.ft.com/intl/cms/s/0/0502a28a-15c9-11e1-a691-00144feabdc0.html#axzz2kfPvAzbF; accessed 7 November 2013.
[89] MOFCOM Announcements No. 40 and No. 41, 2012, deciding to launch both anti-dumping and countervailing investigations on imports of solar-grade polysilicon from the U.S., and to launch an anti-dumping investigation on imports of the same commodity from South Korea.
[90] MOFCOM Announcement No. 70 and No. 71, 2012, deciding to launch both anti-dumping and countervailing investigations on imports of solar-grade polysilicon from the EU.
[91] MOFCOM Announcement No. 63 , 2013, the imposition of anti-subsidy duties on imports of U.S.-manufactured polysilicon.
[92] US-China Joint Commission on Commerce and Trade (JCCT) fact sheet (2009), available at: http://www.ustr.gov/about-us/press-office/fact-sheets/2009/october/us-china-joint-commission-commerce-and-trade; accessed 9 November 2013.

3.2.4 Potential justification for Renewable Energy Subsidy under the WTO Regime:

Article XX,[93] provides the exceptions applicable to the Member Country's obligation under WTO regime. These exceptions permits certain measures by member countries that would otherwise be illegal under the GATT for the purposes of, inter alia, protecting human, animal or plant life or health (Article XX(b)) and conserving exhaustible natural resources (Article XX(g)), insofar as such restrictions are used in a non-discriminatory manner. These two exceptions may be invoked to defend renewable energy subsidies.

However, there is no clear precedent as to how this justification would be considered by the WTO Dispute Settlement Mechanism, whether Article XX would justify, for instance, feed-in tariff schemes as well as various forms of government support targeting renewable energy. In this regard, supporters of a wide applicability have opined that it would be better to resort to Article XX to settle these controversial discussions than always relying upon the WTO's main principles.[94]

Further, to determine the applicability of the Chapeau of Article XX to renewable energy subsidies, an analysis of challenges that may arise has to be discussed. Firstly, it will have to be ascertained whether a subsidy in the form of domestic content requirement fulfills the initial criteria of Article XX, that measures cannot be applied in a manner that would constitute a means of arbitrary or unjustifiable discrimination. The answer seems to be negative, as the very nature of domestic content requirements is premised on discriminatory application in favour of domestic producers. However, a LCR based subsidy can be justified under Article XX: if there could be a rationale that such discrimination is not arbitrary or it is justifiable, however the probability of which is low though. Second, it is important to assess whether the purpose of establishing a green and climate friendly future could be said to fulfilling the criteria of protecting human life or as an exhaustible natural resource. In the case of *Brazil – Retreaded Tyres*, the panel acknowledged that measures aimed at protecting environment fell within the range of policies covered by the scope of Article XX(b), whilst the Appellate Body stating that the contribution of a trade restrictive measure

[93]GATT 1994, Article XX.
[94] Ibid, note 81(Wilke, Marie), p.20.

to address climate change, while not immediately observable, can be justified under Article XX(b).[95] Moreover, the interpretation of the term "necessary" is of important when zeroing in on feed-in tariff schemes and domestic content subsidy. This is because although FIT schemes are arguably pivotal to mitigating the climate change impacts, it is debatable whether the LCR based subsidies are indeed necessary to achieve that environmental preservation purpose. Nevertheless, it could be fairly said that the confirmation of the applicability of GATT Article XX to other WTO agreements via a judicial route may be politically troublesome. The fact that cannot be undermined is that the general exceptions of the GATT should apply to rules that find their origin within the GATT itself.

[95] *Brazil – Retreaded Tyres* (Panel), WT/DS332/R, para. 7.108; *Brazil – Retreaded Tyres* (Appellate Body), WT/DS332/AB/R, para. 179

4. **Part III**

This part analyze the findings of part I and part II. In the light of the finding of part I of this paper, that trade remedies are relevant for a sub-group of environmental goods, that is renewable energy goods only. The first section of this paper will try to make an assessment of the dichotomy between tariff reductions (for liberalisation of international trade in environmental goods) and the increase in the use of trade remedies. Secondly, in light of the first finding, identify the cause for this surge in trade remedies for certain environmental goods.

Therefore in light of the above, trade remedies do not generally undermine these liberalisation efforts as they are targeted only at a subset of environmental products, namely renewable energy related goods. For this subset, however, the risk of a zero-sum game exists. Secondly trade remedies are taking the place and complementing the existing support schemes for renewable energy and environmental. And is being used as a protectionist tool for the domestic industry for renewable energy goods.

4.1 Dichotomy between tariff reductions on environmental goods and the increase in use of trade remedies on environmental goods - a zero-sum game?

4.1.1 Comparing the 'Goods' involved: in trade liberalisation and trade remedies:

The problem of trade remedies versus tariff reductions on environmental products may be less significant than it at first appears. As discussed in paragraph 1.4 of Part I and as also apparent from Appendix Table 1, domestic trade remedies determinations have targeted renewable energy products rather than the larger group of environmental products. The relevant goods belong to the following three larger categories, solar, wind and biofuels. Thus, the risk of trade remedies undermining liberalisation of environmental products is confined to the smaller subset of renewable energy products rather than all environmental products.

*4.1.*2 Effect of trade remedies on renewable energy products:

However, the imposition of trade remedies (like anti-dumping and countervailing duties) could undermine the benefits of trade liberalisation achieved through tariff

reduction for an important sector of environmental goods. This is because tariff reduction encourages international trade and makes goods available cheaply whereas trade remedies by imposition of duties undo the benefit of the reduced tariff. Trade remedies for environmental goods also undermine the goal of climate change mitigation, since trade remedies adversely affect consumer choices to transition to renewable energy.

In addition to the impact on the consumers, the present phenomenon of trade remedies has adverse effects on the global value chain for renewables as well, which is further aggravated as a result of trade remedies being used as retaliatory measures between the relevant countries for renewable energy. (Please see Appendix Table 3 listing the retaliatory measures identified in this context). Thus a final renewable energy product in this context has often been subject to anti dumping duties and CVDs at several stages. To give an example, solar panels (containing polysilicon) imported from China are subject to trade remedies by the US[96]and EU. In retaliation, China levied anti dumping and countervailing duties on polysilicon imported from the EU, US and South Korea. Polysilicon is an important raw material for solar panels, and Chinese manufacturers are dependent upon suppliers from the US and EU. Therefore the finally installed solar panel in the solar park has been subject to trade remedy measures twice. This affects the global value chains for these products. It makes renewable energy more expensive both for domestic producers who buy the intermediate goods as well as for the final consumers of the renewable energy in the form of electricity. This will undermine efforts to decrease reliance on unsustainable sources of energy like fossil fuels[97]. Thus based on the foregoing, trade remedies on renewable energy could undermine both environment goals and trade liberalisation in the long run.

Conclusion: Liberalisation efforts to facilitate low-tariff access to environmental

[96] Please see Appendix 2 for a pictorial explanation of the various stages in the production of solar panel installation.

[97] Small gains to EU producers are offset by greater costs resulting from less demand for solar power and jobs lost in the installation and serving industries- Findings of the "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". (2013) Prognos AG referred to in Trade Remedies Targeting the Renewable Energy Sector (2014) Peterson Institute for International Economics.

products are ongoing. Trade remedies do not generally undermine these liberalisation efforts as they are targeted only at a subset of environmental products, namely renewable energy related products. For this subset, however, the risk of a zero-sum game is very high.

4.2 Are trade remedies being used as a substitute for domestic support schemes for renewable energy?

Even for this smaller group of renewable energy products, it is imperative that the reason for this frequent resort to trade remedies is identified. Trade liberalisation and trade remedies on renewable energy products also interact on a second level, albeit indirectly. National governments have introduced several support schemes for incentivizing and supporting their infant domestic industries in renewable energy products. And in this context, states have been using trade remedies on environmental products to protect their growing "green" domestic industry, shielding it from foreign competition. Thus, trade remedies are being used as a protectionist tool[98] either complementing or substituting domestic support schemes.

4.2.1 Domestic Support Schemes:

As of 2013, 138 countries around the world had renewable energy support schemes.[99] For example the EU Agenda 2020[100] requires member States to ensure that 20% of their energy needs are met by renewable sources by 2020.

Purpose: In light of a finite source of traditional sources of energy such as fossil fuels and given their adverse effect as regards climate change, most national governments have targets for transitioning to renewable energy[101]. Domestic support

[98] Trade Remedies are so easily resorted to on account of their inherent characteristics; which makes them very easily administrable and thus often used as a policy tool by domestic governments. According to some studies, the reform in the trade remedies regime as a result of the WTO has made them more easily administrable. Therefore a regime that was primarily conceptualized to prevent the practice of predatory pricing now is often resorted to as an answer for any below the price or discriminatory pricing. (See Peterson Institute paper page 5)

[99] See the report of Renewable Energy Policy Network "Key findings 2013" available at: http://ren21.net/Portals/0/documents/activities/gsr/REN21_GSR2012_Key%20Findings.pdf

[100] One of the most important targets of the EU Agenda for 2020, is relating to **Climate change and energy sustainability.** The relevant targets are:

- greenhouse gas emissions 20% lower than 1990 (or even 30%, if the conditions are right)
- 20% of energy from renewables
- 20% increase in energy efficiency

[101] Bahar, H., J. Egeland and R. Steenblik (2013), "Domestic Incentive Measures for Renewable

schemes are government financial policies, such as subsidies and FIT, to assist domestic economies transition to more sustainable sources of energy and help meet national government clean energy targets. In addition to aiding the cause of climate change mitigation, these support schemes are also intended to assist governments to fulfill other economic, social and political obligations as well.[102] These support schemes however are not only government environmental policies driven by concerns of climate and decreasing fossil fuel reliance, they are also meant to be support to infant industries in the relevant areas of law.

Form of Governments support schemes: Government support schemes are policies (See Appendix 1. Table 2 for details on relevant country-wise listing of support policies). These policies incentivise renewable energy usage, by the provision of financial incentives like subsidy and tax benefits. Examples include production tax credit[103] and investment tax credit[104] in the US wind turbine power generation industry. Another type of support schemes are the FIT type policies, that act as protectionist measures shielding domestic infant industries from international competition. Examples include LCR type programmes, like the Jawaharlal Nehru National Solar Mission in India, which has been responsible for the development of the solar energy industry in India.[105]

4.2.2Withdrawal and modification in domestic support schemes:

National governments have not been able to continue with all their support schemes. In the wake of the financial crisis of 2008, governments across the globe have cut back and modified their support schemes as a result of budgetary constraints. This has been especially true in respect of those that could have a sizeable impact on fiscal revenue, such as subsidies.[106] For example, Spain temporarily suspended its FIT

Energy With Possible Trade Implications", OECD Trade and Environment Working Papers, 2013/01, OECD Publishing. http://dx.doi.org/10.1787/5k44srlksr6f-en, page 10.

[102] REN21 page 65; For example RE is also attractive for developing countries as it can be deployed for electricity generation off the grid as well. This is especially helpful for electrification of rural and remote areas wherein grid connectivity may be difficult.

[103] See: http://energy.gov/savings/renewable-electricity-production-tax-credit-ptc
[104] See: http://energy.gov/savings/business-energy-investment-tax-credit-itc
[105] See for further details: http://mnre.gov.in/file-manager/UserFiles/draft-jnnsmpd-2.pdf
[106] See the report of Renewable Energy Policy Network "Key findings 2013" available at: http://ren21.net/Portals/0/documents/activities/gsr/REN21_GSR2012_Key%20Findings.pdf

schemes in 2012 and implemented retroactive FIT rate cuts in all solar installations dating back to 2009.[107] Germany also reduced support to solar installments by cutting FIT rates and imposed limits on financial support for renewable energy.[108] Bulgaria also enacted temporary retroactive taxes on revenues from solar, wind, hydro and biomass projects[109]. This withdrawal and modification of renewable energy support schemes caused significant fluctuations in several domestic markets for renewable energy goods; this resulting uncertainty also caused a decline in investment in the renewables energy sector. The year 2012 saw a 12% decline[110] and in 2013 there was a further decline of 14% compared to 2012 and 23% below the 2011 record.

4.2.2.1 Withdrawal and modification of domestic support schemes causing injury to the domestic industry:

The effect of modified domestic policy and withdrawn domestic policies was discussed in a number of proceedings before domestic authorities in respect of actions initiated for anti-dumping duties as another factor which might have caused injury to the domestic market. This has already discussed in paragraph 3.1 of Part III of this paper.

Article 3.5 of the ADA requires the domestic investigating authority to investigate other known factors causing injury. This is to ensure that injury to domestic industry is attributable to dumping only and not other causes. In all the cases studied for this paper the domestic authorities, even though they mentioned this factor, did not legally find the fluctuations as the cause for injury to the domestic market. For example in the EU determination regarding dumping of solar panels, cells and wafers from China, the impact of suspensions of the FIT scheme by Spain was discussed at length.[111]

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[107] See page 68 of the report of Renewable Energy Policy Network "Renewable 2013- Global Status Report", available at: http://www.ren21.net/ren21activities/globalstatusreport.aspx

[108] Ibid

[109] Ibid, page 69.

[110] **Global Trends in Renewable Energy Investment** 2013, the 6th edition of the Frankfurt School - UNEP Centre/BNEF report, based on data from Bloomberg New Energy Finance, page 13

[111] See Para 173-175, decision available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:152:0005:0047:EN:PDF. This was a provisional decision. By Decision 2013/423/EU of 2 August 2013, the Commission accepted an undertaking offered in connection with the anti-dumping proceeding concerning imports of crystalline silicon photovoltaic modules and key components (i.e. cells and wafers). The final decision of the Commission definitive anti-dumping duty and collecting definitively the provisional duty is available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2013:0759:FIN:EN:PDF

Also in the U.S. determination regarding the utility scale wind towers imported from China and Vietnam, the risk of the discontinuation of production tax credit and investment tax credit were discussed as possible causes for market fluctuations[112]. However in the final determinations the investigating authorities did not find the injury to the domestic industry attributable to these fluctuations.

The precursory and inconclusive discussion on the effect of these support schemes are also indicative of the systemic bias which exists in favour of domestic industry and for a finding of dumping. Therefore these mitigating factors have little impact on the decisions regarding trade remedies.[113]

Although these discussions on the influence of support schemes as possible causes for injury to the domestic market were inconclusive, they highlight the link between domestic support programs and trade remedies, which leads us to identify the political role that trade remedies play. That is the role providing the protectionism to domestic industries.[114].

4.2.3 Reason for resort to trade remedies as a response to the withdrawal and modification of support schemes:

As already discussed in addition to the alleged environmental agenda that these policies were pursuing, they were also intended to promote infant domestic industries in the renewable energy sector. Therefore their withdrawal and modification caused major fluctuations in the domestic industry. In this context, domestic governments encouraged the reliance upon trade remedies, since they could be used to complement the same support schemes and/or to fill in the vacuum created by the withdrawal of some support schemes.

This reliance on trade remedies to take the place of support schemes and not any other measure is on account of certain inherent characteristics of trade remedies. The

[112] Pages 15-16 & 20, available at: http://www.usitc.gov/publications/701_731/pub4372.pdf
[113] Hauser Jaine, Sleeping Giant to Friendly Giant: Rethinking The United States Solar Energy trade War with China, N.C. J. IN'L L. & COM. REG. (38) 2013 pg. 1061 at pg. 1074, wherein the author while giving the example of the Chinese and US domestic authorities says that they are inherently biased to find affirmative evidence of dumping and the tools used by them are often flawed.
[114] Romano Alessandro and Thammapitagkul Peachya, **Antidumping: A Public Interest not So much in the Public Interest** 10 Manchester J. Int'l Econ. L. 59 2013,Page 63

present framework of the WTO regime in the context of trade remedies allows a great deal of leeway to domestic authorities in the interpretation of the scope of trade remedies. Further, the result of a trade remedy determination is immediate. The imported products become more expensive and often it has been reported that since these remedies can be imposed retroactively as well, exporters often restrict exports even before final determinations have been made. Therefore trade remedies are effective and cheap protectionist tools for national governments as compared to the withdrawn support schemes.

4.2.4. Retaliatory trade remedies in response to trade remedies:

As already discussed in addition to the alleged environmental agenda that these policies were pursuing, they were also intended to promote infant domestic industries in the renewable energy sector. Therefore their withdrawal and modification caused major fluctuations in the domestic industry. In this context, domestic governments encouraged the reliance upon trade remedies, since they could be used to complement the same support schemes and/or to fill in the vacuum created by the withdrawal of some support schemes.

This reliance on trade remedies to take the place of support schemes and not any other measure is on account of certain inherent characteristics of trade remedies. The present framework of the WTO regime in the context of trade remedies allows a great deal of leeway to domestic authorities in the interpretation of the scope of trade remedies. Further, the result of a trade remedy determination is immediate. The imported products become more expensive and often it has been reported that since these remedies can be imposed retroactively as well, exporters often restrict exports even before final determinations have been made. Therefore trade remedies are effective and cheap protectionist tools for national governments as compared to the withdrawn support schemes.

Part IV

5. Recommendations to overcome the problems identified

The problem analysis in the previous part leads us to the following conclusions:

Firstly, policy-makers should focus their efforts on the subset of renewable energy goods wherein the impact of trade remedies are being felt since the over-all liberalisation of trade in environmental goods remains largely unaffected by the phenomenon of trade remedies;

Secondly, policy-makers should bear in mind that the increased resort to trade remedies by national governments may, in part, be a temporary and transient. In the aftermath of the recent financial crises, trade remedies are being used as a protectionist tool for infant industries in the renewable energies sector to compensate for the withdrawal of support schemes, which, until recently, had provided the necessary protection.

The recommendations in this part are being suggested here with the aim of ensuring that they address concerns of renewable energy sector and that are achievable within the present framework of the WTO regime. It does not make suggestions that though may be helpful to strengthening the law relating to trade remedies may require renegotiations with all the Member Countries within the framework of the WTO which maybe more challenging at this stage.

5.1 Need for negotiations at a smaller forum of relevant WTO Member Countries[115]:

To resolve the issue of trade remedies for renewable energy goods and retaliatory measures between Member Countries in imposing trade remedies for renewable energy goods it will be important that there is an effective consensus building and negotiating between the relevant Member Countries. Thus to achieve a quick and effective solution it is suggested that Member Countries try to negotiate in an alternative forum rather than the WTO for this present problem. This is because this problem of trade remedies for renewables is only a reality or cause for concern for a

[115] This proposal was also put suggested by Professor Pauwelyn at the Ad hoc Expert meeting.

smaller number of countries. (See Appendix Table 1, for the list of relevant countries)

For example, the Davos declaration on the APEC list wherein member countries of the APEC declared a commitment to pursue 'global free trade for environmental goods' [116] could be relevant. Under the Davos initiative, the open-textured commitment to pursue global free trade for environmental goods could be employed as a stage, wherein further commitments in addition to mere tariff reduction on environmental goods could be pursued. For example, trade remedies for a list of clearly defined products relating to renewable energy could be phased out or capped at a certain maximum. This could take the form of a mere political commitment.

However there the APEC forum may not be ideal on account of two factors firstly, EU and India are not members. Secondly, biofuels are not included in the list of environmental goods at the APEC. However, the main crux of this suggestion is that the relevant Member Countries should come together in a smaller forum than the WTO to resolve the present crises situation.

5.2 Following a policy of accepting Price Undertaking

If there is a price undertaking by the dumping exporters and the domestic authorities are satisfied that the injurious effect of the dumping will be eliminated as a result, they may decide to terminated or suspended investigation proceeding upon the receipt of a voluntary undertaking from exporters.[117] However there is no obligation to accept price undertaking, in the anti-dumping determination by the Indian authorities, the authorities refused to accept the price undertaking on the ground that it would be difficult to monitor.[118]

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[116] Declaration available at: http://www.ustr.gov/sites/default/files/EGs-Announcement-joint-statement-012414-FINAL.pdf

[117] Article 8 of the AD Agreement reads:

8.1 Proceedings may be suspended or terminated without the imposition of provisional measures or anti-dumping duties upon receipt of satisfactory voluntary undertakings from any exporter to revise its prices or to cease exports to the area in question at dumped prices so that the authorities are satisfied that the injurious effect of the dumping is eliminated. Price increases under such undertakings shall not be higher than necessary to eliminate the margin of dumping. It is desirable that the price increases be less than the margin of dumping if such increases would be adequate to remove the injury to the domestic industry.

[118] Indian decision imposing anti-dumping duty, page 151.

In the *EU-China solar panels* case[119], the European Commission accepted price undertaking. As per the terms of this price undertaking:

- Participating companies[120] were exempted from the payment of provisional anti-dumping duties;
- Participating companies were also exempted from paying any anti-dumping duties;
- Participating Chinese exporters have committed to respecting minimum import prices;
- Participating companies will be able to export up to 7 gigawatts per year of solar products into the EU without having to pay anti-dumping duties; and
- Participating companies will have to ensure that the price does not fall below 56 cents per watt.

Non-participating Chinese companies will, however, be subject to the 47.6 percent average anti-dumping duty. Those companies that are not participating will have to pay the anti-dumping duties that have been announced on 5 June 2013[121].

Effect on the anti-subsidy investigation:

The terms of the above price undertakings has also been made applicable to the anti-subsidy investigation*;* that Chinese exports who have entered into the price undertakings will be exempted from both the anti-dumping and countervailing duties as long as terms of the undertakings are respected.[122] Though price undertaking could be said to pave the way for the limiting the effect of trade remedies on renewable energy products, there are some inherent shortcomings of price undertaking. Firstly, its not an absolute solution to the problem, since there are some companies that not

[119] EU/Belgium: AD against Solar Panels, Cells and Wafers imported from China

[120] The list of the Chinese exporters that entered into undertakings can be found in the Annex to Commission Decision 2013/423/EU 03/08/2013, available at http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2013:209:0026:0032:EN:PDF; accessed 9 November 2013.

[121] However according to recent reports the Chinese companies have not been honouring their obligations under the price undertaking and a complaint has been lodged with Directorate-General for Trade of the European Commission in this respect. See: "EU ProSun accuses Chinese PV manufacturers of 'massive violation of EU trade deal", available at http://www.pv-magazine.com/news/details/beitrag/eu-prosun-accuses-chinese-pv-manufacturers-of-massive-violation-of-eu-trade-deal_100015343/#axzz34DFE2Z6L

[122] Para 19 of the Commission Implementing Decision 2013/707/EU, of 04/12/2013, available at: http://trade.ec.europa.eu/doclib/docs/2013/december/tradoc_151946.UT.en.L325-2013.pdf

participating in the price undertaking. Article 8.5 of the SCM agreement provides that no exporter shall be enforced to enter into such undertakings.[123] It was also reaffirmed by in the *EC-Bed Linen* case wherein the Panel ruled that exporters are never required to accept undertakings, and, on the contrary, refusal to accept such undertakings by no means can prejudice the outcome of the investigation.[124]

5.3 Implementing a Public Interest Test:

It has been proposed that a mandatory substantive "public interest test" is introduced in the domestic proceedings to ensure that other interests like the environment, consumer, trader and upstream producer etc. interests are taken due care of in the investigation and imposing of duty process. Member Countries by providing for such a test could ensure that that trade remedy determinations are not one-sided policy tool only and that environmental, consumer and interests of other (intermediate) producers are also taken into account.

Anti-dumping and countervailing duties in the present case of renewables cause a reduction in demand which is followed by a shrinking demand for installations and services and results in reduction of overall value added.[125] Therefore is no denying that the gains sought to be made by the domestic industry by the imposition of the trade remedies are at the cost of other social and economic benefits of cheaper renewable energy products. Therefore in the light of this finding the introducing a public interest test could be pivotal. However the current regime seems less inclined to take into account these public interest issues while making a determination on dumping. Public interest if included as a test could be significant in the manner domestic authorities could use their discretion to limit the frequent resort to a trade remedy measure.

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[123] Article 8.5 of the AD Agreement provides:
8.5 Price undertakings may be suggested by the authorities of the importing Member, but no exporter shall be forced to enter into such undertakings. The fact that exporters do not offer such undertakings, or do not accept an invitation to do so, shall in no way prejudice the consideration of the case. However, the authorities are free to determine that a threat of injury is more likely to be realized if the dumped imports continue.

[124] EC-Bed Linen (WT/DS141/R)

[125] Ehrentraut Oliver, Peter Frank, Schmutz Sabrina & Krampe Leonard, 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. Management Summary. (2013) Prognos AG Basel. Available at: http://unctad.org/meetings/en/Contribution/ditc_ted_03042014prognos.pdf

5.3.1 Analysis of the other interests in ADA and SCM agreement:

Presently though the ADA and the SCM do not contain such a provision, the Safeguard Agreement refers to the "public interest" in the context of investigation in Article 3.1. As this provision the domestic investigating authority has to provide an opportunity to the members of the public to present views as to whether or not the contemplated safeguard measure would be in the public interest or not. However it is under the provisions relating to investigation and therefore it is doubtful if it can be said to be a substantive provision.

The provisions of the ADA and the SCM agreement do not contain provisions for a public interest test per se. In the ADA the Article 6.12[126] relating to the evidence, obliges the authorities to provide opportunities to industrial users of the product as well as consumers organizations to provide information that is relevant. In the SCM agreement (in Article 19.2[127]) the reference to consumer and industrial users has been mentioned in the context of imposition and collection of the countervailing duties. The provisions impose obligations on member countries to establish procedures for to take into account the interest of the aforementioned interest groups. Therefore neither in the ADA and the SCM provisions that are relevant for the issue under consideration is there a mandatory provision as such for "public interest". These provisions only require the domestic authorities to provide audience to such interests in the investigation and hearing procedure. Therefore it is a procedural provision and not as a substantive provision. In the safeguards provision as well it appears in the "investigation" therefore again it is not clear the status.

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[126] The authorities shall provide opportunities for industrial users of the product under investigation, and for representative consumer organizations in cases where the product is commonly sold at the retail level, to provide information which is relevant to the investigation regarding dumping, injury and causality.

[127] The decision whether or not to impose a countervailing duty in cases where all requirements for the imposition have been fulfilled, and the decision whether the amount of the countervailing duty to be imposed shall be the full amount of the subsidy or less, are decisions to be made by the authorities of the importing Member. It is *desirable* that the imposition should be permissive in the territory of all Members, that the duty should be less than the total amount of the subsidy if such lesser duty would be adequate to remove the injury to the domestic industry, and that *procedures should* be established which would allow the authorities concerned to take due account of representations made by domestic interested parties[50] whose interests might be adversely affected by the imposition of a countervailing duty

50. For the purpose of this paragraph, the term "domestic interested parties" shall include consumers and industrial users of the imported product subject to investigation.

The agreement in relation to safeguards in Article 3.1 however requires that the notice of the hearing in relation to a safeguard to be made public so that members of the public can be allowed an opportunity to submit their views as whether the application of a safeguard is in the public interest or not.

5.3.2 Community Interest provision in EU Law:

As demonstrated in part II of this paper this provision of the community interest in EU law is merely a 'positive spin' to trade remedies investigation[128] and often the bias of the commission is obvious. In *Footwear with uppers of leather* case the commission held "The community interest test is not a cost/benefit analysis in the strictest sense. While the various interests are put in the balance, they are not weighed against each other in a mathematical equation, not least because of the obvious methodological difficulties in quantifying each factor with a reasonable margin of security within the time available."[129] Therefore in practice the Community interest test has so far played only a minor role in the Commission's practice whenever such an issue has arisen the Community authorities have tended to prioritize the interests of the complainant (producer industry) over those of consumers and other interests[130]. According to one study only seven out of 110 cases (1998–2008) were terminated on the grounds of Community interest.[131]

In addition to the EU, Canada, China[132],Thailand and Ukraine are other jurisdictions, which have provisions for the "public interest" test. Further the Canadian provision, as well as the newly enacted the Ukrainian provision on trade

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[128] Davis L, 'Anti-dumping Investigation in the EU: How Does it Work?' (2009) ECIPE Working Paper No 04/2009. Available at: http://www.ecipe.org/media/publication_pdfs/anti-dumping-investigation-in-the-eu-how-does-it-work.pdf.

[129] Footwear with uppers of leather from China & Vietnam, (5 October 2006) para 279. Council Regulation (EC) No 1472/2006, available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2006:275:0001:0041:EN:PDFs

[130] Wolfrum Rüdiger, Stoll Peter-Tobias, Koebele Michael (eds.), WTO – Trade Remedies in Max Planck Commentaries on World Trade Law (2008),Vol. 4, Martinus Nijhoff, page 291

[131] Ibid Fn.133, pg.17

[132] China introduced a public interest clause in its recent anti-dumping regulation, which came into force in 2004. Article 37 of the China's AD Regulation says that "Collection of anti-dumping duty should conform to the public interests." At the same time, the regulation does not provide any further explanations on what constitute a 'public interest' and the way it should be considered. See: http://english.mofcom.gov.cn/aarticle/policyrelease/domesticpolicy/200502/20050200017435.html

remedy includes environmental consideration as a part of public interest. The US laws on trade remedies does not have such a provision.[133]

5.3.3 Specific need for public interest test in renewables:

5.3.3.1 Environmental Interest:

One important aspect which is required in the present factual scenario is the inclusion of environmental interest in public interest conception.

The EU community interest does not include this within its understanding of community interest. Thus in the EU solar panels case even though the "community interest" was discussed, the environmental issues which were at stake did not influence the Commission's decision. The EU Commission in its decision *Polyester Staple Fibres* very unequivocally held that "the Community interest analysis in anti-dumping proceedings focuses on the economic impact of measures on the economic operators concerned and is not directly related to environmental concerns"[134].

5.3.3.2 Interests of OEM and Project Installers: the interests in the Global Value Chain:

Even if the concept of Public Interest cannot be expanded to take into account environmental concerns there are certain concerns which are within the understanding of 'economic interests' which have also been sidelined. These are interests of the importers are other groups in the value chain. Renewable Energy products are a part of the global value chain and not end products meant for direct consumption by consumer. Solar cells and wafers[135] and wind turbines are parts the global value chain.

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[133] Kotsiubska, Iktoriia, "Public Interest Consideration in Domestic and International Anti- dumping Disciplines" (2011) pg. 28-29, available at: http://www.wti.org/fileadmin/user_upload/wti.org/1_master-programme/pdfs/Masters_thesis_Viktoriia%20Kotsiubska.pdf

[134] See para 80 of Proposal for a Council Regulation Maintaining the anti-dumping duties on imports of polyester staple fibres originating in Belarus, the People's Republic of China, Saudi Arabia and Korea (COM/2008/0517 final) available at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2008:0517:FIN:EN:HTML

[135] Please see appendix 2 for a pictorial explanation of construction of a solar power installation.

The final products are the PV modules installed in a solar park and wind turbines installed in utility scale wind farms. The down-stream producers/ manufacturers who would have benefited from the cheaply available components are the ones who are adversely affected by this increase in costs. Therefore in addition to the final consumers the burden of increased costs also has adversely affected the business and reduced profit margins of the down-stream producers (industrial users) of the good.

The trade remedy provisions in the WTO regime are discretionary, in that Member Countries may decide not to impose duties despite finding of dumping and injury. Therefore this discretion can be used to include a public interest test by the member states by themselves without any renegotiations at the multilateral level. Therefore inclusion and provision of a public interest test in the domestic law could be useful. However the systemic bias for finding favour of injury as demonstrated and in that light the public interest test being just a 'positive spin' remains.

5.4 Creating a Fund compensating the domestic producers of renewable energy products:

Tensions between the U.S. and China over renewable energy have threatened to erupt into a trade war within the last year, with both sides imposing retaliatory duties on respective imports. Existing trade remedy orders and investigations relating to solar energy products between the U.S. and China are causing significant adverse effects across the global solar supply chain, without properly and sufficiently addressing the underlying causes of unfair competition.

The Solar Energy Industries Association (SEIA) recently offered an industry compromise designed to end the standoff. The SEIA proposal could serve as the centerpiece for a fair, negotiated settlement of all outstanding issues, benefit end-users, and encourage the proliferation of solar energy in the U.S. as well as globally. The SEIA proposal has been influenced by the bilateral deal between Brazil and the U.S .in the form of manufacturers' fund in the *U.S. - Upland Cotton* case whereby the U.S. agreed to establish the fund, rather than confronting with the high level of import duties.[136] The main function of which is to grant assistance to Brazilian cotton

[136] U.S.-Upland Cotton (DS267)

producers for development capacities. In the SEIA proposal, would be similar and will be set up in the US. The important aspects of the SEIA proposal are:

- Money for the fund would come from a percentage of the price premium Chinese companies are currently paying to third-country cell producers to get around U.S. trade sanctions, reducing costs and supply chain distortion for Chinese companies.
- In exchange the Chinese government would end its antidumping and countervailing duties investigations on U.S. polysilicon exports to China[137]
- The U.S. antidumping and countervailing duties orders would also be phased out.
- The proposal also calls for a safeguard mechanism designed to offset any surge of Chinese solar modules into the U.S. market. [138]

The above proposal is consistency with the WTO law in this respect. The SEIA is different from the U.S. Continued Dumping and Subsidy Offset Act of 2000 (CDSOA, or Byrd Amendment) which has been held to be WTO-inconsistent.[139]. In the CDSOA the antidumping and countervailing duties collected by the U.S. were repaid to the affected domestic producers, who had filed the original petitions. The scheme of the CDSOA for compensating domestic producers by drawing from the duties collected functioned as financial incentive to file or support anti-dumping and anti-subsidy complaints and applications for the domestic producers. Therefore, the provisions of the CDSOA which provided for specific actions against dumping/subsidy violated Article 18.1 of the ADA as well as Article 32.1 of the SCM Agreement which specify the three permissible remedies that could be taken, viz., definitive anti-dumping/countervailing duties, provisional measures, and price undertakings.[140] The SEIA proposal will not fall foul of the ADA and the SCM Agreement provisions because the funds for the setting up this fund will not be directly collected from anti-dumping or the countervailing duty imposed.

[137] This would remove the threat of artificial cost increases in a key raw material in the solar value chain, benefiting not just Chinese solar companies but all users of solar energy.

[138]Draft Recommendation to Governments for the Establishment of a U.S.-China Solar Agreement, available at http://www.seia.org//research-resources/draft-recommendation-governments-establishment-us-china-solar-agreement; accessed 29 November 2013

[139] U.S.-Continued Dumping and Subsidy Offset Act of 2000 (WT/DS217/AB/R and WT/DS234/AB/R)
[140] Ibid.

5.5 Binding the rates of duty that can be imposed as a result of finding of injury:

Article 19.2[141] of the SCM agreement and Article 9[142] of the AD agreement are provisions dealing with the "lesser duty rule". According to this rule, a lesser duty than the total amount of subsidy or the dumping margin could be levied, if such lesser amount would be adequate to remove the injury, rather than imposing a duty based on the dumping margin. Thus under the WTO agreements, the domestic authorities can in their discretion decide to impose a lesser amount of duty.

To give an example, if the domestic authorities decided to follow a lesser duty rule, they would impose, an anti-dumping or a countervailing duty of 5% if this is enough to eliminate the price advantage gained by the exporters through dumping, rather than say imposing a 20% duty, which may be the actual dumping margin.

Thus in the context of environmental goods an agreement on the outer limits of duty rates which can be imposed pursuant to a trade remedy action will be compliant with Member Country's obligations under the WTO. Presently the EU[143], Korea and South Africa have a 'lesser duty rule' policy on a general basis[144]. Therefore an agreement or an understanding among the Member Countries to impose a ceiling on the upper limit of duty that could be levied in a domestic trade remedy determination could be concluded. However this proposition would still have the following limitations:

- It still retains the option of imposing trade remedies for environmental goods; and

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[141] Article 19.2 provides: "…the decision whether the amount of the countervailing duty to be imposed shall be the full amount of the subsidy or less, are decisions to be made by the authorities of the importing Member."

[142] Article 9*:* The decision whether or not to impose an anti-dumping duty in cases where all requirements for the imposition have been fulfilled, and the decision whether the amount of the anti-dumping duty to be imposed shall be the full margin of dumping or less, are decisions to be made by the authorities of the importing Member. It is desirable that the imposition be permissive in the territory of all Members, and that the duty be less than the margin if such lesser duty would be adequate to remove the injury to the domestic industry.

[143] However it has been reported that in the modernisation review of the trade remedies regulations, the Commission proposes to limit the use of the lesser duty rule. See the following for further details: http://trade.ec.europa.eu/doclib/press/index.cfm?id=885

[144] Debroy Bibek & Chakraborty Debashis,(2007) Anti-dumping: Global Abuse of a Trade Policy Instrument, available at: https://www.academia.edu/888882/Anti-dumping_global_abuse_of_a_trade_policy_instrument

- Problem of implementing this rule since it would mean renegotiating of rules and it seems doubtful if there would be consensus for a mandatory provision of such a nature.[145]

In the alternative a unilateral decision by Member Countries to fix the absolute size of tariff, like say 50 percent would atleast catch some of the unreasonably high amounts[146] and also bring in some sort of moderation in the spill over effects of an increased tariff.

5.6 Limiting the number of Trade remedies in time:

This proposal if implemented in the case of AD and CVD duties will be significant. This is because often there have been cases where the duty imposed has just been continued on a basis of a review procedure which is procedurally very restrictive as compared to an investigation. Therefore a law providing for the lapse of the measure and requirement of reinitiating the procedure from scratch once the stipulated time period has elapsed will ensure that a duty is not re-imposed without proper investigation. Another recommendation in this respect is that if an application for trade remedy has been refused pursuant to an investigation then it should not be allowed to reinitiate before the lapse of one year.

5.7 Limiting the total number of trade remedies for environmental goods:

Wu and Saltzman propose that would curtail the number of trade remedies permitted against environmental goods as another viable solution. Since it would involve trade offs between different eligible investigations for the imposition of duty. This would have the benefit of restricting the sort of retaliatory trade remedy measures which has been so frequently resorted to between the parties. However for ensuring that this sort of limiting has an effect the ceiling number should not be too high otherwise it would not have the requisite effect. However like the problem of mandating a lesser duty rule this would also have the similar problem of implementation. One way of overcoming this would be using the APEC forum or a smaller regional group consisting of prominent countries in the renewable energy sector and try and build a consensus at that level in this respect.

[145] Suggested by Prof Wu at the Ad hoc Expert meeting.
[146] Suggested by Prof Wu at the Ad hoc Expert meeting.

5.8 Peace Clause: temporary cease-fire on trade remedies for environmental goods

It has been proposed that the best solution to the current crises would be a temporary cease-fire on trade remedies by Member Countries for renewable energy goods. Like it has been done in the case of Agreement on Agriculture, Art. 13.[147] Like an agreement between Member Countries whereby they agree on non-usage of anti-dumping duties for renewable energy goods and for 'non-actionable' environmental subsidies. However, politically there is going to be little consensus for such a solution[148].

[147] This is because anyways the use of trade remedies as a protectionist tool does not serve the domestic industries interests either. It has the effect of trade diversion. Wherein the trade with the exporting country on which the trade remedy has been imposed shifts to another exporting country. Therefore as a result of imposition of AD and CVD on Chinese renewable energy products, the Chinese producers are shifting their production units to other countries, and continue to exploit the US market at the cost of domestic industries often at higher costs of production; Hauser Janie, Sleeping Giant to Friendly Giant: Rethinking The United States Solar Energy trade War with China, N.C. J. IN'L L. & COM. REG. (38) 2013 pg. 1061 at pg. 1075.

[148] Kasteng, Jonas, (2013) Trade Remedies on Clean Energy: A New Trend in Need of Multilateral Initiatives pg.13; Hufbauer Gary & Cimino Cathleen, Trade Remedies Targeting the Renewable Energy Sector (2014) Peterson Institute for International Economics, pg. 22; Wu & Saltzman, (2013) "The Next Generation Of Trade And Environment Conflicts: The Rise Of Green Industrial Policy", page 50-51.

Conclusion:

Thus we can conclude that the impact of trade remedies on environmental goods is not as formidable as first contemplated. It only potentially affects renewable energy goods within the larger group of environmental goods.

Secondly this problem of trade remedies for renewable energy goods is also temporary, in that it stems from the market fluctuations created due to changes within the domestic policy framework. Policies and schemes though ostensibly for the purpose of conserving the environment and mitigating effects of climate change but covertly industrial policy intended to support infant industries trying to get a foothold in the international market. Another aspect of the role played by trade remedies is that they are also being used by domestic governments to fill the vacuum created by withdrawn or modified national policies implemented because of the financial crises. Therefore on account of both these factors (i.e., support for infant industry and filling the place of withdrawn national policies) this issue even if seen as a problem, it is temporary.

Further another concern which arises in this context is the reason which could explain the easy resort to the system of trade remedies. One reason which has been obvious in our research is that the inherent characteristic of the trade remedy regime. The WTO trade law regime allows a lot of discretion in the implementation of the rules within the domestic regime. Therefore it has been a common experience that trade remedies have been used as a protectionist tool by the national government, as an easy answer to their political and economic obligations nationally. Another reason for this easy resort to trade remedies is been the fact that results are immediate from a time frame perspective. This immediacy factor played out very eloquently in the context of trade remedies for renewable energy as well. Wherein trade remedy determination by one national government set off a trade remedy war of sorts with governments indulging in retaliatory measures towards each other.

Finally even though the problem of trade remedies is for renewable energy is temporary, it could be significant in the context of climate change mitigation. Presently it is estimated that trade worth 14 billion USD is being lost as a result of the

present phenomenon.[149] In addition to this, second year in a row investment in renewable energy (excluding large hydro-electric projects) slipped by 14% in 2013 to $214 billion; in 2012 it was 12% down from the 2011 record figure of $279 billion.[150]

Therefore in addition to the problem from a perspective of trade the problem of trade remedies on renewable energy could also adversely affect global climate change mitigation plans, by making the transition to viable sources of energy more challenging.

[149] Hufbauer Gary & Cimino Cathleen, Trade Remedies Targeting the Renewable Energy Sector (2014) Peterson Institute for International Economics, pg. 22.
[150] Global Trends in renewable Energy Investment (2014) a report by Frankfurt School of Finance and Management GmbH, see pg. 11; available at: http://fs-unep-centre.org/sites/default/files/attachments/14008nef_visual_14_key_findings.pdf

Appenidx 1

Table 1.[151] Recent Trade Remedies on Environmental Goods

Product	Country	Trade remedies	Initiation of investigation	Measures in force
EU				
Biodiesel	U.S.	AD+AS	2008	2009
Biodiesel	Canada	AD+AS	2010	2011
Biodiesel	Singapore	AD+AS	2010	-
Biodiesel	Argentina	AD+AS	2012	2013
Biodiesel	Indonesia	AD+AS	2012	2013
Bioethanol	U.S.	AD+AS	2011	2013
Glass fibres	China	AD	2009	2010
Solar panels	China	AD+AS	2012	2013
Solar glass	China	AD+AS	2013	[2013]
Peru				
Biodiesel	U.S.	AD	2009	2010
Australia				
Biodiesel	U.S.	AD+AS	2010	2010
U.S.				
Wind towers	China	AD+AS	2011	2012
Wind	Vietnam	AD+AS	2011	2012

[151] Source: Kasteng, Jonas, (2013) "Trade Remedies on Clean Energy -A New Trend in Need of Multilateral Initiatives" available at http://unctad.org/meetings/en/Contribution/ditc_ted_03042014e15.pdf

towers				
Solar panels	China	AD	2011	2012
China				
Polysilicon	U.S.	AD+AS	2012	2013
Polysilicon	EU	AD+AS	2012	2013
Polysilicon	South Korea	AD+AS	2012	2013
India				
Solar modules	China	AD	2012	2014
Solar modules	U.S.	AD	2012	2014
Solar modules	Malaysia	AD	2012	2014
Solar modules	Taiwan	AD	2012	2014
Solar modules	EU	AD	2013	[2014]
Solar modules	Japan	AD	2013	[2014]

Note: Trade remedies in force are highlighted in bold. Investigations that have been terminated are erased. The remaining trade remedies are under investigation, but might come into force during 2013. The use of [...] means that the formal decision is not taken. This table has been updated from the original in light of the final decisions of the Indian authority regarding dumping.

Source: Trade Remedies on Clean Energy: A New Trend in Need of Multilateral Initiatives, Swedish *National Board of Trade (2013)*

Table 2. Renewable Energy Industry Support Measures and Countries Where Utilized[152]

Support Measure	Countries Where Utilized
Feed-in Tariff	Australia; Austria; Canada; Croatia; Cyprus; Czech Republic; Denmark; Estonia; Finland; France; Germany; Greece; Hungary; Ireland; Israel; Italy; Japan; Luxembourg; Malta; Netherlands; Portugal; Slovakia; Slovenia; Spain; Switzerland; United Kingdom; Algeria; Argentina; Bosnia/Herzegovina; Bulgaria China; Dominican Republic. Ecuador; Iran; Jordan; Kazakhstan; Latvia; Lithuania; Macedonia; Malaysia; Mauritius; Montenegro; Panama; Peru; Serbia' Thailand; Turkey; Uruguay; Armenia; Ghana; Honduras; India; Indonesia; Lesotho Moldova; Mongolia; Nicaragua; Nigeria; Pakistan; Palestinian Territories; Philippines; Senegal; Sri Lanka; Syria; Ukraine; Kenya; Rwanda; Tajikistan; Tanzania; Uganda
Direct capital subsidy, grant, rebate, or favorable loan	Australia; Austria; Canada; Croatia; Cyprus; Czech Republic; Denmark; Finland; France; Germany; Greece; Hungary; Italy; Japan; Luxembourg; Malta; Netherlands; Norway; Oman; Poland; Portugal; Slovakia; Slovenia; South Korea; Spain; Sweden; Switzerland; United Kingdom; United States; Argentina; Bosnia/Herzegovina; Botswana; Bulgaria; Chile; China; Dominican Republic; Russia; Turkey; Uruguay; Egypt; Ghana; India; Indonesia; Lesotho; Nigeria; Pakistan; Philippines; Sri Lanka; Vietnam; Bangladesh; Kyrgyzstan; Nepal; Tanzania; Uganda; Zambia
Local Content Requirement	China (Wind, 1997); Brazil (Wind, 2002); India (Solar, 2010); Canada (Wind, 2003; Wind/Solar, 2009); Ukraine (Wind/Solar, 2013); US (Wind/Solar/Others, 2009); Spain (Wind, 1994); Italy (Solar, 2011); France (Solar, 2012); Croatia (Wind/Solar/Others, 2012); South Africa (Wind/Solar, 2011); Turkey (Wind/Solar/Others, 2011); Argentina (Wind, 2005); Malaysia (Wind/Solar/Others, 2010)
Financial or Tax Incentives for Local Manufacturing	UK (Green Products, 2009); Brazil (Wind, 2009); US (Wind/Solar/Others, 2009)
Use of Customs Duties/Import Tariffs to Favor Domestic Goods or Promote Domestic Manufacturing	Brazil (Wind, 2009); Russia, Belarus and Kazakhstan (Solar, 2010); China (Wind, multiple years); Venezuela (all electricity generation products, 2009)
Export Credit Assistance	Denmark (Wind, various years); United States (Green Products to Korea, 2009; RE to Abu Dhabi, 2013; Others); OECD (All RE, 2012)
Research, Development and Demonstration Support for Domestic Companies	China (Wind, Solar, various years); United States (Solar, Offshore Wind; 2011/2013); Denmark (Wind, various years); Germany (Wind, Solar, various years)

Sources: Lewis and Wiser 2005; Lewis 2007b; Lewis and Wiser 2006; Lewis 2012a; Center for Economic Policy Research 2013; REN21 2013.

[152] Source: Lewis, Joanna I., "The Rise of Renewable Energy Protectionism: Emerging Trade Conflicts and Implications for Low Carbon Development" , pg. 6 (Forthcoming in Global Environmental Politics Volume 14, Number 4, November 2014) available at: https://blogs.commons.georgetown.edu/jil9/files/2014/01/Lewis.RE_.Intl_.Trade_.Draft_.11.2013.pdf

Table 3. Retaliatory Trade Remedies[153]

Date	Dispute Type	Forum	Complainant	Respondent	Product Targeted	Status
US and China						
Oct 2011	AD/CVD Investigation	US DOC/ ITC	US	China	Solar panels	Tariffs in place, appeal filed to expand scope[154]
Nov 2011	U.S. policy support and subsidies [155]	MOFCOM	China	US	Solar, wind and hydroelectric industries	Support policies and subsides found to be in violation of the WTO by MOFCOM[156]
July 2012	AD/CVD Investigation[157]	MOFCOM	China	US and South Korea	Solar-grade polysilicon	Tariffs in place[158]
Feb 2014	AD/CVD Investigation [159]	US DOC/ ITC	US	China and Taiwan	Solar Panels	Pending[160]
EU and China						
July 2012	AD/CVD investigation	European Commission	European Union	China	Solar panels	Price undertaking arranged, including an

153 The basic source of this information is Lewis, Joanna I., "The Rise of Renewable Energy Protectionism:
Emerging Trade Conflicts and Implications for Low Carbon Development"(Forthcoming in Global Environmental Politics Volume 14, Number 4, November 2014) available at: https://blogs.commons.georgetown.edu/jil9/files/2014/01/Lewis.RE_.Intl_.Trade_.Draft_.11.2013.pdf
154 USITC Pub. 4360 (2012), Crystalline Silicon Photovoltaic Cells and Modules from China, Inv. Nos. 701-TA-481 and 731-TA-1190 (Final)
155 MOFCOM Announcement No. 69 (2011), 25 November, Its decision to launch a trade barrier investigation into the U.S. policy support and subsidies for its renewable energy sector
156 MOFCOM Announcement No. 52, 2012 on Final Conclusion on the Trade Barrier Investigation against Part of the Support Policies and Subsidies for the U.S. Renewable Energy Industry
157 MOFCOM Announcements No. 40 and No. 41, 2012, deciding to launch both anti-dumping and countervailing investigations on imports of solar-grade polysilicon from the U.S., and to launch an anti-dumping investigation on Imports of the same commodity from South Korea
158 (MOFCOM Announcement No. 5 [2014], imposing definitive antidumping (AD) duties on imports of solar-grade polysilicon from Korea and the United States. On the same day, MOFCOM also published Notice No. 4 [2014], imposing definitive countervailing duties (CVDs) on the same product imported from the United States.
159 USTIC Pub. 4454 (2014), Certain Crystalline Silicon Photovoltaic Products from China and Taiwan, Inv. Nos. 701-TA-511 and 731-TA-1246-1247 (Preliminary)
160 Putting the U.S. on the brink of path toward escalating a tit-for-tat trade spat with China. The ITC agreed to SolarWorld Industries Americas request to broader investigate anti-dumping and anti-subsidy loop-hole claims over solar photovoltaic products from China and Taiwan. Since Chinese producers were allegedly shifting production to Taiwan to circumvent duties levied on Chinese imports

						import quota and minimum price
Nov 2012	AD/CVD investigation[161]	MOFCOM	China	European Union	Solar-grade polysilicon	Pending
EU and Argentina- Biodiesel						
2012	AD[162]	European Commission	EU	Argentina & Indonesia	Biodiesel	Tariffs in place
DEC 2013	Request for consultation for AD measures[163]	WTO	Argentina & Indonesia	EU	Biodiesel	Ongoing

[161] MOFCOM Announcement No. 70 and No. 71, 2012, anti-dumping and countervailing investigations on imports of solar-grade polysilicon from the EU

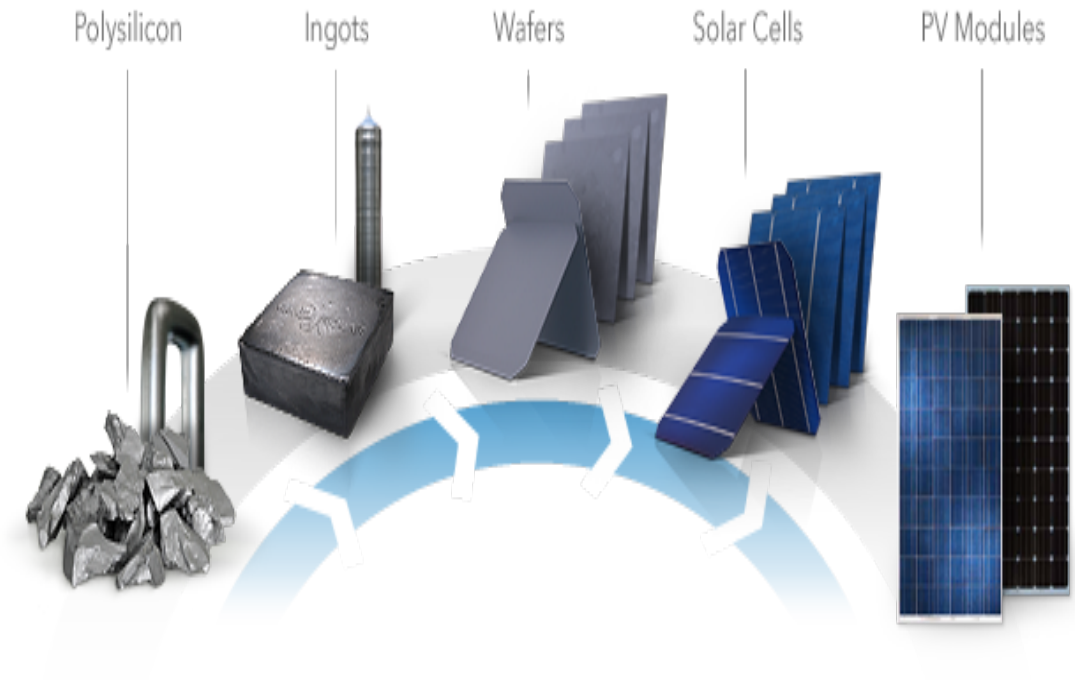
[162] Council Implementing Regulation (EU) No 1194/2013 Of 19 November 2013 Imposing A Definitive Anti-Dumping Duty And Collecting Definitively The Provisional Duty Imposed On Imports Of Biodiesel Originating In Argentina and Indonesia.

[163] http://www.wto.org/english/news_e/news13_e/ds473rfc_20dec13_e.htm

Table 4. Investment Arbitrations Initiated Under the Energy Charter Treaty

Case Name	Country	Subject Matter	Date of Case Registration
The PV Investors v. Spain	Spain	Legal reforms affecting the renewable energy sector	November, 2011
Charanne (the Netherlands) ansd Construction Investments (Luxembourg) v. Spain	Spain	Legal reforms affecting the renewable energy sector	2013
Antaris Solar and Dr. Michael Göde v. Czech Republic	Czech Republic	Regulation of the photovoltaic sector	May, 2013
Isolux Infrastructure Netherlands B.V. v. Spain	Spain	Legal reforms affecting the renewable energy sector	2013
CSP Equity Investment S.à.r.l. v. Spain	Spain	Legal reforms affecting the renewable energy sector	June, 2013
RREEF Infrastructure (G.P.) Limited and RREEF Pan-European Infrastructure Two Lux S.à.r.l. v. Spain	Spain	Legal reforms affecting the renewable energy sector	November, 2013
Antin Infrastructure Services Luxembourg S.à.r.l. and Antin Energia Termosolar B.V. v. Spain	Spain	Legal reforms affecting the renewable energy sector	November, 2013
Eiser Infrastructure Limited and Energia Solar Luxembourg S.a.r.l. v. Spain	Spain	Legal reforms affecting the renewable energy sector	December, 2013
Natland Investment Group NV, Natland Group Limited, G.I.H.G. Limited, and Radiance Energy Holding S.A.R.L. v. Czech Republic	Czech Republic	Regulation of the photovoltaic sector	May, 2013
Voltaic Network GmbH v. Czech Republic	Czech Republic	Regulation of the photovoltaic sector	May, 2013
ICW Europe Investments Limited v. Czech Republic	Czech Republic	Regulation of the photovoltaic sector	May, 2013
Photovoltaik Knopf Betriebs-GmbH v. Czech Republic	Czech Republic	Regulation of the photovoltaic sector	May, 2013
WA Investments-Europa Nova Limited v. Czech Republic	Czech Republic	Regulation of the photovoltaic sector	May, 2013
Mr. Jürgen Wirtgen, Mr. Stefan Wirtgen, and JSW Solar (zwei) v. Czech Republic	Czech Republic	Regulation of the photovoltaic sector	June , 2013
Masdar Solar & Wind Cooperatief UA v. Spain	Spain	Legal reforms affecting the renewable energy sector	February, 2014
Blusun SA, Jean-Pierre Lecorcier and Nichael Stein v. Italy	Italy	Photovoltaic energy project	February, 2014

Appendix 2: Manufacturing Process of Solar Modules:



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