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RENEWABLE ENERGY AT THE WTO AND IN FREE TRADE AGREEMENTS: NO BATON TO PASS ON

RISHABHA MEENA* & ADVAITH RAO**

Renewable energy presents a credible solution to combating the ills of the climate crisis and global warming. In recent years, countries have increasingly focused on combating climate change by actively promoting and incentivising the adoption of renewable energy technologies. However, it is not easy, and such policies are now walking the tightrope of scrutiny under WTO law, the most recent being DS 629: Turkey — EVS (China), DS 625: Chinese Taipei — Offshore Wind Installations (EU); and DS 623: US — IRA (China). Such disputes have often undermined the effectiveness of the WTO rules towards energy transition vis-à-vis certainty in international trade regimes through the rule of law. Against this background, the present paper attempts to undertake a critical look into the interaction between WTO law and renewable energy in furtherance of the goals of sustainable development and climate mitigation. It particularly studies the provisions pertaining to renewable energy as they appear in Free Trade Agreements (FTAs) of major players such as America, Australia, and the European Union, as well as those countries in the African, South American, and Asian regions to capture the nature of obligations, their scope, and ambition. Finally, the paper concludes.

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* Law Officer, Hindustan Petroleum Corporation Limited. The author may be contacted at rishabh.149620[at]gmail.com. The views expressed in this article are solely those of the author and do not reflect the opinions of any affiliated organizations or institutions.

** Associate, Centre for Trade and Investment Law, Ministry of Commerce and Industry, Government of India, New Delhi. The author may be contacted at advait.ctil[at]iift.edu. The views expressed in this article are solely those of the author and do not reflect the opinions of any affiliated organizations or institutions.

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I. INTRODUCTION

Climate change and global warming have caused economies across the globe to shift towards renewable sources of energy.¹ In addition to the goal of climate change mitigation, the shift towards renewable energy resources is vital in achieving economic development.² The concept of energy security refers to the constant availability of energy resources at a reasonable cost.³ To this end, the utilisation of renewable energy becomes indispensable in order to meet diverse and growing energy needs.⁴

The urgent need to invest in renewable sources of energy arose for the first time during the 1970s oil crisis;⁵ when countries that were part of the Organization of Arab Petroleum Exporting Countries imposed an embargo on oil exports.⁶ This

¹ See generally Carlo Aall et al., *Climate Risks of the Transition to a Renewable Energy Society: The Need for Extending the Research Agenda*, 14(2) WEATHER CLIM. SOC'Y., 387 (2022); see also Aparupa Pani et al., *Importance of Renewable Energy in the fight against Global Climate Change*, 40(13) DRYING TECH., 2581 (2022); see also David E.H.J. Gernaat et al., *Climate Change Impacts on Renewable Energy Supply*, 11 NAT. CLIM. CHANGE, 119 (2021).

² See generally Jie Chen et al., *Does Renewable Energy Matter to Achieve Sustainable Development Goals? The Impact of Renewable Energy Strategies on Sustainable Economic Growth*, 10 FRONT. ENERGY RES. (2022); Qinghua Fu et al., *Impact of Renewable Energy on Economic Growth and CO2 Emissions – Evidence from BRICS Countries*, 9(8) PROCESSES 1281 (2021).

³ Jaden Kim et al., *Energy Security and The Green Transition* (IMF WORKING PAPER NO. 2024/006, 2024), <https://www.elibrary.imf.org/view/journals/001/2024/006/article-A001-en.xml>.

⁴ *Global electricity demand is growing faster than renewables, driving strong increase in generation from fossil fuels*, INT'L ENERGY AGENCY (Jul. 15, 2021), <https://iea.blob.core.windows.net/assets/01e1e998-8611-45d7-acab-5564bc22575a/ElectricityMarketReportJuly2021.pdf>.

⁵ Michelle Nicholasen, *The Geopolitics of Energy: The 1970s Oil Crisis*, EPICENTER (Aug. 1, 2022), <https://epicenter.wcfia.harvard.edu/blog/geopolitics-energy-1970s-oil-crisis>.

⁶ Frank A. Verrastro & Guy Caruso, *The Arab Oil Embargo—40 Years Later*, CTR. STRATEGIC INT'L STUD. (Oct. 16, 2013), <https://www.csis.org/analysis/arab-oil-embargo->

had devastating consequences, plunging the global economy into a recession, with the gross domestic product (GDP) of Europe and the USA falling by 2.5% and 4.7% respectively.⁷ It is from this crisis, that the International Energy Agency (IEA) emerged, with a mandate to ‘shaping a secure and sustainable energy future for all’.⁸ Presently, the Russia-Ukraine conflict has induced new volatility in the energy markets, with fossil fuel subsidies reaching a record high,⁹ and with countries in the region increasing the pace of their shift to renewable energy due to Russia’s restrictions on the export of natural gas.¹⁰

The importance of increasing the use of renewable energy is underscored by the fact that global temperature must not increase by 2 degrees Celsius by 2050.¹¹ This highlights the need for global cooperation in the area of renewable energy. The United Nations General Assembly (UNGA) declared the year 2012 as the ‘International Year of Sustainable Energy for All’. It focuses on (i) universal access to energy services; (ii) doubling the rate of energy efficiency improvement; and (iii) doubling renewable energy in the global energy mix from 15 to 30%.¹²

40-years-later; *Oil Embargo, 1973-74*, U.S. DEP’T OF STATE (2023), <https://history.state.gov/milestones/1969-1976/oil-embargo>.

⁷ Victoria Masterson, *The 1973 Energy Crisis sparked the Idea for Establishing the IEA. What have we learned since?*, WORLD ECON. F. (March 29, 2022), <https://www.weforum.org/stories/2022/03/iea-1970s-energy-crisis/>.

⁸ *Mission*, INT’L ENERGY AGENCY (May 17, 2024), <https://www.iea.org/about/mission>.

⁹ *Support for Fossil Fuels almost doubled in 2021, slowing progress toward international climate goals, according to new analysis from OECD and IEA*, INT’L ENERGY AGENCY (Aug. 29, 2022), <https://www.iea.org/news/support-for-fossil-fuels-almost-doubled-in-2021-slowing-progress-toward-international-climate-goals-according-to-new-analysis-from-oecd-and-iea>.

¹⁰ UN Global Crisis Response Group on Food, Energy and Finance, *Global impact of war in Ukraine: Energy crisis – BRIEF NO. 3* (Aug. 2022), https://news.un.org/pages/wp-content/uploads/2022/08/GCRG_3rd-Brief_Aug3_2022_FINAL.pdf; Natasha Ishak, *Was Russia’s decision to cut off natural gas exports a mistake?*, VOX (May 2, 2022), <https://www.vox.com/2022/5/1/23051868/russias-natural-gas-exports-india-china-ukraine>.

¹¹ IPCC, *Global Warming of 1.5°C. 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*, 3, 9 (Valerie Masson-Delmotte et al. eds., 2018), https://www.ipcc.ch/site/assets/uploads/sites/2/2019/06/SR15_Full_Report_High_Res.pdf; United Nations, *Renewable Energy – Powering a Safer Future* (2023), <https://www.un.org/en/climatechange/raising-ambition/renewable-energy>.

¹² G.A. Res. 70/1 (Oct. 21, 2015); United Nations, *Sustainable Energy for All: A Vision Statement* by Ban Ki-moon, Secretary-General of the United Nations, 4 (Nov. 2011),

There are various disciplines of international law that focus on the subject of renewable energy, however, there is no single coherent institution in international law that governs all aspects of renewable energy. The other areas of international law that focus on renewable energy include international environmental law, international investment law, and international trade law. Often these subjects operate and develop in silos, with there being an academic intermingling of concepts and jurisprudence, but a lack of coordinated policy and regulatory response.

Environmental considerations necessitate countries to reduce dependency on non-renewable energy sources, particularly their dependency on fossil fuels, propelling them to formulate policies in this regard.¹³ Such policies range from a carbon tax, loans, grants, tax incentives or price support (like feed-in tariffs).¹⁴ Due to the high cost of developing renewable energy infrastructure, support from the state becomes vital.¹⁵ The real problem in the renewable energy market is that neither the benefits of its deployment nor the true cost of fossil fuels is included in the cost of renewable energy goods. This is why renewable energy is expensive. Therefore, support through state intervention to address this cost barrier becomes important.¹⁶

Countries have different reasons behind augmenting investment in renewable energy. For instance, China has increased its investment in renewable energy to

<https://www.undp.org/turkiye/publications/sustainable-energy-all-vision-statement-ban-ki-moon>.

¹³ Fatima Carmona, *The Feed-in Tariffs Entanglement: A Comparative Study of the Analytical Approaches Followed by the EU and WTO Judiciary Bodies regarding Renewable Energy Subsidies*, 43(2) LEGAL ISSUES ECON. INTEGRATION, 201-202 (2016).

¹⁴ Luca Rubini, *The Subsidization of Renewable Energy in the WTO: Issues and Perspectives* 5(Birmingham L. Sch., Working Paper No. 321, 2011); see generally Mario Ragwitz et al., *Promotion of Renewable Energy Sources: Effects on Innovation*, 2(1) INT'L J. ON PUB. POL'Y, 35 (2007) (on feed-in tariffs); see also *Renewable Energy Explained*, ENERGY INFO. ADMIN. (Dec. 30, 2022), <https://www.eia.gov/energyexplained/renewable-sources/incentives.php>.

¹⁵ David Timmons et al., *The Economics of Renewable Energy: A GDAE Teaching Module on Social and Environmental Issues in Economics*, TUFTS UNIVERSITY 18 (2014), <https://www.bu.edu/eci/files/2019/06/RenewableEnergyEcon.pdf>; *Renewable Energy in the Asia-Pacific Region – Statistics and Facts*, STATISTA (Feb. 27, 2024), <https://www.statista.com/topics/7293/renewable-energy-in-asia-pacific/#editorsPicks>.

¹⁶ Paolo Farah & Elena Cima, *WTO and Renewable Energy: Lessons from the Case Law*, 49(6) J. WORLD TRADE 1103, 1105 (2015) [hereinafter Farah & Cima]; see generally Adnan Z. Amin, *How Renewable Energy Can be Cost-Competitive*, UN CHRONICLE (Dec. 23, 2015), <https://www.un.org/en/chronicle/article/how-renewable-energy-can-be-cost-competitive>.

reduce dependence on fossil fuels.¹⁷ American investment in renewable energy is to further job creation, lower energy costs for consumers, and reduce its dependency on China.¹⁸ Countries are required to frame their renewable energy policies to ensure certainty and stability in the global value chain of renewable energy while being conscious of the rules framed by international institutions or commitments that they have undertaken in international agreements. Especially in the current scenario where Government support to private industries is necessary in order to ensure large-scale investment in the renewable energy sector, the alignment of Government policies with the rules of free trade becomes obligatory in order to ensure effective competition in the market.¹⁹ However, the lack of specific international trade law disciplines on renewable energy makes it difficult for countries to roll out support policies for renewable energy, lest they be embroiled in unnecessary and avoidable trade disputes.²⁰

At the domestic level, countries such as Canada, Germany,²¹ Spain, Japan,²² China,²³ and Malaysia²⁴ have launched Feed-In-Tariff (FIT) support programmes to bolster renewable energy production and capacity.²⁵ For instance, Australia has

¹⁷ Sarah O'Meara, *China's Plan to cut Coal and Boost Green Growth*, NATURE (Aug. 26, 2020), <https://www.nature.com/articles/d41586-020-02464-5>; *China Has a Clear Pathway to Build a More Sustainable, Secure And Inclusive Energy Future*, INT'L. ENERGY AGENCY (2021), <https://www.iea.org/news/china-has-a-clear-pathway-to-build-a-more-sustainable-secure-and-inclusive-energy-future>.

¹⁸ S. DEM., SUMMARY OF THE ENERGY SECURITY AND CLIMATE CHANGE INVESTMENTS IN THE INFLATION REDUCTION ACT OF 2022 (2022); *What the Inflation Reduction Act Means for the Renewable Energy Industry*, RWDI, https://rwdi.com/en_ca/insights/thought-leadership/inflation-reduction-act-renewable-energy-industry/.

¹⁹ Farah & Cima, *supra* note 16, 1105.

²⁰ Mark Wu & James Salzman, *The Next Generation of Trade and Environment Conflicts: The Rise of Green Industrial Policy*, 108 NW. U. L. REV. 401 (2014).

²¹ Mark Fulton et al., *The German Feed-in Tariff: Recent Policy Changes*, DEUTSCHE BANK RES. (Sept. 2012) https://www.longfinance.net/documents/1038/dbcca_germanfit_2012.pdf.

²² *About Japan's Feed-In Tariff*, ICHIGO GREEN INFRASTRUCTURE INV. CORP., <https://www.ichigo-green.co.jp/en/operation/purchase/>.

²³ Boqiang Lin & Presley K. Wessch, *Valuing Chinese feed-in tariffs program for solar power generation: A real Options Analysis*, 28 RENEWABLE & SUSTAINABLE ENERGY REV., 474 (2013).

²⁴ *Feed in Tariff*, SUSTAINABLE ENERGY DEV. AUTH. MALAYSIA, <https://www.seda.gov.my/reportal/fit/>.

²⁵ See generally Hermann Scheer, *Feed-in Tarriffs – Boosting Energy for our Future*, WORLD FUTURE COUNCIL BROCHURE 8 (June, 2007), http://www.worldfuturecouncil.org/fileadmin/user_upload/Rob/press/publications/Fee-d-inGuidePrint.pdf; see also Johanna Thibault et al., *Implementing an Effective Renewable Energy*

launched 'Powering Australia', pursuant to which it provides funds *inter alia* for research and development, to support industrial decarbonisation, create employment, reduce power bills, and reduce emissions.²⁶ Canada also has certain policies to attract investment in renewable energy such as funds to leverage private investments towards large clean energy projects and support to the agricultural industry for adoption of clean technologies.²⁷ The US has proposed tax credits to manufacturers for manufacturing components used in renewable energy facilities under the Inflation Reduction Act.²⁸ The European Union has policies like FIT, Feed-In Premiums (FIP), quota obligations with tradable green certificates, loan guarantees, soft loans, investment grants, tax incentives, and tendering schemes for the development of renewable energy.²⁹ India has also launched a production-linked incentive scheme to develop its domestic capacity in high-efficiency solar modules.³⁰ In order to ensure that support measures adopted by countries do not hinder or distort free trade, the existing multilateral trading rules of the World Trade Organization (WTO) apply and govern such support measures. Given the lack of specific rules on the treatment of renewable support measures under the WTO law,³¹ the dispute settlement body of the WTO has declared such support measures towards renewable energy to be incompatible with the WTO law.³²

Policy in the United States: Can Feed-In Tariff Policies Be Successful for Advancing Renewable Energy Development?, 23(6) EUR. ENERGY & ENV'T L. REV. 233 (2024); see also MIGUEL MENDONCA, POWERING THE GREEN ECONOMY: THE FEED-IN TARIFF HANDBOOK (1st ed. 2009).

²⁶ *Powering Australia*, AUSTL. GOV'T DEPT CLIM. CHANGE, ENERGY, ENV'T & WATER, <https://www.energy.gov.au/government-priorities/australias-energy-strategies-and-frameworks/powering-australia>.

²⁷ *Canada 2022 – Energy Policy Review*, INT'L ENERGY AGENCY (Jan. 1, 2022), <https://iea.blob.core.windows.net/assets/7ec2467c-78b4-4c0c-a966-a42b8861ec5a/Canada2022.pdf>.

²⁸ Inflation Reduction Act, Pub. L. 117-169, § 30, 136 Stat. 1818 (2022) [hereinafter Inflation Reduction Act] (it is pertinent to note that this measure has been challenged by China before the WTO); see Panel Established, *United States — Certain Tax Credits Under the Inflation Reduction Act*, WTO Doc. WT/DS623/3 (Sept. 23, 2024).

²⁹ *Renewable Energy Support Policies in Europe*, CLIM. POL'Y INFO HUB, <https://climatepolicyinfohub.eu/renewable-energy-support-policies-europe.html>.

³⁰ Production Linked Incentive Scheme National Programme on High Efficiency Solar PV Modules, MINISTRY OF NEW & RENEWABLE ENERGY, <https://mnre.gov.in/production-linked-incentive-pli/#:~:text=Overview,24%2C000%20crore>.

³¹ Elena Cima, *Promoting Renewable Energy Through FTAs? The Legal Implications of a New Generation of Trade Agreements*, 52(4) J. WORLD TRADE 663 (2018) [hereinafter Cima].

³² Farah & Cima, *supra* note 16; the WTO disputes dealing with renewable energy or raw materials are as follows: Panel Report, *United States-Certain Measures Relating to the Renewable*

Against this background,³³ the authors begin by analysing the developments at the WTO on renewable energy under Part II. Given the lack of any specific disciplines on renewable energy at the WTO, the authors undertake a cross-country analysis of the provisions on renewable energy under the many Free Trade Agreements (FTAs) signed by the American, Australian, European, Asian, and African economies under Part III. This part highlights how initially, renewable energy issues were dealt with indirectly by focusing on environment and sustainability, and then developed to include specific provisions on cooperation in energy matters (sometimes specifically on renewable energy matters), leading to a standalone chapter on renewable energy. Finally, the authors conclude by suggesting future directions on energy issues in the global trading system.

II. THE WTO'S TREATMENT OF RENEWABLES: CHILDREN OF A LESSER GOD?

The interaction of WTO law and energy, particularly renewable energy, has been protracted, to say the least.³⁴ There are multiple reasons for this, including State interest in preserving and protecting sovereign space over energy resources to ensure energy security as a matter of national interest.³⁵ Uniquely, renewable energy or 'green' energy particularly has become a much-maligned word, being

Energy Sector, WTO Doc. WT/DS510/8 (adopted Jul. 13, 2023) [hereinafter Panel Report, US-Renewable Energy]; Consultation Requested by China, *United States—Certain Measures Related to Renewable Energy*, WTO Doc. WT/DS563/4, (Aug. 14, 2018); Appellate Body Report, *India—Certain Measures Relating to Solar Cells and Solar Modules*, WTO Doc. WT/DS456/21 (adopted on Oct. 14, 2016) [hereinafter AB Report, India—Solar Cells]; Consultation Requested by China, *European Union and certain Member States—Certain Measures Affecting the Renewable Energy Generation Sector*, WTO Doc. WT/DS452/5 (Nov. 5, 2012); Appellate Body Report, *Canada—Certain Measures Affecting the Renewable Energy Generation Sector*, WTO Doc. WT/DS412/19 (adopted on May 24, 2013) [hereinafter AB Report, Canada—Renewable Energy].

³³ It is pertinent to note that the scope of this paper is limited to the renewable energy transition. The authors do not delve into the debate of critical minerals vis-à-vis trade-related issues.

³⁴ See, e.g., Hussein Abdallah, *Oil exports under GATT and the WTO*, 29(4) OPEC REV. 267 (2005); ANNA-ALEXANDRA MARHOLD, *ENERGY IN INTERNATIONAL TRADE LAW: CONCEPTS, HISTORY AND LEGAL FRAMEWORK* (2021); Farah & Cima, *supra* note 16, at 1104.

³⁵ Phillip E. Cornell, *Energy and the Three Levels of National Security: Differentiating Energy Concerns within a National Security Context*, 8(4) CONNECTIONS 63 (2009); Rafael Leal-Arcas, *How Governing International Trade in Energy Can Enhance EU Energy Security*, 6(3) RENEWABLE ENERGY L. & POL'Y REV 202-203 (2015).

drawn into ideological debates and surprisingly (or unsurprisingly?) into culture wars as well, particularly in the US.³⁶

WTO law becomes significant in the limits it sets on the extent to which members can regulate their renewable energy resources. WTO agreements as they are presently structured, lack coordination and oftentimes seem incoherent. Due to the lack of specific interpretative tools to resolve the unique issues arising out of the particular nature of goods involving renewable energy, members find it difficult to pursue their environmental objectives, having to second guess at every stage if their policies will be questioned by other members. Put otherwise, due to the fact that WTO disciplines are silent on the aspect of support measures in the renewable energy sector, it is probable that measures taken by members in furtherance of environmental objectives may be viewed by other members as a front for protectionism. For instance, measures like local content requirements may be genuinely necessary and beneficial for least-developed countries that have their domestic industry in the infancy stages,³⁷ requiring protection and government support, given that least-developed countries may be disproportionately affected by climate risks. However, the blanket ban on such measures under the WTO prevents countries from rolling out policies oriented towards increasing the production of renewable energy.

It is natural to ponder whether the WTO permits differential treatment of energy products based on how the energy is sourced, i.e., whether energy produced from renewable sources and those generated from conventional sources are treated as like products. The WTO has adopted quite a narrow approach, discounting/ignoring the methods of production or processing in determining the 'likeness' of products.³⁸ This has the effect of treating all energy products on an equal footing, being source-agnostic, and not taking into account the polluting

³⁶ Oliver Milman, *Texas Freeze Casts Renewable Energy As Next Battle Line In US Culture Wars*, THE GUARDIAN (Feb. 24, 2021), <https://www.theguardian.com/environment/2021/feb/24/texas-renewable-energy-culture-wars>; Ronald Brownstein, *The Green-Energy Culture Wars in Red States*, THE ATLANTIC (Mar. 30, 2022), <https://www.theatlantic.com/politics/archive/2022/03/republican-fossil-fuels-renewable-energy/629420/>.

³⁷ See generally Thomas Cottier, *Renewable Energy and WTO Law: More Policy Space or Enhanced Disciplines?*, 5(1) RENEWABLE ENERGY L. & POL'Y REV 40 (2014).

³⁸ Robert Howse & Antonia I. Eliason, *Domestic and International Strategies to Address Climate Change: An Overview of the WTO Legal Issues*, in INTERNATIONAL TRADE REGULATION AND THE MITIGATION OF CLIMATE CHANGE 48 (Thomas Cottier et al. eds., 2010) [hereinafter Howse & Eliason].

nature and polluting potential of the energy sources, the negative externalities associated with fossil fuels,³⁹ the positive externalities of using renewable sources of energy,⁴⁰ the comparative carbon intensity of the sources of energy,⁴¹ among other factors.

As highlighted by *Espa* and *Durán*,⁴² energy disputes at the WTO so far have only challenged the consistency of the renewable energy support policies,⁴³ whereas no such action has been brought challenging fossil fuel subsidies.⁴⁴ To put it in a succinct manner, WTO law has failed to account for the positive externalities of the policies oriented towards renewable energy in comparison to their non-renewable energy counterparts when assessing the compatibility of domestic policies with international trade commitments. This is particularly disappointing when the need to protect and preserve the environment and to use the world's resources in an optimal way with the objective of sustainable development are the only non-trade and non-economic goals stated in the preamble of the Marrakesh Agreement.⁴⁵

One common thread running through WTO disputes on renewable energy initiated so far is the fact that they all challenge local content requirement measures.⁴⁶ For instance, the most contentious decisions in this area are the twin

³⁹ JASON POTTS, THE LEGALITY OF PPMS UNDER THE GATT: CHALLENGES AND OPPORTUNITIES FOR SUSTAINABLE TRADE POLICY (2008) [hereinafter Jason Potts].

⁴⁰ See generally Monika Tothova, *The Trade and Trade Policy Implications of Different Policy Responses to Societal Concerns* (OECD Food, Agriculture and Fisheries Papers No. 20, 2009); Paolo Davide Farah & Elena Cima, *World Trade Organization, Renewable Energy Subsidies and the Case of Feed-In Tariffs: Time for Reform Toward Sustainable Development?*, 27(1) GEO. INT'L ENV'T L. REV. 515 (2015).

⁴¹ Charles E. McLure, *The GATT-Legality Of Border Adjustments For Carbon Taxes and The Cost Of Emissions Permits: A Riddle, Wrapped In A Mystery, Inside An Enigma*, 11(4) FLA. TAX REV. 221 (2011); TREVOR HOUSER ET AL., LEVELING THE CARBON PLAYING FIELD (2008).

⁴² Ilaria Espa & Gracia Marín Durán, *Renewable Energy Subsidies and WTO Law: Time to Rethink the Case for Reform Beyond Canada – Renewable Energy/Fit Program*, 21(3) J. INT'L ECON. L. 621, 629–630 (2018) [hereinafter Espa & Durian].

⁴³ See AB Report, Canada—Renewable Energy, *supra* note 32, 7; Panel Report, US—Renewable Energy, *supra* note 32; AB Report, India—Solar Cells, *supra* note 32, 1827.

⁴⁴ Henok Asmelash, *Energy Subsidies and the WTO Dispute Settlement System: Why Only Renewable Energy Subsidies Are Challenged*, 18(2) J. INT'L ECON L. 261-262 (2014).

⁴⁵ See generally, Preamble, Marrakesh Agreement Establishing the World Trade Organization, Apr. 15, 1994, 1867 U.N.T.S. 154.

⁴⁶ Espa & Durian, *supra* note 42.

decisions of the Dispute Settlement Body in *Canada — Renewable Energy*,⁴⁷ and *Canada — Feed-in-Tariff*.⁴⁸ These decisions fed into the emerging consensus that the current WTO framework is irreconcilably at odds with global environmental goals.⁴⁹ As discussed above, one reason for the same is the notorious source-neutrality between fossil fuels and renewable energy.⁵⁰ However, *Canada — Renewable Energy* raised graver concerns about blurring the distinctions between internal policies, climate protection, and protectionism. For instance, Bigdeli argues that *Canada — Renewable Energy* was an example of a formalist legal interpretation of the WTO law,⁵¹ wilfully oblivious to the underlying critical tug of war between environmental protection and protectionism.⁵² Similarly, Rubini,⁵³ argues that there is a need to reform WTO law in order to make it clearer and more consistent *vis-à-vis* renewable energy and environmental norms.⁵⁴ In fact, in light of the confused jurisprudence brought about by *Canada — Renewable Energy*, Cosbey and Mavroidis call for a wholesale revision of the Subsidies and Countervailing Measures Agreement (SCM Agreement),⁵⁵ and limiting the decision in *Canada — Renewable Energy* as a one-off decision.⁵⁶ A similar problem was highlighted by Cima and Farah,⁵⁷ who argued for reforming the SCM Agreement since it treats subsidies for renewable energy akin to other subsidies, without accounting for their special consideration in environmental policy.⁵⁸

⁴⁷ AB Report, *Canada – Renewable Energy*, *supra* note 32; See generally Steve Charnovitz & Carolyn Fischer, *Canada–Renewable Energy: Implications for WTO Law on Green and Not-So-Green Subsidies*, 14(2) WORLD TRADE REV. 177, 178 (2015) [hereinafter Charnovitz & Fischer].

⁴⁸ Appellate Body Report, *Canada – Measures Relating to the Feed-in Tariff Program*, WTO Doc. WT/DS426/19 (adopted on May 24, 2013).

⁴⁹ Espa & Durán, *supra* note 42.

⁵⁰ Jason Potts, *supra* note 39.

⁵¹ Sadeq Bigdeli, *Clash of Rationalities: Revisiting the Trade and Environment Debate in Light of WTO Disputes Over Green Industrial Policy*, 6(1) TRADE L. DEV. 178, 179 (2016).

⁵² *Id.* 184.

⁵³ Luca Rabini, *Ain't Wastin' Time No More: Subsidies for Renewable Energy, The SCM Agreement, Policy Space, and Law Reform*, 15(2) J. Int'l Econ. L. 525 (2012) [hereinafter Rabini].

⁵⁴ *Id.* 525-530.

⁵⁵ Aaron Cosbey & Petros C. Mavroidis, *A Turquoise Mex: Green Subsidies, Blue Industrial Policy and Renewable Energy: The Case for Redrafting the Subsidies Agreement of the WTO* (Columbia Univ. Ctr. For L. & Econ. Studies Working Paper No. 473, 2014).

⁵⁶ *Id.* 2-4.

⁵⁷ Farah & Cima, *supra* note 16.

⁵⁸ *Id.* 520-525.

One possible solution to this dilemma could be in the form of incorporating an exception for environmental subsidies,⁵⁹ including FITs similar to Article XX of the General Agreement on Tariffs and Trade (GATT).⁶⁰ Article XX of GATT permits member states to implement measures that conflict with the rules of non-discrimination and other provisions of the GATT, provided they serve one of the enumerated objectives.⁶¹ One such objective is the ‘preservation of exhaustible natural resources’, which is broadly interpreted as environmental purposes.⁶² This would allow members to provide much-needed subsidies for environmental goods, most notably renewable energy, without being bound by typical GATT norms. However, the SCM Agreement, negotiated in the late 80s and early 90s during a shift towards privatisation and free markets, does not have a similar exception clause.⁶³ Article 8 of the SCM Agreement, which rendered some subsidies for environmental purposes non-actionable, was not renewed and consequently has not been in force since 2000.⁶⁴ This is why, this exception was not invoked in the Canada decision for justifying the FITs for renewable energy.

This challenge can be addressed in multiple ways. The first solution could be interpreting the SCM Agreement in accordance with GATT Article XX,⁶⁵ while the second solution is to amend the SCM Agreement to explicitly incorporate a clause akin to Article XX(g). The first solution, however, is contentious at best.⁶⁶

⁵⁹ See generally Farah & Cima, *supra* note 16; Charnovitz & Fischer, *supra* note 47; Rabini, *supra* note 53; United Nations Conference on Trade and Development, *World Trade Law and Renewable Energy: The Case of Non-Tariff Barriers* UN Doc. UNCTAD/DITC/TED/2008/5 (Sept. 6, 2008); Steve Charnovitz, *Exploring the Environmental Exceptions in GATT Article XX*, 25(5) J. WORLD TRADE 37 (1991).

⁶⁰ General Agreement on Tariffs and Trade, Oct. 30, 1947, art. XX, 61 Stat. A-11, 55 U.N.T.S. 194.

⁶¹ *Id.*

⁶² *Id.*

⁶³ The Agreement on Subsidies and Countervailing Measures, Jan. 1, 1995, 1869 U.N.T.S. 14.

⁶⁴ *Id.* Art. 8.

⁶⁵ This has been advocated for repeatedly in academic commentaries on the WTO and renewable energy. See generally Farah & Cima, *supra* note 16; Charnovitz & Fischer, *supra* note 47; Rabini, *supra* note 53; Howse & Eliason, *supra* note 38.

⁶⁶ See, e.g., Ingrid Jegou & Luca Rabini, *The Allocation of Emission Allowances Free of Charge: Legal and Economic Considerations*, in ICTSD GLOBAL PLATFORM ON CLIMATE CHANGE, TRADE AND SUSTAINABLE ENERGY (INT’L CTR. TRADE & SUSTAINABLE DEV., 2011); Daniel Peat, *The Wrong Rules for the Right Energy: The WTO SCM Agreement and Subsidies for Renewable Energy*, 24(1) ENV’T L. & MGMT. 3 (2012); *GATT Article XX as an Exception to the SCM Agreement*, INT’L ECON. L. & POL’Y BLOG (2012),

Strong arguments have been made against interpreting Article XX into the SCM Agreement, such as the absence of any explicit provision analogous to the Agreement on the Application of Sanitary and Phyto-Sanitary (SPS) measures.⁶⁷ The second solution,⁶⁸ on the other hand, could be a better choice in drafting a clause in the SCM Agreement tailored to balance environmental and protectionism concerns but raises pragmatic concerns.⁶⁹ For instance, it may include the revival of Article 8 of the SCM Agreement. *Hillman & Manak* have proposed a third solution – framing a new agreement altogether that deals with industrial subsidies which provides for exceptions for subsidies supporting *inter alia* clean energy.⁷⁰

Pursuing any of the aforementioned solutions requires consensus amongst all WTO members, a consensus which is becoming increasingly rare.⁷¹ The Doha Round of WTO Negotiations, i.e., the Doha Development Round launched in 2001, has no end in sight. This is evident also from the proliferation of FTAs, with members choosing to liberalise trade amongst themselves, leading also to the fragmentation of trade. In such a scenario, regulations governing renewable energy can be found in an increasing number of FTAs. It is thus imperative to trace the evolution of provisions pertaining to renewable energy in FTAs to assess their scope, ambition, and effect.

III. FREEING RENEWABLES: ARE FTA THE WAY FORWARD?

The initial idea behind the establishment of the multilateral trading system was to enable free trade by way of a rules-based trading order. What started as agreements governing traditional areas of trade such as trade in goods, rules of origin, and SPS measures, has with time, evolved to cover newer dimensions of trade such as

<https://ielp.worldtradelaw.net/2012/05/gatt-article-xx-as-an-exception-to-the-scm-agreement.html>.

⁶⁷ The Agreement on Application of Sanitary and Phytosanitary Measures, Jan. 1, 1995, 1867 U.N.T.S. 493; see Farah and Cima, *supra* note 16.

⁶⁸ See, e.g., Rick A. Waltman, *Amending WTO Rules To Alleviate Constraints On Renewable Energy Subsidies*, 23(2) WILLAMETTE J. INT'L L. & DISP. RESOL. 367 (May 23, 2016); Angelica Rutherford, *The Applicability of the Law of the WTO to Green Energy Security*, in ENERGY SECURITY AND GREEN ENERGY (2020).

⁶⁹ Beatriz Leycegui & Imanol Ramírez, *Addressing Climate Change: A WTO Exception to Incorporate Climate Clubs*, E15 Expert Group on Measures to Address Climate Change and the Trade System (2015).

⁷⁰ Jennifer Hillman & Inu Manak, *Rethinking International Rules on Subsidies*, COUNCIL FOREIGN REL. (2023) <https://www.cfr.org/report/rethinking-international-rules-subsidies>.

⁷¹ Notwithstanding the TRIPS Waiver for Covid-19 vaccines as part of the Ministerial Conference-12 (MC-12) Package, which is an outlier.

digital trade, labour, sustainability, gender, and corruption.⁷² While the WTO has faced difficulties in addressing these issues, particularly, embedding these issues and obligations into the substantive text of agreements, these issues are increasingly being taken up in FTA negotiations.⁷³ Provisions on renewable energy in FTAs are considerably diverse in terms of their scope and enforceability. They may be drafted as general statements (such as the preamble), provisions charting out policy space through reservations for measures in pursuance of renewable energy, provisions carving out exceptions, provisions establishing cooperation mechanisms, or as provisions underlining the relationship between trade commitments and commitments under a multilateral environment agreements, etc.⁷⁴ It is pertinent to note that while some FTAs make a specific reference to renewable energy, others tend to focus on renewable energy through provisions relating to trade and environment.⁷⁵ The following sub-parts trace the developments with respect to how FTAs have historically dealt with the issue of renewable energy.

A. AMERICAN FREE TRADE AGREEMENTS

The early US FTAs did not make any specific reference to renewable energy. Barring certain FTAs, the indication of renewable energy is only evident from environment-related obligations or a standalone chapter on the environment (also

⁷² See, e.g., *Women and Trade: The Role of Trade in Promoting Women's Equality*, WORLD BANK (July 30, 2020), <https://www.worldbank.org/en/topic/trade/publication/women-and-trade-the-role-of-trade-in-promoting-womens-equality>; Marion Jansen & José Manuel Salazar-Xirinachs, *Trade and jobs: what role for multilateralism?*, WORLD TRADE ORGANIZATION, https://www.wto.org/english/forums_e/public_forum12_e/art_pf12_e/art6.htm.

⁷³ See generally Masahiro Kawai & Ganeshan Wignaraja, *Asian FTAs: Trends and Challenges* (Asian Dev. Bank Working Paper No. 144, 2009); Ron Sandrey, *Trade Negotiations for a Free Trade Agreement: a Guide To General Principles And Requirements* (Trade L. Ctr., Working Paper No. S13WP05/2013, 2013).

⁷⁴ *Cima*, *supra* note 31.

⁷⁵ See, e.g., Christopher Dent, *Trade, Climate and Energy: A New Study on Climate Action through Free Trade Agreements*, 14(14) ENERGIES 4363 (2021); Markus Gehring et al., *Climate Change and Sustainable Energy Measures in Regional Trade Agreements (RTAs)*, INTERNATIONAL CENTRE FOR CLIMATE CHANGE, TRADE & SUSTAINABLE ENERGY (2013), <https://www.files.ethz.ch/isn/168816/climate-change-and-sustainable-energy-measures-in-regional-trade-agreements-rtas.pdf>; Markus W. Gehring & Emily Morison, *Climate and Energy Provisions in Trade Agreements with Relevance to the Commonwealth*, 9-11(Int'l Trade Working Paper 2020/11, 2020).

called Trade and Sustainable Development).⁷⁶ For instance, the preamble in the Jordan-US FTA recognises the need to preserve the environment, whereas the Australia-US FTA requires the parties to implement the commitments under the FTA with the objective of sustainability.⁷⁷ In contrast to the Jordan-US FTA, which contains a specific provision on the environment (Article 5),⁷⁸ the Australia-US FTA contains a standalone chapter on the environment that seeks to prevent the parties from encouraging trade at the cost of the environment.⁷⁹ Similarly, recognising the role of the multilateral trading system towards achieving sustainability,⁸⁰ the Singapore-US FTA contains a standalone chapter on the environment.⁸¹ This chapter obliges the FTA parties to enforce environmental laws through a sustained or recurring course of action.⁸²

The Chile-US FTA is unique as it specifically stresses on encouraging the use of cleaner fuels.⁸³ However, it appears that Article 19.3(1)(h) of this FTA does not refer to renewable energy, but emphasises improving the environmental quality of fuels such as diesel fuels and gasoline.⁸⁴ The Dominican Republic-Central America FTA (CAFTA-DR FTA) and the Panama-US Trade Promotion Agreement (Panama-US TPA) make an indirect reference to renewable energy through a novel provision on cooperation focusing *inter alia* on technology transfer to “promote the use, proper operation, and maintenance of clean production technologies”.⁸⁵ On the other hand, a mega-trade agreement – the United States-Mexico-Canada Agreement (USMCA) does not have any provision on renewable energy.

⁷⁶ Trade Promotion Agreement, U.S.-Colom., May 15, 2012, 125 STAT. 462; Free Trade Agreement, U.S.-S.Kor., June 30, 2007, 125 STAT. 428.

⁷⁷ Agreement to Establish Free Trade Area preamble, Jordan-U.S., Dec. 17, 2001, 115 STAT. 243 [hereinafter Jordan-US FTA 2001]; Free Trade Agreement, Austl.-U.S., May 18, 2005, 118 STAT. 919 [hereinafter, Australia-US FTA 2005].

⁷⁸ Jordan-US FTA 2001, *supra* note 77, art. 5.

⁷⁹ US-Jordan FTA 2001, *supra* note 77, art. 5.1; US-Australia FTA 2005, *supra* note 77, art. 19.2.2.

⁸⁰ Free Trade Agreement, U.S.-Sing. 2004, Preamble [hereinafter US-Singapore FTA 2004].

⁸¹ *See generally* US-Singapore FTA 2004, ch 18.

⁸² *Id.* art. 18.2.

⁸³ *Id.* art. 19.3(1)(h).

⁸⁴ *Id.* art. 9.3(1)(h); (increasing the use of cleaner fuels - the Parties will work to improve the environmental quality of fuels, especially diesel fuel and gasoline, used in their territories by providing joint training and technical assistance on a variety of fuels-related environmental issues. The Parties will publicize the benefits of this work).

⁸⁵ Democratic Republic-Central America-United States Free Trade Agreement, Aug. 5, 2004, annex 17.9(3)(g), 119 STAT. 462.

It is observed that out of the 20 FTAs entered into by the US, the general trend is that American FTAs do not contain any specific provision on energy, except the Chile-US FTA. The only indication of renewable energy appears in a surrogate manner, through environment-related provisions in the FTAs. The energy-related provisions in American FTAs do not add to or diminish the rights and obligations under the WTO Agreement.

B. AUSTRALIAN FREE TRADE AGREEMENTS

Similar to the US, initial Australian FTAs did not make any explicit reference to renewable energy-related issues, instead it can be inferred from the recognition of parties' policy space to regulate the environment.⁸⁶ The Cooperation chapter of the Australia-Chile FTA mentions environment as one of the areas of cooperation.⁸⁷ The Australia-Malaysia FTA appears to be the first Australian FTA that focuses on energy with the provision of clean coal technology as one of the areas of cooperation.⁸⁸

The Environment chapter of the Australia-Korea FTA makes a direct reference to renewable energy in terms of a best-endeavour obligation to facilitate trade and investment in environmental goods and services, including environmental technologies, sustainable renewable energy, and energy-efficient goods and services.⁸⁹ The Cooperation chapter of the Australia-Korea FTA contains a specific part on Cooperation in Energy and Mineral Resources.⁹⁰ Article 16.14 provides for cooperation in matters of energy (in the context of climate change) through (i) joint research activities; (ii) exchanging views of relevant policies; (iii) academic and scientific exchanges; and (iv) visits.⁹¹ It also contains a soft obligation for parties to encourage investment related to renewable energy,⁹² and share information on renewable energy.⁹³ A major development on energy-related matters in Australian FTAs is the Australia-Japan Economic Partnership Agreement (EPA) which contains a standalone chapter on 'Energy and Mineral Resources' that contains obligations like stable supply of energy and mineral resources, export restrictions, export licensing procedures and administrations,

⁸⁶ Free Trade Agreement, Sing.-Austl., Jul. 28, 2003, preamble, 2257 U.N.T.S. 40221.

⁸⁷ Free Trade Agreement, Austl.-Chile, Mar. 6, 2009, art. 18.2, 2439 U.N.T.S. 43928.

⁸⁸ Free Trade Agreement, Malay.-Austl., May 22, 2012 art. 16.2(1), 2007 U.N.T.S. 34451.

⁸⁹ Free Trade Agreement Austl.-S.Kor., May 2, 1 art 18.4, [2014] ATS 43.

⁹⁰ *Id.* ch 16(B).

⁹¹ *Id.* art. 16.14.

⁹² *Id.* art. 16.15.

⁹³ *Id.* art. 16.16.

energy and mineral resource regulatory measures, and cooperation,⁹⁴ to strengthen stability and the mutually beneficial relationship in the energy and mineral resources sector.⁹⁵ However, the Japan-Australia EPA remains silent on the aspect of renewable energy. The Peru-Australia FTA focuses on increase in trade related to resources and energy (without explicitly stating renewable energy) as a key outcome.⁹⁶ Despite a standalone chapter on the environment, the Peru-Australia FTA does not categorically deal with renewable energy like the Australia-Korea FTA.⁹⁷

In contrast to American FTAs, Australian FTAs refer to renewable energy in an explicit manner. Further, the Australia-Korea FTA contains a detailed cooperation mechanism, with a dedicated section in the Cooperation chapter on energy-related matters. However, the emphasis on renewable energy in Australian FTAs is undermined by the Australia-Japan EPA that does not mention renewable energy despite containing a standalone chapter on energy. When it comes to substantive obligations, the Australia-Japan EPA adds on to the WTO rights and obligations through (i) Export Restriction provision under Article 8.5, which clarifies the scope of GATT Article XI:2(a) or Article XX(g) for the matters concerning the export of energy and mineral resources; and (ii) Export Licensing Procedures and Administrations under Article 8.5 which deals with the procedural aspect of export licensing, unlike the WTO law which is limited to provisions related to import licensing via the WTO Agreement on Import Licensing Procedures.

C. AFRICAN FREE TRADE AGREEMENTS

The EU-Tunisia Association Agreement and the EU-Morocco Association Agreement (2000) contain a provision requiring the parties to cooperate in matters of renewable energy.⁹⁸ Similarly, The EU-South Africa Trade, Development and Cooperation Agreement (EU-South Africa TDCA) also contains a provision for cooperation to improve South Africa's access to affordable, reliable, and

⁹⁴ See generally *id.* ch 8.

⁹⁵ Economic Partnership Agreement, Austl.-Japan, Jan. 15, 2015, art. 8.1, 3134 U.N.T.S. 53784.

⁹⁶ Free Trade Agreement, Austl.-Peru, Feb. 12, 2018, art. 20.2, [2020] ATS 6.

⁹⁷ See generally *Id.* ch 19.

⁹⁸ Draft Deep and Comprehensive Free Trade Agreement, E.U.-Tunis., Oct. 13, 2015 (negotiations ongoing) [hereinafter Draft Agreement, EU-Tunis]; Association Agreement, E.U.-Morocco, Feb. 26, 1996, 2000 OJ L. 70/00; see also Association Agreement, E.U.-Egypt, Jun. 25, 2001, art. 53, [2004] OJ L304; Association Agreement, E.U.-Alg., Apr. 22, 2002, art. 61, [2005] OJ L265 [hereinafter EU-Algeria AA 2006].

sustainable sources of energy.⁹⁹ Article 57 of this Agreement provides that the cooperation shall aim at *inter alia* developing new and renewable forms of energy; and promoting the transfer and use of environment-friendly technologies.¹⁰⁰

While the renewable energy issues in African FTAs are addressed in a manner similar to other FTAs, the EU-South Africa TDCA stands as an interesting outlier, containing a unique provision on cooperation, focusing on improving South Africa's access to renewable energy. Overall, African FTAs neither add to nor diminish the WTO's rights and obligations to relate trade in renewable energy.

D. ASIAN FREE TRADE AGREEMENTS

The India-Japan Comprehensive Economic Partnership Agreement (CEPA) contains energy as one of the areas of cooperation, without an explicit reference to renewable energy.¹⁰¹ The energy-specific provision in the India-Korea CEPA contains a provision for cooperation in the field of energy conservation and the development of alternative fuels.¹⁰² Additionally, Article 13.13 of the India-Korea CEPA contains a provision on cooperation in renewable energy resources through “(a) exchange of policy and technical information; (b) exchange of personnel including scientists, policymakers, and other experts; (c) organisation of joint seminars, workshops, etc; (d) promoting joint research and development projects; and (e) facilitating investments and joint ventures”.¹⁰³

In East Asia, the Japan-Brunei Darussalam EPA contains a standalone chapter on energy.¹⁰⁴ The provision on environmental aspects under Article 93 of this EPA requires the parties to minimise the harmful impact of energy-related activities on the environment.¹⁰⁵ It can be achieved through *inter alia* (i) taking environmental considerations into account while formulating energy policies; and (ii) technology

⁹⁹ Agreement on Trade, Development and Cooperation, E.U.-S.Afr., Mar. 1, 2016, art. 57, [2016] OJ L 311.

¹⁰⁰ *Id.* art. 57(2); *see also* EU-Algeria AA 2006, *supra* note 98, art. 61 (on promotion of technology transfer).

¹⁰¹ Comprehensive Economic Partnership Agreement, India-Japan, Aug. 1, 2011, art. 129, 2862 U.N.T.S. 50016.

¹⁰² Comprehensive Economic Partnership Agreement, India-S.Kor., Aug. 7, 2009, art. 13.2, 2161 U.N.T.S. 447.

¹⁰³ *Id.* art. 13.13.

¹⁰⁴ Economic Partnership Agreement, Japan-Brunei Darussalam, June 18, 2007, ch 7, 2781 U.N.T.S. 48936.

¹⁰⁵ *Id.* art. 93.

transfer for the protection of the environment.¹⁰⁶ Though the chapter on energy does not contain a specific provision on renewable energy, the above-mentioned provision alludes to it.

The Guatemala-Chinese Taipei FTA and the El Salvador-Honduras-Chinese Taipei FTA contain energy-specific provisions under cooperation. In the context of renewable energy, it requires the parties to cooperate in the matters of renewable and alternative energy to protect the environment.¹⁰⁷ Article 9 of the Japan-Switzerland EPA which deals with the promotion of trade in environmental products and environment-related services requires the parties to encourage trade and dissemination of environmental projects and services to promote *inter alia* renewable energy.¹⁰⁸ The chapter on Trade and Sustainable Development in the EU-Korea FTA and the EU-Hong Kong FTA mandates the parties to strive to facilitate trade and investment in renewable energy.¹⁰⁹ It may be noted that South Korea and Western Australia recently signed a Letter of Intent to promote economic collaboration in the new energy sector, and the development of emerging industries including renewable hydrogen, among other things.¹¹⁰

The Cooperation chapter of the Peru-Korea FTA addresses energy matters.¹¹¹ Interestingly, the cooperation provision for small and medium enterprises also seeks to promote renewable energy and encourages public and private institutions related to small and medium-sized enterprises to cooperate in aspects such as renewable energy.¹¹² The Singapore-GCC FTA and the Chile-Vietnam FTA also contain provisions on cooperation in energy-related matters without specific reference to renewable energy.¹¹³ Under the provision concerning cooperation for

¹⁰⁶ *Id.* art. 93(2).

¹⁰⁷ Free Trade Agreement, Taiwan-Guat., Sept. 22, 2005, art. 20.13, WT/REG297/N/1; Free Trade Agreement, Taiwan-El Sal.-Hond., May 7, 2007, art. 17.09, WT/TPR/S/348.

¹⁰⁸ Economic Partnership Agreement, Japan-Switz., Feb. 19, 2009, art. 9, available at the Ministry of Foreign Affairs of Japan, <https://www.mofa.go.jp/policy/economy/fta/switzerland.html>.

¹⁰⁹ Free Trade Agreement, E.U.-S.Kor., Oct. 6, 2010, art. 13.6, OJ L 127/6; *see also* Free Trade Agreement, EFTA-Hong Kong, June 21, 2011, art. 8.6, 78 U.K.T.S. 2000.

¹¹⁰ *Historic Letter of Intent signed between the WA Government and the Republic of Korea*, W. AUSTRAL. GOV'T (Feb. 1, 2023), <https://www.mediastatements.wa.gov.au/Pages/McGowan/2023/02/Historic-Letter-of-Intent-signed-between-the-WA-Government-and-the-Republic-of-Korea.aspx>.

¹¹¹ Peru-Korea Free Trade Agreement, Peru-S.Kor., Nov. 14, 2010, art. 20.8, 3213 U.N.T.S. 54798 [hereinafter Peru-Korea FTA 2010].

¹¹² *Id.* art. 20.4(f).

¹¹³ Gulf Cooperation Council-Singapore Free Trade Agreement (GSFTA), art. 8.1(2), MINISTRY OF ECON., UAE (Dec. 15, 2008), <https://www.moec.gov.ae>; Free Trade

energy in the Malaysia-Tukey FTA, the parties agree to promote the use of alternative sources of energy.¹¹⁴ The provision on sustainable economic development under the Trade and Sustainable Development chapter of the EFTA-Indonesia FTA requires the Parties to strive to facilitate and promote trade and investment in sustainable renewable energy.¹¹⁵

While the Asian FTAs add a new perspective to this debate through provisions, for instance, by focusing on small and medium enterprises, they do not add to or diminish WTO rights and obligations.

E. EUROPEAN FREE TRADE AGREEMENTS

In contrast to other FTAs, it appears that European FTAs have focused on renewable energy-related issues since the 1990s. For instance, Article 48 of the EU-Palestine Association Agreement seeks to promote cooperation in energy in order to further the development of the West Bank and the Gaza Strip.¹¹⁶ Towards the end of renewable energy, Article 48 prioritises cooperation in the promotion of renewable energy.¹¹⁷

The EU-Ukraine Association Agreement requires the Parties to strive to facilitate trade and investment in renewable energy,¹¹⁸ and mutually cooperate for the development and support of renewable energy.¹¹⁹ The EU-Tunisia Association Agreement and the EU-Jordan Association Agreement contain a provision on energy that provides for cooperation *inter alia* on renewable energy.¹²⁰ It is

Agreement, Chile-Viet., Nov. 11, 2011, art. 9.3, Decree No. 112/2022/ND-CP; *See also* Economic Partnership Agreement, Japan-Mongolia, June 7, 2016, art. 15.1, 3192 U.N.T.S. 54545.

¹¹⁴ Free Trade Agreement, Malay-Turk, May 31, 2010, art. 9.14, MALAY FREE TRADE AGREEMENTS <https://fta.miti.gov.my/index.php/pages/view/malaysia-turkey?mid=48#:~:text=The%20First%20meeting%20of%20the,later%20was%20signed%20by%20YB.>

¹¹⁵ Comprehensive Economic Partnership Agreement, Indon-EFTA, Nov. 1, 2021, art. 8.4, E.U.T.S. No. 108.

¹¹⁶ Interim Association Agreement, E.U.-Palestine Liberation Organization, Jul. 16, 1997, art. 48, OJ L 187/40 [hereinafter EU-Palestine AA 1997].

¹¹⁷ *Id.* art. 48.

¹¹⁸ Association Agreement, E.U.-Ukr, May 29, 2014, art. 293, OJ L 289/2014 [hereinafter EU-Ukraine FTA 2014].

¹¹⁹ *Id.* art. 338(j).

¹²⁰ Draft Agreement, EU-Tunis, *supra* note 98, art. 57; *see also* Association Agreement, E.U.-Isr, Apr. 19, 2000, art. 51, OJ L 147/2000; *see also* Association Agreement, E.U.-Jordan,

important to note that the EU's Association Agreement with Moldova and Georgia also contains a standalone chapter on energy.¹²¹ The EU-Moldova Association Agreement's standalone chapter only focuses on cooperation. In contrast, Article 216(1) of the Energy chapter in the EU-Georgia Association Agreement requires the Parties to ensure that energy markets are operated with a view of achieving competitive, secure, and environmentally sustainable conditions, without discriminating between enterprises regarding their rights or obligations. However, Article 216(2) contains a non-obstante clause that allows the party to "impose on enterprises, in the general economic interest, obligations which may relate to... environmental protection, including energy efficiency, energy from renewable sources and climate protection. Such obligations shall be clearly defined, transparent, proportionate and verifiable."¹²²

While the EU-Mexico FTA does not contain any provision on renewable energy, the recent agreement between the EU and Mexico contains a standalone chapter on Energy and Raw Materials with a unique cooperation provision between regulators and/or standardisation bodies in the area of sustainable energy.¹²³ Similarly, the earlier EU-Chile Association Agreement addressed renewable energy through the provision on cooperation.¹²⁴ However, the EU-Chile Interim Agreement contains a standalone chapter on energy with a provision concerning the application of the Technical Barriers to Trade chapter to eliminate unnecessary technical barriers to trade in renewable energy.¹²⁵ Article 14 of the proposed chapter on Energy and Raw Materials of the EU-Chile Interim Agreement mandates the parties to promote research and development in areas of renewable

Nov. 24, 1997, art. 74, OJ L 129/2002; Association Agreement, E.U.-Leb, June 17, 2002, art. 53, 54, OJ L 143/2006.

¹²¹ Association Agreement, E.U.-Mold, Aug. 30, 2014, ch 14, OJ L 260/2014; Association Agreement, E.U.-Georg, Aug. 8, 2014, art. 11, OJ 261/2014 [hereinafter EU-Georgia FTA 2014].

¹²² *Id.* art. 216(2).

¹²³ The New European Union-Mexico Agreement in Principle, Aug. 21, 2018, art. 10 and ch 7 on *Energy and Raw Material*, ORG. OF AMERICAN STATES, (Dec. 23, 2019) https://www.sice.oas.org/TPD/MEX_EU/Modernization_process/Energy_Raw_Mat_proposed_text_e.pdf.

¹²⁴ Association Agreement, E.U.-Chile, Dec. 30, 2002, art. 22, OJ L 352/2002. *See also* Trade Agreement, E.U.-Colomb-Peru, Nov. 16, 2022, OJ L 354/2012.

¹²⁵ *Interim Trade Agreement between the European Union and the Republic of Chile art. 13*, INV. TREATY DATABASE, <https://edit.wti.org/document/show/659a47a7-d21a-4ff8-bc10-d8f9a06df322>.

energy.¹²⁶ The provision on cooperation contains a unique obligation to foster international programmes in the area of renewable energy.¹²⁷

Unlike other FTAs that contain a specific provision on cooperation on renewable energy, the EU-CARIFORUM EPA contains a specific provision on cooperation in the matters of eco-innovation and renewable energy. Article 138 of the EU-CARIFORUM EPA recognises the importance of fostering cooperation and innovation that benefits the environment, requiring the parties to facilitate support in the matters of renewable energy.¹²⁸ Further, Article 65 of the EU-Central America Association Agreement contains a unique provision on energy (including renewable energy) that also provides for cooperation in renewable energy. Article 65 provides for cooperation through technology transfer and know-how.¹²⁹ Such transfer of technology and technological know-how is advantageous for developing countries in order to develop infrastructure for renewable energy.

Article 13.6 under the Trade and Sustainable Development chapter of the EU-Korea FTA, requires the parties to facilitate trade and investment in renewable energy.¹³⁰ Similarly, the EU-Colombia, Ecuador and Peru FTA requires that parties “promote trade and investment measures that promote and facilitate access, dissemination and use of best available technologies for clean energy production and use, and for mitigation of and adaptation to climate change”.¹³¹

The current European FTAs under negotiations contain a proposal on Energy and Raw Materials which seeks to discipline trade and investment in the energy market including renewable as well as non-renewable energy.¹³² However, select European FTAs seek to do so only for renewable energy. For instance, the EU-Vietnam FTA contains a specific chapter on Non-Tariff Barriers to Trade and Investment in Renewable Energy Generation that applies to trade and investment in renewable

¹²⁶ *Id.* art. 14.

¹²⁷ *Id.* art. 15(b).

¹²⁸ Economic Partnership Agreement CARIFORUM-E.U., Nov. 17, 2017, art. 138, OJ L 289/2008.

¹²⁹ Association Agreement, E.U.-Cntr. America, Dec. 26, 2013, art. 65, OJ L 346/2012.

¹³⁰ Free Trade Agreement, E.U.-S.Kor, May 14, 2011, art. 13.6(2), OJ L 127/2011; *see also* Free Trade Agreement, EFTA-Cntr. America, June 24, 2013, art. 9.7, <https://www.efta.int/sites/default/files/media/Documents/legal-texts/free-trade-relations/central-america/EFTA-Central-America-free-trade-agreement.pdf>.

¹³¹ Protocol of Accession to the Trade Agreement between the European Union and its Member States, of the one part, and Colombia and Peru, of the other part, to take account of the accession of Ecuador, Dec. 26, 2016, art. 275(4), OJ L 356/2016.

¹³² *See generally* EU's FTAs under negotiation with India, MERCOSUR, and Mexico.

energy.¹³³ It also contains a non-obstacle clause pursuant to which if there is an overlap between the commitments under the Energy and Raw Materials chapter and commitments under other chapters of the FTA, the commitments under other chapters will prevail.¹³⁴ The provisions on the Principles under Article 7.4 of the EU-Vietnam FTA provide that the Parties shall (i) refrain from local content measures and requirement of partnership with local entries; (ii) ensure that authorisation, certification, and licensing procedures are objective, transparent, non-discriminatory, and non-arbitrary and (iii) ensure that the connection and access to electricity transmission grids are transparent and non-discriminatory.¹³⁵ It may be noted that the UK-Australia FTA, concluded after Brexit, addressed renewable energy through the provision on cooperation under the Environment chapter.¹³⁶

In contrast to other FTAs, the European FTAs contain wider provisions on cooperation, with certain FTAs having a standalone chapter on energy (with certain provisions on renewable energy). It is interesting to note that commitments on renewable energy pursuant to the Energy and Raw Material chapter in the European FTAs are subject to the dispute settlement mechanism under the FTA.¹³⁷ It is quite indicative of the fact that European FTAs seek to add to WTO rights and obligations through provisions like commitment to non-discrimination, local content requirements, dual pricing, etc.¹³⁸

F. MEGA-REGIONALS

The preamble of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP) incorporates renewable energy through the requirement to promote high levels of environmental protection and further the aim of sustainable development.¹³⁹ In the chapter on Environment, Article 20.15 of the CPTPP on the transition to a low emissions and resilient economy requires the parties to

¹³³ Free Trade Agreement, E.U.-Viet, June 12, 2020, art. 7.3, OJ L 186/2020.

¹³⁴ *Id.* art. 7.3(5).

¹³⁵ *Id.* art. 7.4.

¹³⁶ Free Trade Agreement, Austl.-U.K., Dec. 17, 2021, art. 22.5, [2023] ATS 3.

¹³⁷ Free Trade Agreement, E.U.-N.Z., July 9, 2023, art. 26.2, 2015 U.N.T.S. 14; *see also* Trade and Cooperation Agreement between the European Union and the European Atomic Energy Community, of the one part, and the United Kingdom of Great Britain and Northern Ireland, of the other part, Apr. 30, 2021, art. 735, OJ L 149/2021.

¹³⁸ *See generally* Victor Crochet & Weihuan Zhou, *Critical insecurities? The European Union's strategy for a Stable Supply of Minerals*, 27(1) J. INT'L ECON. L., 147–165 (2024).

¹³⁹ Comprehensive and Progressive Agreement for Trans-Pacific Partnership, Dec. 30, 2018, preamble, 3337 U.N.T.S. 56101.

cooperate in the matters of renewable energy.¹⁴⁰ Unlike CPTPP, the United States-Mexico-Canada Agreement and the Regional Comprehensive Economic Partnership do not contain provisions on renewable energy even in the form of cooperation. The draft Energy and Raw Material chapter under the Transatlantic Trade and Investment Partnership (TTIP) between the US and EU contained various provisions on renewable energy. For instance, the provision on cooperation provides for cooperation between the regulators and/or standardisation bodies of the parties to promote renewable energy through (i) convergence or harmonisation of standards on renewable energy; (ii) development of common standards on energy efficiency; and (iii) promotion of standards for renewable energy equipment.¹⁴¹ Interestingly, the provision on cooperation under TTIP also requires the Parties to “coordinate their positions in international fora where trade and investment issues related to energy and raw materials are discussed and foster international programmes in the areas of energy-efficient, sustainable renewable energy and raw materials.”¹⁴² Article 24.9 of the Trade and Environment chapter under the EU-Canada CETA requires the parties to facilitate the removal of obstacles to trade and investment in renewable energy.¹⁴³ Further, Article 24.12 of the EU-Canada CETA reflects on renewable energy through cooperation.¹⁴⁴

IV. CONCLUSION

Climate change has been recognised as the most pressing crisis facing humankind, with everyone, from a democrat to a dictator reiterating the need to avert a climate crisis, accompanied by boilerplate platitudes on promoting sustainable development, reducing dependency on fossil fuels, diversifying the energy mix and increasing the production of energy through renewable resources. Nearly every instrument of international law pays homage to sustainable development, which includes tackling the climate crisis. The WTO and its covered agreements are unique, in the sense that they contain effective enforcement mechanisms for the obligations they enlist. They thus provide both a litmus test and a reality check on actual state attitudes in combating climate change, through state action in the matter of renewable energy.

¹⁴⁰ *Id.* art. 20.15.

¹⁴¹ The Transatlantic Trade and Investment Partnership, E.U.-U.S., Office U.S. Trade Rep., art. 7 (2013), <https://ustr.gov/ttip>.

¹⁴² *Id.* art. 9(b).

¹⁴³ Comprehensive Economic and Trade Agreement, Can-E.U., Jan. 14, 2017, art. 24.9, OJ L 11/2017.

¹⁴⁴ *Id.* art. 24.12.

The WTO, which was established to promote a rules-based international trading order, has achieved remarkable success in liberalising trade, with trade being freer, tariffs lowered substantially, and non-tariff barriers eliminated progressively. This success may be attributed to multiple factors, including the product-agnostic nature of WTO rules, the prohibition of trade-distorting subsidies, and the presence of an effective and credible dispute settlement mechanism (which presently is facing a crisis of its own, with the Appellate Body being rendered dysfunctional). It is ironic that these very factors have become a canker for the renewable energy sector.

The principle of constitutional law that equal treatment of unequally placed persons perpetuates inequality is emphatically applicable to the renewable energy sector. Under WTO law and practice, the principle of non-discrimination has been applied in a sterile fashion, treating all energy on an equal footing, irrespective of the means of production. Similarly, the rules governing subsidies have also been applied in a formalistic manner, defeating well-intentioned policies to promote the use of renewable energy. By not accounting for (i) historic patronage enjoyed by fossil fuels, (ii) large subsidies that have been doled out to them for decades, (iii) high degree of investment required for R&D purposes in renewables and (iv) how subsidies on renewables do not confer advantage but rather enable renewables to even compete against fossil fuels, significant roadblocks have been created, stymying the growth of the sector.

The stagnation of multilateralism has caused a spurt in bilateralism and regionalism. FTAs hold some promise in promoting the use of renewable energy. This may be because states may have greater leeway in their bilateral positions as opposed to their positions in multilateral forums where political considerations weigh heavier. The FTAs that we studied show that the renewables are not always treated with the attention they deserve. Here again, they may be lumped together under the umbrella term ‘energy’, or maybe circuitously referred to in provisions contained in chapters relating to the Environment and Sustainable Development. They also tend to encourage cooperation on the regulatory level rather than cooperation to increase production through renewables. There is also a tendency of the global north countries to impose more explicit obligations pertaining to renewables in their FTAs with global south countries. FTAs also appear to have shirked away from addressing the problems faced by renewables in any substantive manner. We could not find any meaningful attempt to resolve the outstanding issues which were highlighted at the WTO level in these FTAs, thereby maintaining the status quo. For instance, as highlighted in Part III, the EU’s FTAs specifically reference local content requirements and prevent contracting parties from imposing them. It is for this reason, that we posit that there is no baton to pass on.

One suggestion would be that members of the WTO negotiate a separate agreement solely governing energy produced through renewable means, taking into account the special characteristics of the sector and its role in fighting climate change, in a manner to WTO Agreement on Fisheries Subsidies, adopted at the 12th Ministerial Conference (MC12). Alternatively, members could agree on a peace clause for the renewable energy sector under the WTO Agreements (particularly GATT, SCM, and TRIMs), on the lines of Article 13 of the Agreement on Agriculture.

In conclusion, it is imperative that multilateral institutions such as the WTO address issues concerning renewables comprehensively. Given that climate change is a globally pressing issue, the solution must also be global. While there must be equal participation of countries in combating climate change, there must also be equity in affixing accountability for the same. Renewable sources of energy, if encouraged with the right policies and supported by clear rules of international trade law, will go a long way in ensuring sustainable growth and development.