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SAFEGUARDING THE PLANET? RENEWABLE ENERGY,
SOLAR PANEL TARIFFS, AND THE WORLD TRADE
ORGANIZATION'S RULES ON SAFEGUARDS

ALEC DAWSON*

In November 2017, the United States' International Trade Commission released its full report on Crystalline Silicon Photovoltaic Cells (Whether or not Partially or Fully Assembled into Other Products). It determined that "serious injury" was being caused to domestic producers by imports of solar cells. Under § 201 of the Trade Act of 1974, the President has imposed tariffs on CSPV products which will last until 2021. China requested consultations at the WTO in relation to these measures, and a Panel has been established to resolve the dispute. This will be the first dispute related to "safeguard measures" placed on renewable energy products before the WTO. In this article, I use the ITC decision imposing safeguards on solar products to consider whether emerging renewables markets pose new challenges for the international safeguards regime. In the first part of the article, I provide some background on international trade disputes related to solar power and the safeguards regime at the WTO. In the third part, I consider how safeguards remedies may be used in situations when the world is rapidly shifting towards renewable energy. I first consider whether China's approach to developing the renewable energy sector is unusual and argue that there are reasons to expect similar forms of support for renewable power in future. I also suggest that other changes in renewable energy markets could lead to demands for safeguard measures. I then consider whether safeguards measures in these situations would be legitimate, arguing that in some situations they would be. I argue that there needs to be a change in the WTO jurisprudence regarding safeguards to account for the shift towards renewable energy, specifically in the form of changes to the understanding of the "unforeseen circumstances" that can give rise to safeguards remedies.

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I. INTRODUCTION

The rise of solar energy has been one of the success stories in the attempts to shift the world away from the use of fossil fuels. The cost of solar panels has plummeted in the last decade,¹ and the International Energy Agency has predicted a large increase in the use of solar power in the coming years.²

The emergence of the renewable energy industry, including solar power, has posed problems for the international trade system. Much of the shift towards solar power has come due to the support of governments for domestic solar industries,

¹ Jess Shackleman & Chris Martin, *Solar could beat Coal to become the Cheapest Power on Earth*, BLOOMBERG (Jan. 02, 2017), <https://www.bloomberg.com/news/articles/2017-01-03/for-cheapest-power-on-earth-look-skyward-as-coal-falls-to-solar>.

² *World Energy Outlook 2016: Executive Summary* 4, INTERNATIONAL ENERGY AGENCY, DOE/EIA-0484(2016) (May 2016), <https://webstore.ica.org/download/summary/202?fileName=English-WEO-2016-ES.pdf> [hereinafter World Energy Outlook 2016].

especially from the Chinese government.³ This may be good for the planet, but it is controversial in international trade law, with the United States of America (US) in particular implementing measures to respond to government support programmes across the globe.⁴ This has led to disputes at the World Trade Organisation (WTO) related to countervailing measures and anti-dumping duties imposed on renewables products.⁵

At the same time, the international trade system has been subject to challenges, particularly by the US, led by President Donald Trump. Under the Trump Administration, the US Government has ceased the appointment of adjudicators to the WTO Appellate Body,⁶ has opted out of international trade deals such as the Trans-Pacific Partnership Agreement,⁷ and has imposed a number of trade sanctions on other countries, in moves that can be seen as an initiation of a “trade war”.⁸

In November 2017, the US’ International Trade Commission (ITC) released its full report on *Crystalline Silicon Photovoltaic Cells (Whether or not Partially or Fully Assembled into Other Products)* (ITC decision).⁹ It determined that “serious injury” was being

³ Zachary Scott Simmons, *Subsidizing Solar: The Case for an Environmental Goods and Services Carve-out from the Global Subsidies Regime*, 32(2) UCLA J. ENVTL. L. & POL’Y 422, 432-448 (2014) [hereinafter Simmons].

⁴ See, e.g., Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules, from the People’s Republic of China: Amended Final Determination of Sales at Less Than Fair Value, and Antidumping Duty Order, 77 Fed. Reg. 73018 (Dec. 07, 2012) [hereinafter 77 Fed. Reg. 73018]; Crystalline Silicon Photovoltaic Cells, Whether or Not Assembled into Modules, From the People’s Republic of China: Countervailing Duty Order, 77 Fed. Reg. 73017 (Dec. 07, 2012) [hereinafter 77 Fed. Reg. 73017].

⁵ Appellate Body Report, *United States — Countervailing Duty Measures on Certain Products from China*, WTO Doc. WT/DS437/AB/R (adopted Dec. 18, 2014) [hereinafter US — Countervailing Measures (China)]; Appellate Body Report, *United States — Countervailing and Anti-Dumping Measures on Certain Products from China*, WTO Doc. WT/DS449/AB/R (adopted July 07, 2014) [hereinafter US — Countervailing and Anti-Dumping Measures (China)].

⁶ Tom Miles, *U.S. Blocks WTO Judge Reappointment as Dispute Settlement Crisis Looms*, REUTERS (Aug. 27, 2018), <https://in.reuters.com/article/usa-trade-wto/u-s-blocks-wto-judge-reappointment-as-dispute-settlement-crisis-looms-idINKCN1LC1DF>.

⁷ Pres. Memo. on the Withdrawal of the United States from the Trans-Pacific Partnership Negotiations and Agreement, 82 Fed. Reg. 8497 (Jan. 25, 2017).

⁸ See, e.g., Chad P. Brown & Melina Kolb, *Trump’s Trade War Timeline: An Up-to-Date Guide*, PETERSON INST. FOR INT’L. ECON. (Feb. 24, 2019), <https://piie.com/blogs/trade-investment-policy-watch/trump-trade-war-china-date-guide> [hereinafter Brown & Kolb].

⁹ Crystalline Silicon Photovoltaic Cells (Whether or not Partially or Fully Assembled into Other Products), Inv. No. TA-201-75, USITC Pub. 4739 (Nov. 21, 2017) (Final)

caused to domestic producers by imports of solar cells, and recommended remedies in the form of tariffs on Crystalline Silicon Photovoltaic (CSPV) imports into the US.¹⁰ Under §201 of the Trade Act of 1974,¹¹ the President has imposed tariffs on CSPV products which will last until 2021.¹² China requested consultations at the WTO in relation to these measures, and a Panel has been established to resolve the dispute.¹³

This will be the first dispute related to “safeguard measures” placed on renewable energy products before the WTO. Also referred to as an ‘escape clause’,¹⁴ a safeguard is a temporary measure designed to protect the domestic industry from a sudden increase in imports.¹⁵ A key difference between safeguards and the previous measures taken by the US is that safeguards are not specific to one country: rather they are imposed on all imports of the product, with some exceptions for countries that have side agreements with the US.¹⁶

In this article, I use the ITC decision imposing safeguards on solar products to consider whether emerging renewables markets pose new challenges for the international safeguards regime. In the next part of the article, I provide some background on international trade disputes related to solar power and the safeguards regime at the WTO. In the subsequent part, I argue that if the US’ safeguard measures are disputed before a WTO Panel, the Panel will likely find them in contravention of WTO law, largely on the basis that the US has already imposed countervailing and anti-dumping duties on the same products that are

[hereinafter ITC Decision] (the products addressed in the case shall be referred to as “CSPV products”).

¹⁰*Id.*

¹¹ The Trade Act of 1974, 19 U.S.C. § 2251(a) [hereinafter Trade Act, 1974].

¹² To Facilitate Positive Adjustment to Competition from Imports of Certain Crystalline Silicon Photovoltaic Cells, 83 Fed. Reg. 3541 (Jan. 25, 2018) [hereinafter Imports of Certain Crystalline Silicon Photovoltaic Cells].

¹³ Request for Consultations by China, *United States — Safeguard Measure on Imports of Crystalline Silicon Photovoltaic Products*, WTO Doc. WT/DS562/1 (Aug. 16, 2018); Constitution of the Panel at the Request of China – Note by the Secretariat, *United States — Safeguard Measure on Imports of Crystalline Silicon Photovoltaic Products*, WTO Doc. WT/DS562/9, (Oct. 25, 2019); Korea has also initiated a dispute at the WTO in relation to the safeguards measures, with China participating as a third party. A panel is going to be established to determine this dispute. *See* Request for the Establishment of a Panel by the Republic of Korea, *United States — Safeguard Measure on Imports of Crystalline Silicon Photovoltaic Products*, WTO Doc. WT/DS545/7, (Aug. 16, 2018).

¹⁴ EDWARD R. EASTON & JARROD M. GOLDFEDER, *MANUAL FOR THE PRACTICE OF US INTERNATIONAL TRADE LAW* 1131 (William Kitchell Ince & Leslie Alan Glick eds., 2001) [hereinafter Easton & Goldfeder].

¹⁵*Id.*

¹⁶ ITC Decision, *supra* note 9, at 5.

subject to the safeguard measures. I consider how safeguards remedies may be used in situations when the world is rapidly shifting towards renewable energy. First, I consider whether China's approach to developing the renewable energy sector is unusual and argue that there are reasons to expect similar forms of support for renewable power in future. I also suggest that other changes in renewable energy markets could lead to demands for safeguard measures. I then consider whether safeguards measures in these situations would be legitimate, arguing that in some situations they would be. Finally, I argue that there needs to be a change in the WTO jurisprudence regarding safeguards to account for the shift towards renewable energy, specifically in the form of changes to the understanding of the "unforeseen circumstances" that can give rise to safeguards remedies. The current approach of justifying safeguards measures allows anything that would have been unforeseen at the time the relevant treaty was entered into. Instead, a narrower approach of only allowing sudden supply shocks to the market should be taken, as it would more appropriately cover the situations that will arise in an energy transition.

II. BACKGROUND

A. A History of Solar Power Disputes at the WTO

Generating electricity from solar sources is less damaging to the environment than burning fossil fuels, making it an attractive prospect for government support.¹⁷ In 2000, Germany adjusted its feed-in tariff (FIT) programme for renewable energy, which guaranteed a particular payment rate for electricity from renewable sources, to make itself much more favourable to solar power.¹⁸ This provided a potential export market for countries prepared to invest in it, which China took advantage of by introducing its own government support programme.¹⁹ A 2016 report by Stanford University noted the difficulty of measuring the subsidies provided by China for its solar industry.²⁰ However, it found that at various stages, China had

¹⁷ Christina Nunez, *Renewable Energy, Explained*, NATIONAL GEOGRAPHIC (Jan. 30, 2019), <https://www.nationalgeographic.com/environment/energy/reference/renewable-energy/> [hereinafter Nunez].

¹⁸ Robert Kunzig, *Germany could be a Model for how we'll get Power in the Future*, NATIONAL GEOGRAPHIC (Nov. 2015), <https://www.nationalgeographic.com/magazine/2015/11/germany-renewable-energy-revolution/> [hereinafter Kunzig].

¹⁹ John Fialka, *Why China is Dominating the Solar Industry*, SCIENTIFIC AMERICAN, (Dec. 19, 2016), <https://www.scientificamerican.com/article/why-china-is-dominating-the-solar-industry/> [hereinafter Fialka].

²⁰ JEFFREY BALL ET AL., *THE NEW SOLAR SYSTEM: CHINA'S EVOLVING SOLAR INDUSTRY AND ITS IMPLICATIONS FOR COMPETITIVE SOLAR POWER IN THE UNITED STATES AND THE WORLD* 124 (2017) [hereinafter Ball et al.].

provided generous support to manufacturers,²¹ in addition to research and development (R&D) investment support,²² infrastructure support,²³ and discounted electricity prices.²⁴ Other sources have noted that China had its own system of FITs.²⁵ The level of support for solar production in China led to a global glut in supply of solar panels, and an 80% drop in prices between 2008 and 2013.²⁶ This also led to a boom in solar installations, with solar power becoming the most installed source of electricity in recent years, and growing at a rapid rate.²⁷ To the extent that solar power displaces burning fossil fuels for electricity, it is good for the environment; solar generation is far less polluting than burning fossil fuels, both in terms of greenhouse gas emissions and the emissions of other pollutants.²⁸

In response to the government-backed explosion of solar production in China, other nations have also implemented policies and trade measures. The US conducted investigations into Chinese subsidies for solar power and introduced anti-dumping duties and countervailing duties on Chinese-imported solar products.²⁹ The European Union (EU) also conducted anti-dumping investigations into solar panel products from China and arrived at a settlement, with Chinese companies agreeing to set a minimum price on solar panel products sold in Europe.³⁰ India and Canada introduced domestic content requirements as a part of their support programmes for renewable energy.³¹

²¹*Id.* at 125.

²²*Id.* at 128.

²³*Id.* at 127.

²⁴*Id.* at 127.

²⁵Fialka, *supra* note 19.

²⁶*Id.*

²⁷ *Renewables 2017: Analysis and Forecasts to 2022*, INT'L ENERGY AGENCY (Oct. 4, 2017), <https://www.iea.org/reports/renewables-2017> [hereinafter IEA Renewables 2017].

²⁸ Nunez, *supra* note 17.

²⁹ *US Sets Anti-dumping Duties on Solar Imports from China, Taiwan*, REUTERS (July 26, 2014), <https://www.reuters.com/article/us-usa-trade-solar/u-s-sets-anti-dumping-duties-on-solar-imports-from-china-taiwan-idUSKBN0FU29D20140725>.

³⁰ Robin Emmott & Ben Blanchard, *EU, China Resolve Solar Dispute – Their Biggest Trade Row by Far*, REUTERS (July 27, 2013), <https://www.reuters.com/article/us-eu-china-solar/eu-china-resolve-solar-dispute-their-biggest-trade-row-by-far-idUSBRE96Q03Z20130727>.

³¹ In Canada's case, it was specifically the state of Ontario. *See*, Appellate Body Report, *Canada — Measures Relating to the Feed-in Programme*, WTO Doc. WT/DS426/AB/R (adopted May 6, 2013) [hereinafter *Canada-Feed-in Programme*]; and Appellate Body Report, *India — Certain Measures Relating to Solar Cells and Solar Modules*, WTO Doc. WT/DS456/AB/R (adopted Sep. 16, 2016) [hereinafter *India — Solar*].

These measures led to a wave of international trade disputes. China challenged the countervailing and anti-dumping measures of the US at the WTO.³² The EU brought an action against domestic content requirements for solar power production in Canada,³³ and Japan brought an action against a FIT programme in Canada.³⁴ The US also brought proceedings against India's domestic content requirements,³⁵ and after the WTO Panel and Appellate Body declared against them, India brought a similar claim against the US.³⁶ Other nations have also been involved in these proceedings.³⁷

At the WTO, China challenged countervailing duties and anti-dumping duties placed on a wide range of Chinese imports by the US in two separate disputes. One dispute was solely related to countervailing duties, while the other covered both countervailing duties and anti-dumping duties. China ultimately obtained declarations by the Appellate Body that the US was acting inconsistently with the WTO Agreement on Subsidies and Countervailing Measures (SCM),³⁸ as well as the General Agreement on Tariffs and Trade (GATT).³⁹

In *US — Countervailing Measures (China)*, the Panel determined that the US had acted inconsistently with Article 1.1.(a)(1) of the SCM by deeming government ownership to be an adequate criteria to make a State-owned enterprise a “public body”.⁴⁰ The US subsidy investigation had also failed to take into account the diversification of economic activities in China and the length of time of the subsidy operation; factors it was required to consider under the SCM.⁴¹ The Appellate Body made an additional finding in China's favour (overturning aspects of the Panel's decision), determining that in imposing the measures, the US had failed to

³²US — Countervailing Measures (China), *supra* note 5; US — Countervailing and Anti-Dumping Measures (China), *supra* note 5.

³³ Appellate Body Report, *Canada — Certain Measures Affecting the Renewable Energy Sector*, WTO Doc. WT/DS412/AB/R (adopted May 6, 2013) [hereinafter *Canada — Renewable Energy*].

³⁴Canada-Feed-in Programme, *supra* note 31.

³⁵India — Solar, *supra* note 31.

³⁶ Request for the Establishment of a Panel by India, *United States — Certain Measures Related to the Renewable Energy Sector*, WTO Doc. WT/DS510/2 (Jan. 24, 2017).

³⁷ For example, thirteen additional countries participated in the *India — Solar* appellate proceeding, including China and the European Union: *See*, *India — Solar*, *supra* note 31.

³⁸ Agreement on Subsidies and Countervailing Measures, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1869 U.N.T.S. 14.

³⁹ General Agreement on Tariffs and Trade, Oct. 30, 1947, 61 Stat. A-11, 55 U.N.T.S. 194 [hereinafter the GATT, 1947].

⁴⁰ Panel Report, *US — Countervailing Duty Measures on Certain Products from China*, WTO Doc. WT/DS437/R (adopted Jan. 16, 2015) at 38, 50.

⁴¹*Id.* at 76.

appropriately justify its analysis of solar panel prices in China by applying an inappropriate methodology to determine benchmark prices for solar panels there.⁴² These findings do not preclude the possibility that the Chinese government's support of solar products could be subject to countervailing measures; they simply held that the US government had not done enough in its reasoning to justify the measures imposed.

In *US — Countervailing and Anti-Dumping Measures (China)*, the US was found to have acted consistently with the GATT by the Panel,⁴³ but this decision was reversed by the Appellate Body. It found that the US law on countervailing subsidies and anti-dumping duties that applied to non-market economies violated Article X:2 of the GATT, which prohibits the enforcement of certain measures before they have been officially published.⁴⁴ Although the law had ultimately been used to justify the application of countervailing duties and anti-dumping duties on Chinese solar products,⁴⁵ the WTO Panel and Appellate Body decisions only discuss the US law, with no discussion of China's support for solar power. Despite these findings at the WTO, the US continued with the duties it had imposed on solar power products from China.⁴⁶

The outcome of the anti-dumping dispute between the EU and China is controversial, with one writer stating that the settlement “goes against the spirit of the WTO's prohibition on [voluntary export restraints] in every practical sense”.⁴⁷ This is because the agreement places a minimum price on solar panels from China, and a reciprocal exemption from anti-dumping tariffs, but only up to a certain level of production.⁴⁸ Above that level of production (which amounts to roughly half of the solar power generated by the EU), anti-dumping tariffs could be imposed on Chinese solar panels, essentially amounting to an agreement by Chinese producers

⁴² *US — Countervailing Measures (China)*, *supra* note 5, at 87.

⁴³ Panel Report, *US — Countervailing and Anti-Dumping Measures on Certain Products from China*, WTO Doc. WT/DS449/R (adopted July 22, 2014) [hereinafter *US — Countervailing and Anti-Dumping Measures (China)-Panel*].

⁴⁴*Id.* at 69.

⁴⁵*Id.* at 26.

⁴⁶ The Department of Commerce instigated reviews of the anti-dumping and countervailing duties in April 2018: Initiation of Antidumping and Countervailing Duty Administrative Reviews, 83 Fed. Reg. 16, 298 (Apr. 16, 2018); Three of these were still ongoing as of March 06, 2019: Certain Crystalline Silicon Photovoltaic Products from the People's Republic of China: Preliminary Results of Antidumping Duty Administrative Review; 2017-18, 84 Fed. Reg. 8081 (Mar. 6, 2019).

⁴⁷Wentong Zheng, *Trade Law's Response to the Rise of China*, 34(2) *BERKELEY J. INT'L L.* 109, 154 (2016) [hereinafter Zheng].

⁴⁸*Id.*

to restrain exports above that quantity, despite the international trade law ban on export restraints.⁴⁹

The disputes over FITs in India and Canada resulted in losses for those countries, and in the eyes of some, losses for the environment,⁵⁰ as in both cases rulings were made against the FIT programmes.⁵¹ Ontario's FITs required electricity producers to procure a certain amount of domestically-produced renewable energy in order to receive the tariffs.⁵² The Appellate Body held that the programme was discriminatory, in violation of national treatment requirement under GATT Article III:4, and found against Canada on the ground that the FITs did not find protection under the GATT's Article III:8 exemption for public procurement policies. The public procurement exception to Article III allows governments to give preference to domestic producers when sourcing products for purely governmental purposes. However, the Ontario FIT was not covered by the exception as the thing being procured (electricity) was not in a state of competition with the product subject to discrimination (generation equipment).⁵³

India's policy also failed to withstand a challenge at the WTO. In this case, the government had introduced the National Solar Mission (NSM),⁵⁴ under which it entered into contracts to purchase solar-generated electricity, and included a domestic content requirement for solar power production.⁵⁵ Again, this discrimination was not exempted from the GATT because of the public procurement provisions in Article III:8.⁵⁶ India also attempted to defend the policy under an exception in Article XX of the GATT for "products in general or local short supply".⁵⁷ This Article provides general exceptions to the Agreement, whereby governments are allowed to violate the rules if they do so for certain purposes and in a way that does not constitute arbitrary or unjustifiable discrimination or a disguised restriction on international trade. However, India did not succeed in defending the policy under this provision, as the Appellate Body did not agree with the contention that the solar generation equipment was in short supply.⁵⁸

⁴⁹*Id.*

⁵⁰*See, e.g.,* NAOMI KLEIN, THIS CHANGES EVERYTHING: CAPITALISM VS THE CLIMATE 64-73 (Reprint. ed., 2015).

⁵¹Canada — Renewable Energy, *supra* note 33; India — Solar, *supra* note 31.

⁵²*Id.* at 82.

⁵³*Id.* at 102.

⁵⁴India — Solar, *supra* note 31, at 7.

⁵⁵*Id.* at 7-8.

⁵⁶*Id.* at 23.

⁵⁷*Id.* at 35.

⁵⁸*Id.*

Some observations can be made about this history of solar disputes at the WTO. The first is that most of the world's largest economies, including China, the US, India, the EU, and Japan, have at some stage, participated in WTO disputes related to solar power. Second, government support for solar power has had mixed outcomes. The successful challenge by China to the US' duties can be viewed as partial vindication for its solar power policies. However, Canada and India failed to defend their programmes to support solar power. The third is that despite the prevalence of import tariffs, the solar industry has continued to succeed, with solar power prices continuing to decline and consumption continuing to increase.⁵⁹

B. *The Safeguards Regime*

Unlike the previous disputes related to solar power policies at the WTO, this present dispute relates to safeguard remedies. The law relating to safeguard remedies differs from that related to subsidies, countervailing measures and anti-dumping duties, and some background on the same would be useful for considering the current dispute.

The history of challenges to safeguards measures that have proceeded to Panel decisions shows that they are overwhelmingly found to be in breach of WTO law.⁶⁰ An exception to this is the *US — Tyres* decision, where safeguards measures imposed by the United States against Chinese tyre imports were upheld in full by the WTO Appellate Body.⁶¹ However, that case was assessed under the terms of China's accession agreement to the WTO,⁶² and not under the regular rules of the GATT and the Agreement on Safeguards.⁶³ The accession agreement did not include the requirement for "unforeseen developments" that exists in the GATT and as a result, there was an easier path to upholding the safeguards measures.⁶⁴ The time period covered by the provision on safeguards in the accession agreement expired in 2013,⁶⁵ and regardless, the proposed measures would be imposed on imports from a number of countries, rather than on China alone.⁶⁶

⁵⁹ World Energy Outlook 2016, *supra* note 2.

⁶⁰ ALAN O. SYKES, THE WTO AGREEMENT ON SAFEGUARDS: A COMMENTARY 33 (2006) [hereinafter Sykes].

⁶¹ Appellate Body Report, *United States — Measures Affecting Imports of Certain Passenger Vehicle and Light Truck Tyres from China*, WTO Doc. WT/DS399/AB/R (adopted Sep. 05, 2011).

⁶² Protocol on the Accession of the People's Republic of China, WTO Doc. WT/L/432 (Nov. 23, 2001) [hereinafter Protocol on the Accession of the People's Republic of China].

⁶³ Agreement on Safeguards, Jan. 1, 1995, 1869 U.N.T.S. 154 [hereinafter Agreement on Safeguards].

⁶⁴ Protocol on the Accession of the People's Republic of China, art. 16, *supra* note 62.

⁶⁵ Protocol on the Accession of the People's Republic of China, *supra* note 62.

⁶⁶ ITC decision, *supra* note 9.

Two key provisions in international trade treaties govern whether a nation can apply a safeguard measure on an imported product: Article 2.1 of the WTO Safeguards Agreement,⁶⁷ and Article XIX(1)(a) of the GATT.⁶⁸ Article 2.1 of the Safeguards Agreement reads as follows:

1. A Member may apply a safeguard measure to a product only if that Member has determined, pursuant to the provisions set out below, that such product is being imported into its territory in such increased quantities, absolute or relative to domestic production, and under such conditions as to cause or threaten to cause serious injury to the domestic industry that produces like or directly competitive products.

Article XIX(1)(a) of the GATT reads:

If, as a result of unforeseen developments and of the effect of the obligations incurred by a contracting party under this Agreement, including tariff concessions, any product is being imported into the territory of that contracting party in such increased quantities and under such conditions as to cause or threaten serious injury to domestic producers in that territory of like or directly competitive products, the contracting party shall be free, in respect of such product, and to the extent and for such time as may be necessary to prevent or remedy such injury, to suspend the obligation in whole or in part or to withdraw or modify the concession.

The requirements of the GATT are more stringent than the requirements of the Safeguards Agreement. Although the Safeguards Agreement was negotiated with the GATT in mind, the Appellate Body of the WTO has held that the requirements of Article XIX(1)(a) must be met for implementing safeguards measures.⁶⁹ As a result of this, the following must be established in order to justify the imposition of safeguards in addition to what was found by the ITC:

1. An increase in imports of a product.
2. The increased imports are a result of “unforeseen developments”.

⁶⁷ Agreement on Safeguards, *supra* note 63.

⁶⁸ The GATT, 1947, *supra* note 39.

⁶⁹ Appellate Body Report, *Argentina — Safeguard Measures on Imports of Footwear*, WTO Doc. WT/DS121/AB/R (adopted Dec. 14, 1999) [hereinafter *Argentina — Footwear*]; Appellate Body Report, *Korea — Definitive Safeguard Measures on Imports of Certain Dairy Products*, WTO Doc. WT/DS98/AB/R (adopted Dec. 14, 1999) [hereinafter *Korea — Dairy*].

3. The increased imports are the effect of the obligations incurred by the importing country under international trade law.
4. The increased imports are causing or threatening “serious injury” to like or directly competitive products.

The first requirement is a purely factual question. The second requirement has been interpreted broadly by the Appellate Body. In both *Korea — Dairy*⁷⁰ and *Argentina — Footwear*,⁷¹ the Appellate Body found that all that is required to be shown is that the injury was the effect of obligations incurred by the Member State under the GATT, including tariff concessions. According to Professor Alan Sykes, this fits with an approach to the section whereby a nation could argue that they would have implemented tariffs to reduce an import surge if they were not bound by the GATT.⁷²

Proving “unforeseen developments” is significantly more complicated. This step has been described as a “potentially severe hurdle” for a nation trying to impose safeguards measures.⁷³ There are two difficulties in relation to this step. The first is the difficulty in understanding what may amount to an “unforeseen development.” WTO Panels have found that it entails a development that was unforeseen by the negotiators when the obligations were taken on (in this case, the Uruguay round of negotiations in 1994).⁷⁴ However, this is difficult to analyse: it is unlikely that the negotiators in the early 90s would have foreseen any particular economic situation more than 20 years later. The Appellate Body has shown a willingness to consider some specific events to be “unforeseen developments”, including economic crises⁷⁵ and changes in the nature of imports that have made them more competitive.⁷⁶ This last kind of development could be seen as including some of the changes in the solar power market, such as innovation and technological changes. However, changes in technology, which might be seen as particularly relevant in the renewables market, have not been specifically addressed as “unforeseen developments” by the Appellate Body.

⁷⁰*Korea — Dairy*, *supra* note 69, ¶84.

⁷¹*Argentina — Footwear*, *supra* note 69, ¶91.

⁷² Sykes, *supra* note 60, at 107.

⁷³*Id.* at 117.

⁷⁴ See Panel Report, *United States — Definitive Safeguards Measures on Imports of Certain Steel Products*, ¶10.40, WTO Doc. WT/DS248/R (adopted July 11, 2003).

⁷⁵ Appellate Body Report, *United States — Definitive Safeguard Measures on Imports of Certain Steel Products*, WTO Doc. WT/DS248/AB/R (adopted Nov. 19, 2003) [hereinafter US — Steel].

⁷⁶ Appellate Body Report, *United States — Safeguard Measures on Imports of Fresh, Chilled or Frozen Lamb Meat from New Zealand and Australia*, WTO Doc. WT/DS177/AB/R (adopted May 01, 2001) [hereinafter US — Lamb].

The second, particularly difficult test that the US would have to meet in relation to “unforeseen developments,” is showing that the injury is connected, not just to the imports but to the unforeseen developments as well. The Appellate Body has set a very high bar in terms of showing a connection between these factors. In the *US — Steel* case,⁷⁷ the ITC had issued a supplemental report finding that there were general impacts on the steel industry caused by unforeseen developments.⁷⁸ The Appellate Body found that this was not enough, and that “a more sophisticated and detailed economic analysis was called for”.⁷⁹ Sykes has observed that this could require a very detailed economic analysis of how particular factors influence particular segments of the market.⁸⁰

For the fourth requirement, a “serious injury” is defined in Art. 4.1(a) of the Agreement on Safeguards as “a significant overall impairment in the position of a domestic industry”.⁸¹ Art. 4.2(a) goes further to require competent authorities to “evaluate all relevant factors of an objective and quantifiable nature having a bearing on the situation of that industry” in determining whether serious injury was caused by the increase in imports, and specifies a number of factors, “in particular, the rate and amount of the increase in imports of the product concerned in absolute and relative terms, the share of the domestic market taken by increased imports, changes in the level of sales, production, productivity, capacity utilization, profits and losses, and employment”.⁸² Whether the level of injury to the domestic market is “serious” or not is ultimately a matter of judgment, and the approach of the WTO Appellate Body has suggested competent authorities will be given discretion as long as they have properly evaluated the relevant factors.⁸³

C. *The Solar Safeguards Dispute*

Against this backdrop, in 2017, two US companies, SolarWorld and Suniva, petitioned the ITC to make recommendations pursuant to §§ 201 and 202 of the Trade Act of 1974.⁸⁴ These provisions represent the US law governing “safeguards measures.”

⁷⁷US — Steel, *supra* note 75.

⁷⁸ Sykes, *supra* note 60, at 115; US — Steel, *supra* note 75.

⁷⁹US — Steel, *supra* note 75, ¶10.125.

⁸⁰ Sykes, *supra* note 60, at 118.

⁸¹ Agreement on Safeguards, *supra* note 63.

⁸²*Id.*

⁸³SIMON LESTER ET AL., *WORLD TRADE LAW: TEXT MATERIALS AND COMMENTARY* 592 (3rd ed. 2018); SHEELA RAI, *RECOGNITION AND REGULATION OF SAFEGUARD MEASURES UNDER GATT/WTO 241* (2011).

⁸⁴ Crystalline Silicon Photovoltaic Cells (Whether or Not Partially or Fully Assembled into Other Products): Institution and Scheduling of Safeguard Investigation and Determination

The safeguards petition, and the evidence presented to establish serious injury in the investigation, seems to justify some of the predictions that were made when the anti-dumping and countervailing duties were imposed by the US on Chinese solar imports. First, claims were made that these measures were unlikely to succeed in saving domestic producers of solar products in the US.⁸⁵ Second, there were predictions that Chinese firms would shift production to other parts of the world in order to avoid the tariff protections imposed by the US.⁸⁶ This appears to have occurred, and this was indeed claimed by the petitioners in the safeguards investigation.⁸⁷ The failure of previous tariffs to protect US industry may suggest that safeguards measures will also fail. A 2016 report by Stanford University suggested that Chinese solar manufacturers could still make significant efficiency gains, and tariffs could have the effect of forcing them to become more efficient, rather than making them less competitive.⁸⁸ This also counts against suggestions that additional tariffs will help US industry.

The decision by the ITC was on the application of §§201(a) and 202(b) of the Trade Act of 1974.⁸⁹ Under these provisions, the ITC is to determine whether a product is being imported into the US “in such increased quantities as to be a substantial cause of serious injury to the domestic industry producing an article like or directly competitive with the imported article.”⁹⁰ Upon such determination, the President is empowered to “make a positive adjustment to import competition.”⁹¹

The ITC stated the three findings it must make in order to reach a determination of serious injury:⁹²

- (1) an article is being imported into the United States in increased quantities;
- (2) the domestic industry is producing an article that is like or directly competitive with the imported article and is seriously injured or threatened with serious injury; and

that the Investigation is Extraordinarily Complicated, 82 Fed. Reg. 25, 331 (June 1, 2017); Petition for Relief on Behalf of Suniva Inc., ITC Inv. No. TA-201-75 (Apr. 26 2017), https://www.eenews.net/assets/2017/04/26/document_pm_01.pdf [hereinafter Petition for Relief].

⁸⁵ Ball et al., *supra* note 20, at 184.

⁸⁶ Tim Fernholz, *Why a 255% Tariff on Solar Panels won't Save American Producers, nor Hurt Chinese Ones*, QUARTZ (Oct. 12, 2012), <https://qz.com/14565/the-new-255-us-solar-tariff-wont-kill-chinas-panel-producers-or-save-americas/>.

⁸⁷ Petition for Relief, *supra* note 84, at 4.

⁸⁸ Ball et al., *supra* note 20, at 16.

⁸⁹ Trade Act, 1974, *supra* note 11, §§ 2251(a), 2252(b).

⁹⁰ Trade Act, 1974, *supra* note 11, § 2251(a).

⁹¹ *Id.*

⁹² ITC Decision, *supra* note 9, at 10.

(3) the article is being imported in such increased quantities as to be a substantial cause of serious injury or threat of serious injury to the domestic industry.

The first question of an increase in imports of CSPV products was fairly straightforward. Through questionnaire data, the ITC found that there had been an increase in imports of CSPV products of 492.4% between 2012 and 2016.⁹³ This represented an increase from 2.1 million kW in 2012 to 12.8 million kW in 2016.⁹⁴ Imports had gone from being seven times as large as domestic production to nearly 23 times as large.⁹⁵

The second issue, injury to a domestic industry, was also treated in a reasonably straightforward manner by the Panel. This part of the assessment required multiple elements. First, the domestic industry had to be identified; which required identifying the “articles” that are “like or directly competitive with” the imported articles. Here, the domestic producers of CSPV products were producing very similar goods as to those that were imported. The only major distinction was that very few domestic producers sold the CSPV cells they produced, but rather used them for CSPV modules which were later integrated into solar power systems.⁹⁶ The ITC went further to find a serious injury to the producers of these cells and modules. The factors contributing to the serious injury included a decline of CSPV plants in operation from 33 to 13 between 2012 and 2016,⁹⁷ a decrease in employment over the time period despite the increase in use of CSPV products,⁹⁸ and the operating losses and net losses reported by domestic firms over the period.⁹⁹ For the ITC, these factors met the standard required to find a “serious injury”, which is seen to be “a significant overall impairment in the position of a domestic injury”.¹⁰⁰ This is the same test as that applied by the WTO.

The third issue, of causation, was the most contentious in the case. §201 of the Trade Act of 1974 requires that the imports be a “substantial cause” of the injury.¹⁰¹ “Substantial cause” is defined as a cause “which is important and not less than any other cause.”¹⁰² The ITC started its analysis by explaining how the

⁹³*Id.* at 21.

⁹⁴*Id.* at 21.

⁹⁵*Id.* at 21.

⁹⁶ *Id.* at 16.

⁹⁷ *Id.* at 31.

⁹⁸ *Id.* at 33.

⁹⁹ *Id.* at 34-35.

¹⁰⁰*Id.* at 22.

¹⁰¹ Trade Act, 1974, *supra* note 11, § 2251(a).

¹⁰² Trade Act, 1974, *supra* note 11, § 2252(b)(1)(B).

timeline of the injury and the increase in imports fit together,¹⁰³ and how prices had declined over the period.¹⁰⁴ The analysis shows that this decline in prices was the key reason for the finding that increased imports were a substantial cause of injury “due to a clear causal link between them,”¹⁰⁵ although it is worth noting that the ITC didn’t explicitly state what that causal link was.

The ITC also ruled out the two other possible causes presented by the respondents. The first was “alleged missteps by the domestic industry.”¹⁰⁶ There were three missteps suggested, starting with the quality and type of products produced. The ITC found that there was no important distinction between the products being produced by domestic producers and those being imported.¹⁰⁷ The second alleged misstep was the choice of market segments targeted by the domestic producers, as they had not targeted utilities. However, evidence was presented that the producers had competed for utility bids as well, and that utilities were the most price-sensitive part of the market.¹⁰⁸ The third issue of delivery or service issues was quickly dismissed.¹⁰⁹

The second argued cause was a set of different reasons for the decline in domestic prices other than imports. Although there were evidently other factors in the decline in prices over the period, including government incentives, declining raw material costs, and the need to keep up with competing energy sources, in the ITC’s questionnaire information, none of these could be as significant as the role played by “global excess capacity.”¹¹⁰ It noted that these factors might contribute to a decline in solar costs as compared to other forms of energy, but not necessarily the decline in costs that drove declines in profit margins for producers.¹¹¹

The ITC was then required to make determinations in relation to specific countries with Free Trade Agreements with the US.¹¹² It concluded that imports from Mexico and Korea were substantial causes of serious injury, but that imports from Canada, Australia, CAFTA-DR countries (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua and the Dominican Republic), Colombia, Jordan, Panama,

¹⁰³ ITC Decision, *supra* note 9, at 43-50.

¹⁰⁴*Id.* at 44.

¹⁰⁵*Id.* at 50.

¹⁰⁶*Id.* at 50.

¹⁰⁷*Id.* at 55.

¹⁰⁸*Id.* at 59.

¹⁰⁹*Id.* at 61.

¹¹⁰*Id.* at 65.

¹¹¹*Id.* at 64.

¹¹²*Id.* at 65-79.

Peru and Singapore were not substantial causes of serious injury.¹¹³ Remedies would thus not be imposed on these countries.

The ITC also recommended that the President introduce remedies in response to the serious injury. The Panel was divided on the size of the tariffs that should be imposed, the size of products that ought to have tariffs placed on them, and the extent to which the tariffs should reduce over time, but they all agreed that some tariffs should be placed over a four-year period starting at around 30% *ad valorem* in the first year.¹¹⁴

All three of the Panel members agreed that “the survival of the domestic injury requires the immediate imposition of strong import relief.”¹¹⁵ They also noted a list of actions that would have to be taken by domestic producers in order to achieve competitiveness in the four-year period, including innovation, improvement of products and production processes, and the expansion of production to achieve economies of scale.¹¹⁶ All three members appeared to accept the plausibility of these events occurring with the introduction of their remedies despite the range of improvements necessary in the four-year timespan. The ITC provided little analysis as to whether or not, in four years’ time, the domestic producers would be able to become competitive. In sum, the remedies provide no more than a chance for the domestic producers to make the necessary improvements while hurting downstream industry at the same time.¹¹⁷

There are good reasons to believe that US producers will not be able to become competitive in the span of four years. This is not a long period of time to meet the list of requirements set out by the ITC. The steps the industry needs to take,

¹¹³*Id.* at 79.

¹¹⁴*Id.* at 81: The chairman recommended tariffs on CSPV products in cell form for a four-year period increasing to 9.5% *ad valorem* on imports up to 0.7 gigawatts and 28.0 gigawatts in the third year and tariffs on imports in module form starting at 35.0% *ad valorem* in the first year and declining to 32% in the fourth year; *Id.* at 89: The other two members of the panel also recommended a four-year period of tariffs; *Id.* at 89: For imports in cell form they recommended starting at 30% for imports in excess of 1.0 gigawatts in the first year and declining to 15.0% for imports in excess of 1.6 gigawatts in the fourth year of relief, and a tariff on all modules starting at 30% in the first year and declining to 15% in the fourth year.

¹¹⁵*Id.* at 85, 100.

¹¹⁶*Id.* at 85, 100.

¹¹⁷*Id.* at 86, 101: The ITC did make some statements attempting to minimize the impacts on downstream industry, including making the point that even with the tariffs demand for solar power was expected to increase and that it would be bad for industry to have no domestic producers of solar cells and modules.

according to the ITC, include imponderables, such as “innovation.”¹¹⁸ It seems highly unlikely that other steps could be taken to match the levels of production seen in China. For example, expansion of production to create economies of scale would have to be enormous to match the level of production in China, which has caused a global glut in solar panels over the last decade.¹¹⁹ The failure of previous remedies to improve the industry’s prospects also suggests that new remedies are unlikely to turn the tide. On this basis, the ITC was probably mistaken in justifying the introduction of remedies on the basis that “the survival of the domestic industry” required it. The remedies will most likely not save the industry, and will only harm other parts of the solar power sector in the US.¹²⁰

The US Trade Commissioner requested that the ITC conduct a supplementary investigation into whether the serious injury was due to “unforeseen developments”, meaning circumstances that could not have been foreseen by negotiators at the time when China entered the WTO.¹²¹ The ITC found that the “industrial policies, five-year plans, and other government support programmes” implemented by the Chinese government to encourage renewable energy production were an unforeseen development.¹²² They noted that the plans were in contradiction to the obligations taken on by China in entering the WTO.¹²³ They also stated that the US negotiators could not have foreseen the failure of the other trade remedies implemented by the US.¹²⁴

In response to the recommendations of ITC, President Trump introduced new tariffs on solar panel products.¹²⁵ The tariffs started with a 30% *ad valorem* rate on products imported from February 7, 2018 and are to steadily reduce to 15% in 2021.¹²⁶ This is following the recommendations of the Panel of a lower rate rather

¹¹⁸*Id.* at 85, 100.

¹¹⁹ IEA Renewables 2017, *supra* note 27, at 3: Chinese companies account for over 60% of global PV manufacturing.

¹²⁰ Trade Act, 1974, *supra* note 11, § 2252(e)(1) empowers the ITC to recommend “the action that would address the serious injury...and be most effective in facilitating the efforts of the domestic industry to make a positive adjustment to import competition”. It is therefore open to the ITC to not recommend tariffs that will not address the injury adequately.

¹²¹ Supplemental Report of the U.S. International Trade Commission Regarding Unforeseen Developments, Crystalline Silicon Photovoltaic Cells (Whether or not Partially or Fully Assembled into Other Products), Inv. No. TA-201-75, (Dec. 2017) [hereinafter ITC Supplemental Report].

¹²²*Id.* at 10.

¹²³*Id.* at 5.

¹²⁴*Id.* at 10.

¹²⁵ Imports of Certain Crystalline Silicon Photovoltaic Cells, *supra* note 12.

¹²⁶*Id.*

than the higher 35% rate. The President did not have to take this action. An unusual feature of US safeguards law as compared to other laws governing international trade is the discretion given to the President to introduce trade remedies.¹²⁷ The President does not have to take any action despite the determinations of the ITC.¹²⁸ He is also entitled to impose greater tariff restrictions than those recommended by the ITC.¹²⁹ This enables some considerations to be taken into account in making a final decision, that are not taken into account by the ITC. In particular, the interests of domestic industries that will be negatively affected by a tariff, as well as consumers, can be mobilised to lobby the President.¹³⁰ The threat of foreign retaliation can also be considered.¹³¹ These factors were clearly not strong enough to sway President Trump, who may have been looking to transfer his “tough on trade” rhetoric into action.¹³²

The serious injury determination by the ITC, and the subsequent decision to impose tariffs, raise policy problems that are recurring in US Trade Law. A critique of anti-dumping duties is that a large number of them are imposed on intermediate goods, having the effect of damaging one section of the industry in an attempt to protect another.¹³³ The outcome is that the policy shoots itself in the foot. By lifting the costs for some parts of the supply chain in an industry, US businesses and jobs are hurt by the introduction of duties. Although this is not an anti-dumping case, similar problems arise here. CSPV products are classic intermediate goods:¹³⁴ as the ITC noted, they are integrated into photovoltaic solar systems for use in producing electricity.¹³⁵ So although the imports have been causing serious injury to their direct competitors in the US, the wider solar power industry had been going through a boom.¹³⁶ The consequences for the US solar industry have been significant. Reportedly, over \$2.5 billion of investments were cancelled or

¹²⁷Easten & Goldfeder, *supra* note 14, at 1175.

¹²⁸ Trade Act, 1974, *supra* note 11, § 2251(a).

¹²⁹*Id.*

¹³⁰ Easton & Goldfeder, *supra* note 14, at 1175.

¹³¹*Id.*

¹³² Brian Eckhouse et al., *President Trump Slaps Tariffs on Solar Panels in Major Blow to Renewable Energy*, TIME (Jan. 22, 2018), <https://time.com/5113472/donald-trump-solar-panel-tariff/> [hereinafter Eckhouse et al.].

¹³³ N. Gregory Mankiw & Phillip L. Swagel, *Antidumping: The Third Rail of Trade Policy*, 84 FOREIGN AFFAIRS, 107, 113 (2005) [hereinafter Mankiw & Swagel].

¹³⁴ In economic theory, an intermediate good is a good that is not finally purchased by the consumer but rather one that is used as a part of the process of producing a final good.

¹³⁵ ITC Decision, *supra* note 9, at 16.

¹³⁶ Chelsea Harvey, *The U.S. Solar Industry is Booming – and it isn't Afraid of Trump*, WASHINGTON POST (Dec. 14, 2016), https://www.washingtonpost.com/news/energy-environment/wp/2016/12/14/the-u-s-solar-industry-is-booming-and-it-isnt-afraid-of-trump/?utm_term=.4cd54ba2b1bf.

frozen by renewable energy companies in the months after the tariffs were introduced, as opposed to around \$1 billion of new investments by firms taking advantage of the tariffs.¹³⁷ Large reductions in employment by solar installation firms were also reported.¹³⁸

D. *The Challenge at the WTO*

China has requested consultations at the WTO for the measures imposed by the US, and a WTO Panel has been constituted. In this sub-part, I consider whether the measures would survive a WTO challenge.

As noted above, there are four elements required to justify safeguards remedies at WTO law, which can be summarised as an increase in imports, as the result of unforeseen developments and as obligations incurred under the GATT, which have caused a serious injury to a domestic industry.

On the facts, there has clearly been an increase in imports, and it also appears clear that the decline of the US industry amounts a serious injury. The second element requires only that the country imposing the measures has incurred obligations under the GATT. As the US has done this, they are likely to prove this element fairly simply. The “unforeseen developments” element is likely to be more difficult. The ITC found the enormous support provided by the Chinese government for solar power to be an “unforeseen development.”¹³⁹ It seems relatively uncontroversial that this support exists, and that it is likely to reduce prices.¹⁴⁰ In general, the actions of foreign governments (especially actions that are arguably in breach of other duties under the WTO) seem capable of being “unforeseen developments”, as governments frequently change policy positions, particularly after changes of power, and are therefore unpredictable. However, some sophistication of analysis would be required to show that imports from Mexico, Korea and other countries without free trade agreements with the US are still benefiting from Chinese government subsidies, as the tariffs will be imposed on imports of CSPV products from all countries not specifically excluded by the ITC.¹⁴¹ It is possible that the Chinese government’s support for solar power

¹³⁷ Nichola Groom, *Billions in U.S. Solar Projects Shelved after Trump Panel Tariff*, REUTERS (Jun. 7, 2018), <https://uk.reuters.com/article/uk-trump-effect-solar-insight/billions-in-u-s-solar-projects-shelved-after-trump-panel-tariff-idUKKCN1J30D9>.

¹³⁸ *Id.*

¹³⁹ ITC Supplemental Report, *supra* note 121, at 10.

¹⁴⁰ Ball et al., *supra* note 20. A subsidy will have the effect of reducing the costs of production of solar products, allowing producers to make profits at lower prices. We can therefore expect government support to result in lower prices.

¹⁴¹ There seems to be evidence that Chinese companies have opened factories to produce in a number of other countries, so this may be provable. *See, e.g.*, reports of Chinese

products could ultimately benefit industries across the globe, however it would take more than simply displaying the existence of the Chinese support programmes to prove this.

The prospect of government subsidies amounting to “unforeseen developments” raises questions about the relationship between different aspects of international trade law. Countries are able to take action when other countries are subsidising industry in the form of countervailing duties, which the US has already imposed on Chinese solar imports.¹⁴² Were subsidies also allowed to constitute an “unforeseen development” under the safeguards laws, it would allow for the imposition of double penalties on imports. It also implicates the US in the developments. US negotiators would have to have not foreseen, *first* the support of the Chinese government for renewable energy and *second*, the failure of countervailing duties to cure this problem. US negotiators could have foreseen the likely decisions of the US government in response to subsidies, as the WTO and US trade systems existed at the time of the negotiation, and existed for the government to make use of them. They may also have been able to anticipate that countervailing duties would not always counteract the effects of subsidies. They may not have been able to foresee a situation where the US would place inadequate countervailing duties on subsidised imports, but allowing such a situation to constitute an “unforeseen development” would create an odd outcome where the US would be arguing its own behaviour was both inadequate and unforeseeable in order to justify further tariff remedies. It seems unlikely that this kind of situation was intended in the creation of the Agreement on Safeguards.

The existence of a specific WTO regime to deal with subsidies may also count against a finding that government support is an “unforeseen development”. Although the Chinese government may have been acting in contradiction to their obligations, the WTO regime clearly does foresee such developments arising as it provides a legal response for when they do. If, in the abstract, we had asked the US negotiators of the Chinese accession to the WTO if they thought that, at some stage, one side might subsidise industry in such a way as to require countervailing duties, they might well have said yes, because the WTO regime is set up precisely in anticipation of that occurring. At the time of China’s WTO accession, the US

companies opening factories in Vietnam. Brian Publicover, *GCL-SI Launches 600MW PERC Production in Vietnam*, PV MAG. (Jul. 28, 2017), <https://www.pv-magazine.com/2017/07/28/gcl-si-launches-600-mw-perc-production-in-vietnam/>.

¹⁴² US — Countervailing Measures (China), *supra* note 5; US — Countervailing and Anti-Dumping Measures (China), *supra* note 5.

had imposed countervailing duties on a number of other countries for their subsidisation of local industry.¹⁴³

Furthermore, the ITC had to go further and show a connection between the “unforeseen developments” and the injury to the domestic industry. The ITC did not conduct a very sophisticated and detailed economic analysis in its supplementary report. Despite this, the stark facts of the solar industry may count in favour of the remedies in this case. Government support is a cause of lower prices, so if the support of the Chinese government was accepted as an “unforeseen development,” then proving its cause may not be difficult. The injury suffered by domestic US producers of CSPV products at the same time as a sharp increase in imports, a decline in prices and an increase in demand may mean that the impact of the “unforeseen developments” is hard to deny, especially given that the products in question are almost identical.

However, once again, the failure of the countervailing duties and anti-dumping provisions cause problems for the analysis of the ITC. While the subsidy programme introduced by China may be an “unforeseen development”, the US had already responded to it in the form of countervailing and anti-dumping duties.¹⁴⁴ It could be argued that it is the failure of those duties to effectively respond to the subsidies that is the cause of the injury, rather than the subsidies themselves.

A bigger problem is how the ITC’s “unforeseen developments” analysis matched up with the International Trade Administration’s (ITA) findings in its countervailing duties and anti-dumping duties investigations into CSPV products in 2012.¹⁴⁵ In this investigation, the ITA made a precise determination of the subsidy rates being provided to Chinese producers, and made recommendations as to the remedies that should be imposed to make up for those subsidy rates.¹⁴⁶ In theory, this remedy accounted for any unfairness deriving from the support of the

¹⁴³ At the time of China’s accession to the WTO, the US was involved in multiple disputes related to countervailing duties imposed on steel products. *See* Request for Consultations from Brazil, *United States — Countervailing Duties on Certain Carbon Steel Products from Brazil*, WTO Doc. WT/DS218/1 (Jan. 9, 2001); Panel Report, — *Countervailing Duties on Certain Corrosion-Resistant Carbon Flat Steel Products from Germany*, WTO Doc. WT/DS213/R (adopted Aug. 12, 2002); Panel Report, *United States — Countervailing Measures Concerning Certain Products from the European Communities*, WTO Doc. WT/DS212/R (adopted Jul. 31, 2002).

¹⁴⁴ 77 Fed. Reg. 73018, *supra* note 4; 77 Fed. Reg. 73017, *supra* note 4.

¹⁴⁵ U.S. INT’L TRADE ADMIN., FACT SHEET: COMMERCE FINDS DUMPING AND SUBSIDIZATION OF CRYSTALLINE SILICON PHOTOVOLTAIC CELLS, WHETHER OR NOT ASSEMBLED INTO MODULES FROM THE PEOPLE’S REPUBLIC OF CHINA (Oct. 10, 2012).

¹⁴⁶ *Id.*

Chinese government for its solar power industry. Any additional competitive advantage that Chinese import products had over domestic products would have to be from something different.

In its supplementary report on unforeseen developments, the ITC did not point to any additional unforeseen developments other than the support of solar products by the Chinese government, and the failure of the trade remedies previously imposed by the US.¹⁴⁷ In particular, it referred to “industrial policies, plans, and government support programmes” as a catch-all description of Chinese policy, with no explanation as to whether these had changed or increased after the previous remedies imposed by the US government.¹⁴⁸ This creates a real problem for any US defence of the remedies. Given that the countervailing duties were imposed in response to precise calculations as to the advantage gained by Chinese firms due to subsidies, the subsidies cannot have provided an additional benefit to justify safeguards remedies as well. On this basis, it is unlikely the WTO Panel will find that the “serious injury” to US industry was still caused by the Chinese policies after the countervailing duties and anti-dumping measures were imposed.

In addition to clear differences between US law and WTO law, a WTO Panel could treat some of the shared elements of the safeguards provisions in WTO law and US law differently. In particular, the WTO and the ITC have treated causation differently in the past. It is worth noting at the outset that the ITC’s reasoning is highly problematic from an economic perspective: it suggests that the increase in imports has caused a decrease in prices in the US, when basic price theory holds that the increase in imports should only occur after the drop in price.¹⁴⁹ It is the drop in price that is the reason the additional products are being imported, not the other way around. However, this is a confounding problem with the very idea of an increase in imports “causing” an injury to a domestic producer,¹⁵⁰ and this is an element of both the Trade Act and the law of the WTO. This fundamental problem with the idea of imports causing serious injury to domestic producers has led to problematic reasoning in both ITC decisions and decisions at the WTO.¹⁵¹ In this case, the ITC has, in its express reasoning, conflated correlation and causation. The analysis of ITC simply sets out that in the time that imports increased, prices decreased, and problems ensued for domestic producers.¹⁵²

¹⁴⁷ ITC Supplemental Report, *supra* note 121.

¹⁴⁸ *Id.* at 10.

¹⁴⁹ Sykes, *supra* note 60, at 157.

¹⁵⁰ *Id.*

¹⁵¹ *Id.* at 156-190.

¹⁵² ITC Decision, *supra* note 9, at 43-50.

However, it could be argued that implicit in the ITC's reasoning is a more logical distinction between factors affecting the supply curve of imports and factors affecting the supply curve of domestic production.¹⁵³ This approach has been suggested by Sykes to explain how an injury could be "caused" by an increase in imports.¹⁵⁴ The approach requires an assessment of what drives the amount of a product that suppliers will sell at different prices, for both imports and domestic industry. If importers can provide more of a product at lower prices due to (in particular) lower costs of production in other parts of the world, it would cause a decrease in the price of the product. It would simultaneously cause a shift in favour of imports by buyers of the product, hurting domestic producers.¹⁵⁵ In addressing the other possible causes of the decline in the domestic industry that were presented by the respondents in the US safeguards case,¹⁵⁶ the ITC both ruled out changes that would affect domestic supply and suggested that they would affect both domestic and import supply curves.¹⁵⁷ This means that the only possible remaining factors affecting the drop in price are factors affecting the import supply curve. Therefore, this approach might match up to the approach advocated by Sykes.

However, despite the possible logic to the ITC's approach, there is no guarantee that the WTO would find the analysis of causation satisfactory. The WTO test for causation requires three stages.¹⁵⁸ The first is to find a coincidence between an upward trend in imports and the injury. The second is to ask whether the conditions of competition between the imported and domestic products demonstrate a causal link. The third is to consider whether alternative factors have been analysed to ensure that injury caused by factors other than imports has not been attributed to imports.¹⁵⁹ In past cases, WTO Panel and Appellate Body decisions have found reasoning of ITC inadequate in terms of the test for causation in relation to the first two stages of the test.¹⁶⁰ If the WTO was to adopt the above methodology, focusing on the factors affecting supply, the ITC decision

¹⁵³ Sykes, *supra* note 60, at 194-201.

¹⁵⁴ *Id.*

¹⁵⁵ *Id.*

¹⁵⁶ The "alleged missteps by the domestic industry" and the other causes of price declines in the domestic market.

¹⁵⁷ ITC Decision, *supra* note 9, at 50-64.

¹⁵⁸ Panel Report, *United States — Definitive Safeguard Measures on Imports of Wheat Gluten from the European Communities*, ¶8.91, WTO Doc. WT/DS166/R (adopted July 31, 2000) [hereinafter US — Wheat Gluten].

¹⁵⁹ *Id.*; Panel Report, *Argentina — Safeguard Measures on Imports of Footwear*, ¶8.124, WTO Doc. WT/DS121/R (adopted Jan. 12, 2000); *Argentina — Footwear*, *supra* note 69, ¶145.

¹⁶⁰ *Id.*; US — Lamb, *supra* note 76.

could be criticised for not actually going into any detail on what makes supply of the imported CSPV products cheaper than supply of domestic products.

Despite these distinctions, there is some prospect that the ITC's causation analysis may withstand a challenge in the WTO. The facts of this case are extreme.¹⁶¹ The amount of imports has increased by a very large amount and the degree of damage to domestic industry in that same period is significant; this has occurred while demand for products has been increasing at a rapid rate. These factors are likely to mean that the coincidence element of the test will be met. The imported products and domestic products are very similar, meaning there is a clear state of competition between different kinds of products. The unusual situation whereby overall demand of products has increased enormously over the relevant period means that there may not be a problem of attributing to imports an injury from other causes.

A comparison with previous cases also suggests the ITC's causation analysis could survive a WTO challenge. In *US — Steel*, the Panel report explains that in that case the ITC, for the various products subject to the dispute, either failed to undergo a coincidence analysis showing that the injury occurred at the time of a surge in imports,¹⁶² or decided there was a coincidence despite the facts not supporting that conclusion.¹⁶³ In *US — Wheat Gluten*, the WTO Panel found the ITC conducted an appropriate coincidence analysis,¹⁶⁴ but concluded that other factors caused injury to the industry without going on to analyse whether this meant that injury couldn't be put down to the increase in imports: in effect, a failure to properly conduct a non-attribution analysis.¹⁶⁵

The ITC did analyse the timing of the rise in imports and the injury to the domestic industry,¹⁶⁶ although it never labelled its reasoning a "coincidence analysis". It explained that the largest portion of the increase in imports had occurred in 2015 and 2016. It also explained that "imports temporarily grew at a slower pace than apparent US consumption" in 2013 and 2014, but in 2016 domestic prices fell steadily.¹⁶⁷ The domestic industry's cost of goods sold to net sales ratio (a measure of how much profit the industry is making) decreased in 2012, 2013, 2014 and 2015 but then increased in 2016.¹⁶⁸ The ITC claimed that the

¹⁶¹See the facts set out by the ITC Decision in its causation and injury analysis: ITC Decision, *supra* note 9, at 31-43.

¹⁶²US — Steel, *supra* note 75, ¶¶10.426, 10.449, 10.473.

¹⁶³*Id.* at ¶10.418

¹⁶⁴US — Wheat Gluten, *supra* note 158, ¶8.102.

¹⁶⁵*Id.* at ¶¶8.151-8.153.

¹⁶⁶ITC Decision, *supra* note 9, at 43-50.

¹⁶⁷*Id.* at 49.

¹⁶⁸*Id.*

numbers indicated that imports were a substantial cause of serious injury over the whole period of investigation (2012-2016),¹⁶⁹ however these numbers seem to only support a clear coincidence in 2015 and 2016. Since WTO Panels appear to demand a close analysis of coincidence based on the data, they may find a violation based on a lack of proper reasoning by the ITC, as they did in *US — Steel*.¹⁷⁰ On the other hand, a Panel could be more forgiving based on the fact that there was clearly a decline in the domestic industry while imports were increasing for some part of the period of investigation.

E. Conclusion: The Safeguards Remedies are Illegal Under WTO Law

The US is likely to lose any defence of the solar safeguards at the WTO. The extreme factual circumstances of the solar industry in the US seem to make defending a challenge somewhat easier than it was in previous cases, as it may make a panel more likely to accept the causation analysis of ITC. However, the “unforeseen circumstances” test will be a major hurdle to US victory at the WTO, as it will be difficult to argue that the government support provided to the Chinese solar industry is causing serious injury to US solar firms, when that support is supposedly negated by countervailing subsidies already imposed on imports from China.

III. THE RELATIONSHIP BETWEEN RENEWABLE ENERGY MARKETS AND THE WTO SAFEGUARDS REGIME

Having concluded that the US is likely to lose any dispute over the safeguards measures at the WTO, I will now consider whether this apparently new battleground for renewable energy disputes has broader implications for the relationship between renewable energy and WTO law. I will first consider if further safeguards disputes are likely to occur in future, both similar to and different from this exact dispute. I will then consider if, and in what circumstances, safeguards remedies can justifiably be placed on renewable energy products and whether this reasoning leads to the conclusion that reform of the WTO regime is necessary to accommodate a transition to renewable energy.

A. Will this dispute be repeated?

Government support for renewable energy has led to a variety of international trade disputes, but this is the first time a country has imposed a safeguard measure on renewable energy products from another country. If it signifies a possible shift towards more safeguards disputes around renewable energy, it could mean there

¹⁶⁹*Id.* at 49-50.

¹⁷⁰*US — Steel*, *supra* note 75.

are problems, either with renewable energy policy or the safeguards regime, that ought to be changed. I will now consider whether there is a prospect of similar disputes arising in the future.

It could be argued that China's place in the international trade regime is unique, and that the various measures taken by the US against China in relation to solar panels are unlikely to be repeated in other industries in other countries.¹⁷¹ China's system of support for renewable energy involves substantial investment in manufacturing of solar panels.¹⁷² This does favour Chinese industry and because of this, it is likely in contravention of the WTO rules in relation to subsidies. Application of alternative support for renewable energy that is more WTO-consistent than manufacturing subsidies is possible. In particular, consumption subsidies such as FITs provide support that does not discriminate in favour of local industry, and is therefore unlikely to breach WTO rules.¹⁷³ Other countries provide such remedies, and not the kind of manufacturing support found in China.¹⁷⁴

Further, other countries provide some forms of manufacturing support to their solar industries.¹⁷⁵ If these countries also export solar products in large quantities and in such a way as to cause "injury" to the solar production industries in the importing countries, they could also face international trade remedies, potentially including safeguards.

¹⁷¹ For an analysis of the unique place of China in the international trade system, see Mark Wu, *The "China Inc." Challenge to Global Trade Governance*, 57(2) HARV. INT'L L.J. 261 (2016).

¹⁷² Ball et al., *supra* note 20.

¹⁷³ This assumes the feed-in tariff only provides support for consumers and does not place domestic content requirements on energy production, which was the problem in Canada-Feed-in Programme, *supra* note 31.

¹⁷⁴ See the discussion of Germany above, at page 4, and *supra* note 18.

¹⁷⁵ Turkey introduced support for local manufacturing from 2011. See Sahin Ardiyok & Ilker Faith Kil, *Turkey: Functional Transformation of Domestic Manufacturing Incentives in Renewable Energy Production*, MONDAQ (Dec. 18, 2017), <http://www.mondaq.com/turkey/x/657104/Renewables/Functional+Transformation+Of+Domestic+Manufacturing+Incentives+In+Renewable+Energy+Production>; Pakistan is moving towards support for solar manufacturing, see Imran Mukhtar, *Energy-short Pakistan moves to Power up Solar Manufacturing*, REUTERS (Jan. 29, 2019), <https://uk.reuters.com/article/pakistan-renewables-taxes/energy-short-pakistan-moves-to-power-up-solar-manufacturing-idUKL5N1ZS699>; According to the International Energy Agency, low-carbon public budgets for Research, Design and Development in low-carbon energy amounted to US\$17,392,300,000 in 2017, see *Energy Technology RD&D* (2002), INT'L ENERGY AGENCY, <https://www.iea.org/statistics/rdd/> (last visited Mar. 27, 2019).

However, not only does there have to be subsidization inconsistent with international trade law, but affected nations would have to see fit to bring safeguards remedies in addition to countervailing duties for disputes similar to the one between China and the US to arise. Certainly, Chinese support leading to production in third countries that injures producers in the US might lead to demands for safeguards, however such high levels of manufacturing support are at least likely to be rare.

Political will to introduce tariff remedies would also have to exist. Generally, we might not expect a country in the position of the US to impose the kind of tariff remedies it introduced. As noted earlier, the net impact of the tariffs on US industry is likely to be negative, due to the size of the solar installation industry and consumer demand for electricity. These factors are not unique to the US.¹⁷⁶ The US also has a President with an unusually strong stance against free trade.¹⁷⁷ These factors support the argument that this dispute has something to do with the particular economic and political situation between the US and China at the present moment, rather than reflecting any wider features of global energy markets.

On the other hand, there is one situation that may well encourage the imposition of more safeguards on solar panel products at the very least: if the US wins the case at the WTO. This would open up the prospect that safeguards remedies could be imposed if countervailing duties do not work to rescue a domestic industry from imports that had received subsidisation support in another country. As a result, where countries see a reason to impose countervailing duties, they could attempt to “top up” these duties with safeguards remedies.

B. Government policies and future changes in energy markets

Regardless of whether a dispute exactly of the kind between the US and China arises, a renewable energy transition could still lead to calls for imposing safeguards on renewable energy products. Future shifts in energy markets could lead to demands by some domestic producers for their governments to impose tariff measures to protect them. This sub-part sets out how these changes might occur.

There are substantial policy reasons to justify government support for renewable energy. Avoiding burning fossil fuels for energy production provides significant benefits that are not likely to be internalised by regular market conditions.¹⁷⁸ This is because the costs of burning fossil fuels (whether they are in the form of climate

¹⁷⁶See, e.g., the extent of solar installation in Germany: Kunzig, *supra* note 18.

¹⁷⁷Brown & Kolb, *supra* note 8.

¹⁷⁸WILLIAM NORDHAUS, THE CLIMATE CASINO: RISK UNCERTAINTY AND ECONOMICS FOR A WARMING WORLD 17-19 (2013) [hereinafter Nordhaus].

change impacts or the health effects from other emissions) are global, and not regional, and therefore the impact is on people beyond those who are producing and consuming the energy made from burning fuel.¹⁷⁹ The fact that renewable power has an external benefit (in the avoidance of the external harm of fossil fuels) means there is a justification for government intervention to encourage its production.¹⁸⁰ The impetus for individual countries to take action has been boosted by the signing of the Paris Agreement, as it incorporates national commitments to reduce greenhouse gas emissions.¹⁸¹

There is also a justification to do this on a large scale: climate change poses a significant global threat and to prevent it from occurring, deep greenhouse gas emissions cuts are required. As part of the Paris Agreement, the countries of the world agreed to keep overall warming of the planet to “well below 2 degrees Celsius.”¹⁸² This would require very sharp cuts in greenhouse gas emissions. Fossil fuels burned for energy are a major source of greenhouse gases and they will have to be replaced with renewables to meet these goals. The Intergovernmental Panel on Climate Change recently estimated that by 2050, 70-85% of electricity will have to be provided by renewables.¹⁸³ In 2014, the International Energy Agency estimated that 80% of world energy consumption came from fossil fuels.¹⁸⁴ The extent of the transition required means that not only does there have to be support for renewable energy, but it has to be very substantial.

Supporting renewable energy is not the only way to initiate a transition to a low-carbon economy. Renewable support suffers from one problem in particular: it does not directly tackle the problem of carbon emissions. Instead, it relies on an indirect effect of power production from fossil fuel sources being displaced by renewables. This goal has not always been realised, and it is seen that Germany’s

¹⁷⁹INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, CLIMATE CHANGE 2013: THE PHYSICAL SCIENCE BASIS. CONTRIBUTION OF WORKING GROUP I TO THE FIFTH ASSESSMENT REPORT OF THE INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, (T.F. Stocker, et al. eds. 2013) at 11, 20-22.

¹⁸⁰ Nordhaus, *supra* note 178, at 18-19.

¹⁸¹ Paris Agreement to the United Nations Framework Convention on Climate Change, Dec. 12, 2015, T.I.A.S. No. 16-1104.

¹⁸²*Id.* at art. 2(1)(a).

¹⁸³INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE, GLOBAL WARMING OF 1.5°C: SUMMARY FOR POLICYMAKERS, 2018 (Masson-Delmotte, et al. eds. 2018) at 17: An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty.

¹⁸⁴ *Fossil Fuel Energy Consumption*, THE WORLD BANK (2014), <https://data.worldbank.org/indicator/eg.use.comm.fo.zs> (last visited Apr. 11, 2019).

FIT programme has been criticized for not substantially decreasing its overall carbon emissions.¹⁸⁵

Economists such as William Nordhaus argue that a more efficient and reliable way to reduce carbon emissions would be to put a price on them, rather than to subsidise clean energy production.¹⁸⁶ A price on carbon can come in the form of a carbon tax or a cap-and-trade scheme.¹⁸⁷ Forms of these have been implemented around the world.¹⁸⁸ For instance, Canada has a national carbon tax applied to oil, gas and coal, and the EU has a cap-and-trade scheme applied to large emitters of carbon dioxide.¹⁸⁹

There are a number of reasons why support for renewable energy may be preferred to pricing carbon. The most obvious reason is that pricing carbon imposes additional costs on consumers,¹⁹⁰ while supporting renewable energy can have the effect of decreasing power prices while hiding any costs that may accrue through the cost of the subsidies, or increases in electricity prices by market distortions. This makes government support of renewables likely to be more politically popular than a carbon price. Germany's solar FITs are understood to be popular despite leading to an increase in power prices.¹⁹¹

Not all subsidisation of renewable energy has to conflict with international trade law. Particularly, subsidising consumption of renewable energy rather than production is unlikely to cause problems. This is because subsidising consumption will not provide an advantage to producers from any particular country trying to sell renewable energy products. As an example, subsidising the power bills of consumers who buy renewable energy ought to lead to the sourcing of renewable energy in greater quantities by the cheapest available means. This could mean

¹⁸⁵ Paul Hockenos, *Carbon Crossroads: Can Germany Revive its Stalled Energy Transition?*, YALE ENV'T 360 (Dec. 13, 2018), <https://e360.yale.edu/features/carbon-crossroads-can-germany-revive-its-stalled-energy-transition> [hereinafter Hockenos]; Tobias Buck, *Energy Shift fails to cut German Carbon*, FINANCIAL TIMES (Oct. 9, 2018), <https://www.ft.com/content/1ce68966-bffe-11e8-95b1-d36dfe1b89a>.

¹⁸⁶ Nordhaus, *supra* note 178, at 220-232.

¹⁸⁷ *Id.*

¹⁸⁸ Brad Plumer & Nadja Popovich, *These Countries have Prices on Carbon: Are they Working?*, N.Y. TIMES (Apr. 2, 2018), <https://www.nytimes.com/interactive/2019/04/02/climate/pricing-carbon-emissions.html>.

¹⁸⁹ *Id.*

¹⁹⁰ Assuming that the cost of the tax is passed on to the consumer by increases in prices of the taxed product. For example, as burning gasoline causes carbon emissions, we would expect to see a price on carbon increase the price of petrol at the pump.

¹⁹¹ Hockenos, *supra* note 185.

building solar power plants using equipment from any part of the world, therefore benefitting any producer in any country who can provide products at a competitive price.

However, other reasons for subsidising renewable energy might justify subsidies for manufacturers or other forms of discriminatory support for industry. One is the likely social desire to maintain a sense of control over a significant economic transition. Mitigating the impacts of climate change will require a rapid transition in economies away from fossil fuels. While taxing carbon ought to encourage a shift by producers away from fossil fuel production to renewable energy, that shift will be a secondary impact of the policy that relies on the market responding to incentives. If the government actually provides money for a factory or the installation of renewable energy, it is providing a more tangible and immediate outcome. A government can claim to have control over energy shifts if it is directly financing them, rather than relying on the market to respond to tax incentives. This same point carries over into why countries would provide support to domestic producers, as having local renewable production can give confidence that a country is in control of its own energy future, rather than taxing carbon emissions and hoping technology becomes available for import from other places. In my opinion, this sense of tangibility makes subsidisation of renewables an easier political sell than a price on carbon.

Moreover, the present lack of technology to fully respond to the demands of a low-carbon economy may mean government support is required to conduct the necessary research and development to generate low-carbon energy in future. The financial return on the level of investment required to achieve technology “breakthroughs” may not be enough to justify private investment, requiring substantial government support to industry. This theory underpins some decisions already being made, such as the creation of Breakthrough Energy by Bill Gates, and the associated pledge by European countries to increase their funding of clean energy research and development.¹⁹² If governments are providing this kind of heavy-duty research and development support, the benefits could seep down to producers exporting technology to other parts of the world.

¹⁹² European Commission, *Climate Change: European Commission and Bill Gates-led Breakthrough Energy Launch €100 million Clean Energy Investment Fund*, Press Release IP/19/2770, (Oct. 17 2018); See Coral Davenport & Nick Wingfield, *Bill Gates takes on Climate Change with Nudges and a Powerful Rolodex*, N.Y. TIMES (Dec. 8, 2015), <https://www.nytimes.com/2015/12/09/business/energy-environment/bill-gates-takes-on-climate-change-with-nudges-and-a-powerful-rolodex.html>; The World Bank, *Closing the \$70 Billion Climate Finance Gap* (Apr. 9, 2015), <http://www.worldbank.org/en/news/feature/2015/04/09/closing-the-climate-finance-gap>.

These points will raise red flags for international trade experts. According to economic theory, it ought to be much cheaper for countries to tax carbon emissions and then for the market to determine the most efficient way to reduce carbon, which could be very different from what a government imagines when it supports particular forms of energy.¹⁹³ However, pricing carbon also raises problems in international trade law. In particular, problems arise where domestic production is taxed, but imports are allowed to come in from other countries with no tax on carbon emissions, providing those imports with an advantage over domestic production and likely leading to carbon “leakage” rather than an actual decrease in carbon emissions.¹⁹⁴ A suggestion in response to this is for countries to impose a “border carbon adjustment”, which is in effect a carbon tax at the border on imports from countries with no price on carbon.¹⁹⁵ However, such a tax would raise concerns in international trade law: in particular, it would be difficult to design without raising accusations of being discriminatory.¹⁹⁶ It may also be difficult to defend under the Article XX general exceptions to the GATT, especially if the tax from the carbon adjustment was retained by the country choosing to impose it.¹⁹⁷

Furthermore, there are policy justifications for support of renewable energy based on fairness arguments. Prices on carbon are likely to increase prices of energy, whether that is electricity prices, prices of petrol at the pump, or prices of everyday goods due to increased production and transport costs.¹⁹⁸ As these costs increase, although they could be smaller than many perceive they would be, they may fall heavier on people with lower incomes and therefore raise justice concerns with prices on carbon.¹⁹⁹ A way to mitigate this concern could be to decrease the cost of electricity through government support for renewable energy as it would likely make electricity cheaper from those sources.²⁰⁰

¹⁹³ Nordhaus, *supra* note 178, at 266.

¹⁹⁴ Organisation for Economic Cooperation & Development, *Border Carbon Adjustment and International Trade Law: A Literature Review*, OECD Trade & Environment Working Papers, 2013/06 4 (M. Condon & A. Ignaciuk eds. 2013).

¹⁹⁵*Id.* at 4.

¹⁹⁶*Id.* at 17-22.

¹⁹⁷*Id.*

¹⁹⁸ Again, assuming the price is passed on in the price of the product being taxed.

¹⁹⁹ Qian Wang et al., *Distributional Effects of Carbon Taxation*, 184 APPLIED ENERGY 1123 (2016).

²⁰⁰ This requires the government to spend money on renewable energy. Feed-in tariff systems which require a cross-subsidy by consumers for renewable energy, rather than input by the government, are likely to make power more expensive rather than cheaper, as the subsidy is provided through rises in power prices for consumers rather than through the general tax base.

Political popularity, as well as complications in international trade law with alternative policies such as a price on carbon, means that government support for renewable energy is likely to continue in the future. Lower prices due to these subsidies are likely to lead to an increase in imports of the cheaper products into some countries. The nature of this support could lead to justifications for imposing countervailing duties in response to subsidies. Extending the above analysis of the dispute between China and the US, States ought not be able to impose safeguards remedies on top of countervailing duties, as it would be difficult to say that subsidisation caused serious injury to a domestic injury, when that injury was supposedly already being dealt with.

Even without subsidisation, there is a prospect of significant change in renewable energy markets in the near future. Other policies could encourage the development of low-carbon technology, and producers in many countries may try to take advantage of this. However, producers in some countries may have a competitive advantage, leading to them produce cheap renewable energy products. Alternatively, particular technological breakthroughs could lead to certain companies owning intellectual property in more efficient renewable energy products. These changes could stem from a variety of incentives to invest in renewables, including prices on carbon and R&D investment. There would be unique features to these market changes: we would have an emerging market in a particular industry, however it may emerge in an unusually global way as countries around the world all try to respond to the global problem of climate change by encouraging the use of renewable energy. In this situation, there will be incentives to invest in renewables across the world, but the differences in policies and competitiveness of different countries will mean that some are able to out-compete others and develop export markets. However, these export advantages will also translate into emerging industries failing in some countries.

Markets for renewable products could also be in a state of significant flux as States try to arrive at policies to encourage the right amount of renewable energy. The experience from Spain's solar policies²⁰¹ suggests that countries may have to adjust policies within short timeframes if they find that too many or too few are taking up incentives to produce renewable energy.²⁰² This might lead to sudden shifts in supply of renewable products in different parts of the world. For example, if a country reversed a policy to encourage solar panel production, then solar panels

²⁰¹ Andres Cala, *Renewable Energy in Spain is Taking a Beating*, N.Y. TIMES (Oct 8. 2013), <http://www.nytimes.com/2013/10/09/business/energy-environment/renewable-energy-in-spain-is-taking-a-beating.html>.

²⁰²*Id.* In Spain's case, the uptake of subsidies was so rapid that the government needed to make changes to avoid spending more money.

produced for that country's market might suddenly be available to the whole world, leading to a sudden shift in prices.

C. Can safeguards for renewables be justified?

This backdrop poses issues for both the policy and the law of safeguards. The policy justifications presented for safeguards are controversial. Economic justifications such as arguments that safeguards measures help “restore competitiveness”, that they allow for a structural adjustment, and that they have a redistributive effect, have been heavily criticised.²⁰³ However, two more defensible theories in support of safeguards have been raised. One is that safeguards provide protection for domestic industry from exogenous supply shocks that lead to a sharp decrease in the price of an imported good.²⁰⁴ An example of this could be in a sudden devaluation of the currency of a country: this would usually have the outcome of making imports from that country much cheaper and therefore, harder for domestic industry to compete with.²⁰⁵

The second reason, based on public choice theory, is that the existence of safeguards allows countries to reintroduce some protectionist measures after letting down trade barriers to protect declining industries, and this ultimately leads to countries being willing to commit to more liberalised trade in the first place.²⁰⁶ This is based on an argument that declining industries are the most likely group to lobby for protectionist measures, and will seek and obtain protection by rewarding politicians who can protect them. In many cases, these interests will outweigh the demand of consumers, who may pay lower prices for imported products, but will have a more dispersed impact than the concentrated cost on the producer industry. Having safeguards allows for the protection of declining industries without having to refrain from entering into free trade agreements in the first place. As a result, governments can make greater commitments when entering into free trade agreements as the political costs will be lower, and the overall outcome is freer trade.

The first of these reasons could be a good one in the context of changing renewable energy markets. As noted above, if government policies in relation to renewable energy are going to change, or there are likely to be sudden shifts in technology allowing for changes in supply, using safeguards measures to

²⁰³ Sykes, *supra* note 60, at 50-59.

²⁰⁴ YONG-SHIK LEE, SAFEGUARD MEASURES IN WORLD TRADE 15-17 (3rd ed., 2014).

²⁰⁵ *Id.* at 15.

²⁰⁶ Public choice theory is the application of economic tools to political science. In other words, it asks what could be expected to happen assuming political actors act as self-interested agents. *See* Sykes, *supra* note 60, at 64-72.

temporarily protect an industry until the market recovers could be justified. Safeguards may also be a preferable measure to other international trade policies. Unlike anti-dumping and countervailing duties, safeguards have a time limit before the country the tariff is imposed on is entitled to compensation or can introduce retaliatory measures.²⁰⁷ This means that although safeguards measures may be detrimental to the development of renewable energy, their use may also be preferable to the use of anti-dumping and countervailing duty measures.

On the other hand, the second reason presented would not be a good one for introducing safeguards measures in relation to transitions in the renewable energy market. The premise of allowing safeguards to avoid lobbying by declining industry is that there is a powerful established industry which is threatened by international trade.²⁰⁸ Assuming renewable energy industries are emerging in the face of substantial policy support but as industries they will not match this image: they are newer industries, not long-established ones, that are unlikely to be in a state of long-term decline. At the very least, we would expect them to not have a great deal of power in preventing a government from making international trade commitments. Additionally, such industries would not have been established at the time the relevant agreements were committed to, meaning in fact that the theory does not apply to them, as they could not have been a factor in a government's decision to commit to an international trade agreement.²⁰⁹ Running with this view of renewable energy industry, there will also be older domestic industries in power installation and domestic utilities who may be more powerful lobbying interests and will benefit from being able to import cheaper renewable products. Finally, consumer political power may be stronger in the context of energy, as consumers may be more willing to take action in relation to electricity prices than in relation to the prices of other goods.

IV. CONSEQUENCES FOR INTERNATIONAL TRADE LAW

These policy problems translate to problems that arise with the language of the safeguards provisions in international trade law. Global shifts in policies to encourage emerging markets are likely to be “unforeseen developments”. This, and the finding that taking on any obligation is enough to show that an injury is “the effect of obligations incurred”,²¹⁰ could mean that an emerging industry in one country out-competing an emerging industry in another country is enough to discharge the WTO requirements for the imposition of safeguards. A solution in this context would be for the Appellate Body to tighten the requirements of

²⁰⁷ Mankiw & Swagel, *supra* note 133 at 118.

²⁰⁸ Sykes, *supra* note 60, at 64–72.

²⁰⁹ *Id.*

²¹⁰ Argentina — Footwear, *supra* note 69, ¶91; Korea — Dairy, *supra* note 69, ¶84.

“unforeseen developments” to include only supply shocks in the exporting industry. This might pose some difficulties: ascertaining if a development is a temporary shock rather than a longer-term state of affairs may not be possible at the time when the change occurs. However, if it was practical, it could prevent the imposition of safeguards where one country’s industry was simply out-competing another’s while still allowing protections to be introduced where policy alterations led to rapid changes in the market for renewable energy products.

This analysis also means there should be consideration of safeguards in recommendations for reform of WTO Rules. A number of authors have argued that the WTO’s rules on subsidies should be changed to enable renewables subsidies.²¹¹ Such efforts should not ignore the potential use of safeguards measures against subsidized renewables. A subsidy regime for renewable energy could lead to an unexpected surge in imports from one country to another, leading to injury to the domestic industry for the relevant product: because of this, an exemption in the WTO regime that did not allow countervailing duties to be imposed on renewable energy products could be thwarted if safeguards remedies could simply be imposed instead. This means recommendations such as making renewable subsidies “non-actionable”,²¹² or having a new agreement for renewables modelled on the agriculture agreement,²¹³ ought to include changes or exemptions to the safeguards agreement as well.

Finally, the dispute between China and the US over solar safeguards may ultimately prove to be an example of a problem that is not specific to renewable energy. The likely illegality of the remedies, and their place as one of the first opportunities for President Trump to put his “tough on trade” policy into action,²¹⁴ make it possible that the safeguards are an example of a strategic “temporary breach” of international trade obligations, whereby the US can impose the tariffs up until there is a finding that they are illegal at the WTO without facing any consequences.²¹⁵ This situation is possible because the WTO regime provides no retrospective penalties for breaches of the law: a nation can only introduce remedies in response to violations of the regime if they have successfully brought a case to the WTO and the country in breach has not brought themselves into

²¹¹See, e.g., Simmons, *supra* note 3; ROBERT HOWSE, CLIMATE MITIGATION SUBSIDIES AND THE WTO LEGAL FRAMEWORK: A POLICY ANALYSIS 17-24 (2010) [hereinafter Howse]; Virginia R. Hildreth, *Renewable Energy Subsidies and the GATT*, 14(2) CHI. J. INT’L L. 702 (2014) [hereinafter Hildreth].

²¹²Howse, *supra* note 211, at 19.

²¹³Hildreth, *supra* note 211, at 722.

²¹⁴Eckhouse et al., *supra* note 132.

²¹⁵See generally, Mark Wu, *Rethinking the Temporary Breach Puzzle: A Window on the Future of International Trade Conflicts*, 40(1) YALE J. INT’L L. 95 (2015).

compliance.²¹⁶ This problem seems particularly acute in relation to safeguards remedies, as they are only allowed to be temporary in the first place.²¹⁷ The solar panel safeguards will be in place until 2021: there is no guarantee a WTO dispute will have fully played out before the safeguards remedies expire and the US automatically falls into compliance. As a result, the US will most likely be able to impose safeguard remedies that are illegal under international trade law and never face any negative consequences for it. Scholars have, in the past, argued that the WTO regime should be reformed to allow for retrospective remedies:²¹⁸ the solar panel dispute may well provide another example for them to point to.²¹⁹

V. CONCLUSION

This article asked whether the dispute over the safeguards remedies imposed by the US on Chinese solar products indicated that the WTO safeguards regime might prove to be a problem for a clean energy transition. The extreme circumstances related to the decline of the solar panel industry in the US, and the expansion of imports of solar products from China, mean that the safeguards remedies imposed in 2018 may pass many of the thresholds for them to be legal at WTO law. However, the fact that the US has already imposed countervailing duties and anti-dumping duties on imports of solar products from China severs the connection between the “unforeseen circumstances” of Chinese government support for the solar industry and the injury done to US producers. Because of that, the tariffs should not survive a WTO challenge. The circumstances of the dispute are also unusual, so it is unlikely that there will be similar disputes in the future.

Nevertheless, the WTO safeguards regime could still pose some problems for the goal of a renewable energy transition. There are good reasons for governments to encourage the development of solar power and other forms of renewable energy. However, governments are not perfect and may introduce or change policies that cause sudden market shifts. In those contexts, safeguards may be useful as they can

²¹⁶*Id.*

²¹⁷ Agreement on Safeguards, art. 7, *supra* note 63.

²¹⁸ See, e.g., Rachel Brewster, *The Remedy Gap: Institutional Design, Retaliation, and Trade Law Enforcement*, 80 GEORGE WASHINGTON L. REV. 102 (2011); Petros C. Mavroidis, *Remedies in the WTO Legal System: Between a Rock and a Hard Place*, 11(4) EUR. J. INT'L L. 763 (2000).

²¹⁹ Arguably, the lack of retrospective remedies in the WTO regime is now resulting in countries taking matters into their own hands, through the current “trade wars”. When President Trump introduced a series of trade measures against a number of countries in 2018, those countries almost immediately responded with trade measures against the US. See Shannon Van Sant & Bill Chappell, *EU Tariffs take Effect, Retaliating for Trump's Tariffs on Steel and Aluminium*, N.P.R. (Jun. 22, 2018), <https://www.npr.org/2018/06/22/622488352/eu-tariffs-take-effect-retaliating-for-trumps-taxes-on-imported-steel-and-alumin?t=1555011604765>.

protect renewables industries in some places. However, the current safeguards regime allows safeguards to be imposed in a wider set of circumstances than this. As a result, the need for more renewable energy could be better accommodated in the law on safeguards by narrowing the understanding of what constitutes “unforeseen circumstances” to only include sudden supply shocks leading to increases in imports into a country.