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Oil, Gas & Energy Law Intelligence

WTO Law on Subsidies and Local Content Rules in the Renewable Energy Sector by V. Roeben

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WTO Law on Subsidies and Local Content Rules in the Offshore Renewable Energy Sector

Volker Roeben¹

Abstract

The WTO legal framework on subsidies and local content requirements applies to renewable energy projects executed by Member States globally. This article analyses the constraints that WTO law places on the support Member States can provide through local content requirements in subsidy regimes used for renewable energy projects. Considering the growth of offshore renewable energy globally and the widespread use of local content requirements, it is crucial to determine whether the WTO rules will affect offshore renewable energy growth globally.

The article analyses disputes involving various forms of renewable energy between Member States. Only one dispute analysed, the recently resolved dispute between the UK and the EU, directly relates to offshore renewable energy. Through analysis of disputes involving other types of renewable energy, an inference may be made regarding the application of the WTO legal regime to offshore renewable energy developments.

Introduction

Renewable energy provides energy security for states and reduces global carbon emissions. The need to transition to renewable energy to meet environmental obligations has even been accepted by the International Energy Agency (IEA), which was established to support cooperation of fossil fuel consuming nations.² Renewable energy is the cheapest form of energy currently according to the International Renewable Energy Agency (IRENA), its use should be encouraged from both the environmental and the economic perspective.³

Wind is the only offshore renewable energy source currently deployable on a commercial scale. Coupled with the vast untapped potential available offshore it could be utilised to decrease reliance on fossil fuels, even though only some potential sites can be developed.⁴ Offshore wind energy has great potential with states enhancing their capacity rapidly, currently China has the largest installed offshore wind capacity, followed by the UK, with continued development of the same.⁵ The benefits of offshore wind energy are also economic as excess

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² Volker Roeben, 'IEA report: world's leading energy adviser was founded to protect oil supplies – now it wants to ban new fossil fuels' (The Conversation, May 21, 2021).

³ IRENA, 'Renewable Power Generation Costs in 2021' (July 2022) (<https://www.irena.org/news/pressreleases/2022/Jul/Renewable-Power-Remains-Cost-Competitive-amid-Fossil-Fuel-Crisis>)

⁴ Alex Benjamin Wilson, 'Offshore wind energy in Europe' (2020) European Parliament ([https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/659313/EPRS_BRI\(2020\)659313_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/659313/EPRS_BRI(2020)659313_EN.pdf))

⁵ Andy Bounds and Jim Pickard, 'EU confronts UK on wind turbines in first WTO dispute since Brexit', *Financial Times* (London, 28 March 2022)

energy produced can be exported.⁶ For instance, the UK exports electricity generated from offshore wind as it is a large producer.⁷ The growth of offshore wind energy will be expanded upon later in this article.

This growth is supported by states financially. A key element of that support are local content requirements (LCR), which demand a certain amount of goods or services to be sourced from the market of the State that controls the resource.⁸ LCRs are varied and may include employment of nationals, procurement of goods and services from companies resident in the host country, partnerships with local entities, development of endogenous technology and infrastructure, and the improvement of the skills and capacity of local businesses and the domestic workforce.⁹

The article aims to determine whether LCRs in offshore wind energy subsidy schemes are compatible with or contravene the WTO legal regime. LCRs have been a feature of national regimes in states endowed in fossil fuel resources as shall be elaborated upon below. However, disputes have arisen between Member States of the WTO as to the use of LCRs in subsidy regimes for renewable energy developments globally. Perhaps surprisingly, only the renewable energy industry has been the subject of subsidy disputes whereas the fossil fuel industry has not.¹⁰ Scholars have analysed these disputes in general terms, while this article analyses the current WTO legal regime and its applicability to offshore renewable energy and LCRs specifically.

The article examines the WTO disciplines on subsidies, the General Agreement on Tariffs and Trade (GATT), the Agreement on Subsidies and Countervailing Measures Agreement (ASCSM) and the General Agreement on Trade in Services (GATS) to determine if LCRs in offshore wind energy developments are permitted. The article illustrates that the local content requirements for subsidies to be deployed has caused disputes between WTO Member States, not the imposition of the subsidies in general. The article argues that the WTO legal regime as it stands embodies an economic stance without acknowledging other rationales such as energy security, climate change mitigation and local economic benefits that can be met if subsidies with LCRs are imposed by Member States to develop renewable energy projects.

Part I of this article provides background, outlining the development of offshore renewable energy thus far. Part II sketches the use of subsidies and LCRs in promoting renewable energy globally. The legal analysis follows. Part III discusses the relevant the WTO disciplines and Part IV then analyses the disputes brought to the WTO Dispute Settlement Body regarding subsidies and LCRs in the renewable energy industry. Part V critiques the approach taken by the WTO panels and the Appellate Body in those disputes. Part VI discusses design options for

⁶ Leslie Hook, Nathalie Thomas and the Visual Storytelling Team, 'Can Europe keep the lights on?', *Financial Times* (London, 29 November 2022)

⁷ Id.

⁸ Megan Hogan, 'Local content requirements threaten renewable energy uptake', (2021) *Peterson Institute for International Economics* (<https://www.piie.com/blogs/trade-and-investment-policy-watch/local-content-requirements-threaten-renewable-energy-uptake>)

⁹ Damilola S. Olawuyi, 'Local content and procurement requirements in oil and gas contracts: Regional trends in the Middle East and North Africa', (2017) *Oxford Institute for Energy Studies*.

¹⁰ Zvenyslava Opeida, "Climate Change and Energy Subsidies: Is There a Role for the WTO?" (<https://www.linklaters.com/en/insights/blogs/tradelinks/climate-change-and-energy-subsidies-is-there-a-role-for-the-wto>)

States wishing to deploy LCRs and then proposes differentiated interpretive and law-making possibilities on the WTO level to prevent future disputes.

Part I- Background on Offshore Renewable Energy growth

The first offshore wind farm was installed in Denmark in 1991 with a capacity of 5MW.¹¹ The next decade witnessed a relatively slow pace of growth as offshore installations were mainly technological experiments to determine the commercial viability of offshore wind farms.¹² In 2001 a small offshore wind farm was installed off the coast of England with a capacity of 4 MW.¹³ The continued pace of technological innovations led to improvements and to more offshore wind farms being deployed globally, with major growth witnessed from 2009.¹⁴

Due to the large capital investment required, developers prefer larger offshore wind farms.¹⁵ Offshore wind accounted for only 1% of global wind energy output in 2009¹⁶, but by 2021 this was 7%.¹⁷ Renewable energy accounted for approximately 30% of the global energy supply in 2021.¹⁸ Offshore wind specifically provided 3.5% of global power generation in 2021.¹⁹ This was just over 50 GW largely attributable to newly installed capacity in China.²⁰ Offshore wind has been concentrated in Europe, however, Asian countries are now increasing their capacity with China leading this. In 2021 China installed 13,790 MW which was more capacity than the entire world installed in any single previous year.²¹ Other major installations globally in 2021 were in the UK at 1,855 MW, Vietnam 634MW, Denmark 605 MW, Netherlands 402 MW and Taiwan 109 MW.²² The total offshore wind capacity grew to 50,623 MW from 254 operating projects by the close of 2021.²³ At the close of 2021, Europe had the highest cumulative installed offshore wind capacity representing 55.1% (27,881 MW) of the global total, with Asia's market share at 44.8% (22,701 MW) and North America's budding market at 42 MW of installed capacity.²⁴

Many coastal States plan to expand their offshore wind capacity strongly over the coming decades. By 2030 Ireland aims to have installed 5 GW of offshore wind power, the Netherlands

¹¹ Peter Tavner, 'Offshore Wind Turbines: Reliability, Availability and Maintenance', (2012) London: *Institution of Engineering & Technology*)

¹² Ørsted, 'Power of green: Winds of change: celebrating 30 years of offshore wind energy' *The Guardian* (London, 9 March 2022) (<https://www.theguardian.com/power-of-green/2022/mar/09/30-years-of-offshore-wind-energy>)

¹³ Tavner (note 11).

¹⁴ Ørsted, 'Power of green: Winds of change: celebrating 30 years of offshore wind energy' *The Guardian* (London, 9 March 2022) (<https://www.theguardian.com/power-of-green/2022/mar/09/30-years-of-offshore-wind-energy>)

¹⁵ Tavner (note 11).

¹⁶ European Parliament, *Offshore wind energy in Europe*, (2020) ([https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/659313/EPRS_BRI\(2020\)659313_EN.pdf](https://www.europarl.europa.eu/RegData/etudes/BRIE/2020/659313/EPRS_BRI(2020)659313_EN.pdf))

¹⁷ IEA, *Wind Electricity* (2022) (<https://www.iea.org/reports/wind-electricity>)

¹⁸ IEA, *Global Energy Review 2021*, (2021) (<https://www.iea.org/reports/global-energy-review-2021/renewables>)

¹⁹ Ting Zhang and others, 'Global offshore wind turbine dataset', (2021) *Scientific Data* 8, 191 (<https://doi.org/10.1038/s41597-021-00982-z>)

²⁰ Walter Musial, 'Offshore Wind Market Report: 2022 Edition', (2022) *US Department of Energy* (<https://doi.org/10.2172/1883382>)

²¹ US Department of Energy, *Offshore Wind Market Report: 2022 Edition* (2022) (<https://www.energy.gov/sites/default/files/2022-09/offshore-wind-market-report-2022-v2.pdf>)

²² *Id.*

²³ *Id.*

²⁴ IEA, *Wind Electricity* (2022) (<https://www.iea.org/reports/wind-electricity>).

11 GW and Poland 3.8 GW.²⁵ The European Green Deal set out by the European Union is a strategy to reach net zero greenhouse gas emissions by 2050, this will include increased offshore wind installations.²⁶ To this end the EU has set a target of 60GW of installed offshore wind capacity by 2030 and 300 GW by 2050.²⁷ The UK government aims to deliver up to 50GW of offshore wind energy by 2030.²⁸ In Asia, Japan has a target of 45 GW by 2040, India has a target of 30GW by 2030 and the Republic of Korea has a target of 12 GW by 2030.²⁹ The USA has announced a target of 30GW of offshore wind energy by 2031.³⁰

Technological innovations have led to the use of floating offshore wind installations, other than the fixed-bottom offshore turbines that are currently widely used. Floating offshore wind installations are predicted to rise as areas of great wind resource can lie in areas with deep waters, which would not be feasible for the very high costs of fixed-bottom offshore wind facilities in deep waters.³¹ Technological innovations in energy storage are also contributing to the rise of offshore wind energy. For instance, in 2021 Denmark approved the construction of an artificial island in the North Sea with capacity of up to 10GW that will use on-site electrolyzers, to store electricity and produce green hydrogen.³² Using floating offshore wind installations is part of government plans to increase offshore wind in Italy, the UK, France and the Republic of Korea. Italy has identified over 17 GW of offshore wind potential, however as 70 % of this potential wind resource lies in deep waters it will require floating foundations.³³ In April 2021 a call for tenders for the first floating wind farm project in France was launched, it is expected to generate between 230 and 270 MW when operating at capacity.³⁴ The UK aims to instal 5GW of floating wind, with a 2GW floating offshore wind farm already planned off the north-east coast of Scotland.³⁵ ³⁶ The Republic of Korea has a target of 6 GW of floating wind starting in 2023.³⁷

These governmental plans and targets are underpinned by the changing economics of renewable energy generation. The levelized cost of electricity (LCOE) is the average cost of the lifetime of a power generating installation per MWh of electricity generated considering

²⁵ IRENA, *Offshore Renewables: An action agenda for deployment*, (2021) (https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2021/Jul/IRENA_G20_Offshore_renewables_2021.pdf).

²⁶ European Commission, *The European Green Deal*, COM(2019) 640.

²⁷ European Commission, *An EU Strategy to Harness the Potential of Offshore Renewable Energy for A Climate Neutral Future*, COM(2020) 741.

²⁸ UK Department for Business, Energy and Industrial Strategy, *British energy security strategy* (2022) (<https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>).

²⁹ IRENA, *Offshore Renewables: An action agenda for deployment*, (2021) (https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2021/Jul/IRENA_G20_Offshore_renewables_2021.pdf).

³⁰ IEA, *Wind Electricity* (2022), (<https://www.iea.org/reports/wind-electricity>).

³¹ E. I. Zountouridou and others, 'Offshore floating wind parks in the deep waters of Mediterranean Sea', (2015) 51 *Renewable and Sustainable Energy Review* 433 (<https://doi.org/10.1016/j.rser.2015.06.027>).

³² Florian Kuhn and others, 'How to succeed in the expanding global offshore wind market', (2022) *McKinsey and Company* (<https://www.mckinsey.com/industries/electric-power-and-natural-gas/our-insights/how-to-succeed-in-the-expanding-global-offshore-wind-market>).

³³ Kuhn (note 32).

³⁴ Eran Chvika, 'Offshore wind energy in France: the competitive dialogue procedure in a fast-growing industry' (2021) *Pinsent Masons* (<https://www.pinsentmasons.com/out-law/analysis/offshore-wind-energy-france-competitive-dialogue-procedure>)

³⁵ ChampionWind, *The project* (2022), (<https://championwind.co.uk>)

³⁶ UK Department for Business, Energy and Industrial Strategy, *British energy security strategy* (2022) (<https://www.gov.uk/government/publications/british-energy-security-strategy/british-energy-security-strategy>)

³⁷ IRENA, *Offshore Renewables: An action agenda for deployment*, (2021) (https://www.irena.org/-/media/Files/IRENA/Agency/Publication/2021/Jul/IRENA_G20_Offshore_renewables_2021.pdf)

the cost of building, operating and decommissioning a power generating installation.³⁸ This is the price which the power producer must receive in order to break even and is a useful tool to compare the price of installing different energy sources.³⁹ The LCOE for offshore wind is reducing significantly, from €150 per megawatt-hour (MWh) in 2015 to a projected less than €50 per MWh by around 2024.⁴⁰ This is noteworthy as the lower LCOE may lead to reduced government support, as the price of the electricity generated will offset the cost of production.

Part II- Subsidies and LCR use in the Renewable Energy Sector

Offshore renewable energy is growing globally, with large developments under construction in Europe, Asia and the USA. States have provided financial support for these developments, which often contain LCRs.

The cost of developing and maintaining an offshore wind farm is quite high, although the price of this has decreased with time as demonstrated by the decreasing LCOE illustrated in Part I. Additionally, developers face risks to capital-project development costs, as the cost calculations for a project are made months in advance of the auction, which tends to be several years before the project is commissioned within which period the price of raw materials used fluctuate.⁴¹ For instance, prices for steel, which makes up at least 70% of the total mass of an offshore wind turbine, were at an all-time high in 2021.⁴²

To overcome these obstacles and encourage investor confidence in offshore wind energy development, states that control the wind resources deploy subsidies in one form or another. This has been advanced by the UK government as the rationale for the use of Contract for Difference Schemes (CfDs) as it will increase developer confidence to invest in low carbon electricity generation by agreeing to a fixed price for the sale of electricity.⁴³ In China, a reduction in value added tax and in enterprise income tax has been used to encourage offshore wind farms.⁴⁴ In Germany, to encourage growth of offshore wind energy plants, they received higher level feed-in tariffs for the initial 12 years after installation compared to 5 years for onshore wind.⁴⁵

To qualify for subsidies, some states enact LCRs. The use of LCRs is widespread in the renewable energy industry globally, and the offshore wind industry specifically. This has led to the disputes discussed further in this article. A snapshot of the use of LCRs globally and resulting disputes provides this: In Taiwan, developers seeking to participate in offshore wind

³⁸ UK Department for Business, Energy and Industrial Strategy, *BEIS Electricity Generation Costs* (2020) (<https://www.gov.uk/government/publications/beis-electricity-generation-costs-2020>)

³⁹ Barry Johnston and others, 'Levelised cost of energy, A challenge for offshore wind', (2020) 160 *Renewable Energy* 876.

⁴⁰ Kuhn (note 32).

⁴¹ Id.

⁴² Id.

⁴³ UK Department for Business, Energy and Industrial Strategy, 'Evaluation of the Contracts for Difference scheme' (2021) (https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1076185/CfD_evaluation_phase_3_final_report.pdf).

⁴⁴ M. deCastro and others, 'Europe, China and the United States: Three different approaches to the development of offshore wind energy', (2019) 109 *Renewable and Sustainable Energy Reviews* 55 (<https://doi.org/10.1016/j.rser.2019.04.025>).

⁴⁵ Mario Ragwitz and Claus Huber, 'Feed-In Systems in Germany and Spain and a comparison', *Energy Economics Group* (https://www.bmuv.de/fileadmin/bmu-import/files/english/pdf/application/pdf/langfassung_einspeisesysteme_en.pdf)

auctions in 2022 must procure locally sourced items to gain points. Consequently, investors procuring larger percentages of the items locally will have more points and have a higher chance of success.⁴⁶ Developers seeking to be considered in the auction will need to show a local commitment of at least 60% of the 29 required development items. Bidders with a higher local content commitment will score higher and this could be the determining factor in the event of a stalemate caused by similar pricing.⁴⁷ This should be noted as Taiwan did not impose local content requirements for onshore wind but has imposed them in its development of offshore wind since 2017.⁴⁸ In Scotland, developers for offshore wind energy projects must outline local supply chain commitments as part of their application for an option agreement, with commitments then updated throughout the development.⁴⁹ This will be rectified in response to the dispute filed by the EU at the WTO against the UK that shall be outlined in Part IV. Scotland is set to be the site of the UK's largest floating offshore wind farm therefore the resolution of the dispute is necessary to ensure the developers are accorded subsidies by the government.

The USA recently introduced LCRs for companies seeking to benefit from tax credits and subsidies provided in the Inflation Reduction Act 2022.⁵⁰ Of particular importance to offshore wind is that the Inflation Reduction Act 2022 that offers additional tax credits to companies that manufacture wind turbines from locally sourced components.⁵¹ Offshore wind developers seeking to obtain tax subsidies must certify to the Treasury secretary that any steel, iron or manufactured product that is a component of a facility upon completion of construction was produced in the United States.⁵² On 25 October 2022, the US-EU Task Force on the Inflation Reduction Act (IRA) was launched. It aims to address specific concerns raised by the EU in hopes that rather than resorting to the WTO dispute resolution, the parties can negotiate and reach a solution.⁵³ The application of LCRs in the offshore wind energy sector in the USA may ultimately be altered during the consultations to ensure that the USA can accord subsidies in the offshore wind energy sector. The USA, as outlined earlier, plans to grow its offshore wind capacity to 30GW by 2031, from its current installed capacity of 42 MW⁵⁴ which means it needs to scale up rapidly.⁵⁵ This will require construction of large offshore wind farms, hence the concern of the EU that the Inflation Reduction Act will impede this great economic opportunity for goods sourced from the EU.

⁴⁶ Megan Hogan, 'Local content requirements threaten renewable energy uptake', (2021) *Peterson Institute for International Economics*

⁴⁷ Yi-Tai Tsai and Winnie Wang, 'Taiwan offshore wind policy update' (2021), *PWC Taiwan Renewable Energy Market Updates* (<https://www.pwc.tw/en/publications/taiwan-re-market-updates/assets/tw-offshore-wind-policy-update-202108.pdf>)

⁴⁸ Anton Ming-Zhi Gao, Chung-Huang Huang, Jui-Chu Lin, Wei-Nien Su, "Review of recent offshore wind power strategy in Taiwan: Onshore wind power comparison", (2021) 38 *Energy Strategy Reviews* 100747.

⁴⁹ Crown Estate Scotland, '17 ScotWind project agreements confirmed' (2022) (<https://www.crownestatescotland.com/news/17-Scotwind-project-agreements-confirmed>)

⁵⁰ Andy Bounds, 'EU accuses US of breaking WTO rules with green energy incentives', *Financial Times* (Brussels, 6 November 2022).

⁵¹ US Congress, 'Summary: H.R.5376 — 117th Congress (2021-2022)', (<https://www.congress.gov/bill/117th-congress/house-bill/5376>)

⁵² Amanda L. Rosenberg, Lauren A. Bachtel and Daniel T. Kiely, 'Offshore Wind and the US Inflation Reduction Act' (*Mayer Brown*, 19 August 2022 (<https://www.mayerbrown.com/en/perspectives-events/publications/2022/08/offshore-wind-and-the-us-inflation-reduction-act>))

⁵³ European Commission, 'Launch of the US-EU Task Force on the Inflation Reduction Act', (26 October 2022) (https://ec.europa.eu/commission/presscorner/detail/en/STATEMENT_22_6402)

⁵⁴ IEA, *Wind Electricity* (2022) (<https://www.iea.org/reports/wind-electricity>)

⁵⁵ *Id.*

Based on the foregoing, it is clear that the use of subsidies in the offshore renewable energy industry globally is widespread and that subsidies per se generally have not led to disputes between Member States, it is the use of LCRs specifically that has. LCRs enacted in Taiwan, the UK and the USA, all of which plan to greatly increase their offshore wind capacity, are of particular and current concern as to trade distortion in favour of domestic goods. The article now proceeds in two steps. It first identifies the applicable WTO disciplines then examines the interpretation of those disciplines in actual disputes.

Part III. Applicable WTO Disciplines

This Part discusses the WTO disciplines that potentially provide on LCRs. These are found in the GATT, the ASCM and the GATS. A consequence of non-compliance with the WTO disciplines is of course that other States may be resort to retaliatory trade measures, therefore Member States seek to avoid such non-compliance.⁵⁶ The Part concludes that the disciplines remain ambiguous where renewable energy projects are concerned.

1. General Agreement on Trade and Tariffs (GATT)

The GATT contains several provisions that potentially relate to subsidies and local content requirements. Article III:1 states “*The contracting parties recognize that internal taxes and other internal charges, and laws, regulations and requirements affecting the internal sale, offering for sale, purchase, transportation, distribution or use of products, and internal quantitative regulations requiring the mixture, processing or use of products in specified amounts or proportions, should not be applied to imported or domestic products so as to afford protection to domestic production.*” Ostensibly, this provision precludes the use of local content requirements that afford locally made products favourable treatment. It has been argued that the use of the words ‘recognize’ and ‘should not’ may be deemed to denote that Article III:1 is a general principle rather than a legally binding obligation.⁵⁷ Some scholars have argued that ‘so as to afford’ implies a subjective test that determines the purpose of the measure. However, WTO Panels have adopted an objective test that looks at the effect of the disputed measure.⁵⁸ LCRs in renewable subsidy schemes do have the effect of according domestic products more favourable treatment over imported goods, as they unfairly distort trade by compelling the purchase of domestic content over imported content.

Article III:4 states that “[t]he products of the territory of any contracting party imported into the territory of any other contracting party shall be accorded treatment no less favourable than that accorded to like products of national origin in respect of all laws, regulations and requirements affecting their internal sale, offering for sale, purchase, transportation, distribution or use...” Article III:4 directly relates to any practice that alters the terms of competition of domestic and imported goods, this includes LCRs as they confer an unfair advantage on a domestic product over an imported one.⁵⁹ “Like products” are determined based on common features such as consumer preferences, physical properties, and functions they

⁵⁶ Dirk De Bievre, Ilaria Espa & Arlo Poletti, *No Iceberg in Sight: On the Absence of WTO Disputes Challenging Fossil Fuel Subsidies* (2017) 17 *International Environment Agreements: Pol L & Econ* 411

⁵⁷ Rüdiger Wolfrum, Peter-Tobias Stoll, and Holger Hestermeyer (eds), *WTO - trade in goods* (Max Planck Commentaries on World Trade Law, Volume 5, 2010).

⁵⁸ *Id.*

⁵⁹ *Id.*

perform.⁶⁰ Locally made components perform the same function as imported components of offshore wind turbines, therefore they are like products for purposes of Article III:4.

Article III:5 provides that “[n]o contracting party shall establish or maintain any internal quantitative regulation relating to the mixture, processing or use of products in specified amounts or proportions which requires, directly or indirectly, that any specified amount or proportion of any product which is the subject of the regulation must be supplied from domestic sources. Moreover, no contracting party shall otherwise apply internal quantitative regulations in a manner contrary to the principles set forth in paragraph 1.” Under this provision, there must not be quantitative restrictions on the materials used to manufacture goods. Consequently, subsidies that include LCRs that restrict the proportion of imported materials that should be used to manufacture offshore wind power generating equipment are contrary to Article III: 5.

Article III:8a states an exception: “The provisions of this Article shall not apply to laws, regulations or requirements governing the procurement by governmental agencies of products purchased for governmental purposes and not with a view to commercial resale or with a view to use in the production of goods for commercial sale.” The exception provided in Article III:8a is very narrow as the government body must have purchased the goods due to a legally compelling instrument, and the purpose must be for a government purpose not a commercial purpose.⁶¹ Canada unsuccessfully attempted to utilize this exception in the *Canada - feed in tariffs* case described in Part IV.

Article XX provides for exceptional circumstances under which measures that are otherwise not permitted under the GATT may be implemented, provided they are not for arbitrary reasons or to implement unjustifiable discrimination to other countries. This includes measures ‘*necessary to protect human, animal or plant life or health*’, and measures that are essential to ‘*the acquisition or distribution of products in general or local short supply*’. Renewable energy may be seen as necessary to protect the environment as it does not release greenhouse gases, however this has not been held to be an adequate reason to permit the use of LCRs.⁶² In theory LCRs could be used to ensure adequate supply of components for generation of offshore wind energy power generation equipment however Member States usually utilise LCRs for protection of the domestic industry rather than to secure supply. In *India-solar cells*, India unsuccessfully attempted to use this Article XX exception.⁶³

In conclusion, the GATT prohibits LCRs where they are unfairly prejudicial to imported goods. Article III:1 prohibits the use of measures that afford protection to domestic goods. Article III:4 defines like products which is an important aspect to determine whether a domestic product and imported product should be compared for purposes of this legislation. Article III:4 outlines the effect of local content requirements, whereas Article III:5 directly outlines local content requirements.⁶⁴ Article III:4 and Article III:5 formed part of the provisions relied upon to institute the *Canada - feed-in tariff* dispute, that was eventually resolved by the WTO Appellate Body (AB) as discussed further in this article. The AB interpreted Article III as preventing LC

⁶⁰ Mukta Batra and Namit Bafna, ‘Renewable Energy: The WTO's Position On Local Content Requirements’, (2018) *Energy Law Journal* 39.

⁶¹ Id.

⁶² Mukta Batra and Namit Bafna, “Renewable Energy: The WTO's Position on Local Content Requirements”, (2018) 39 *Energy Law Journal* 401.

⁶³ Id.

⁶⁴ Id.

in renewable energy. This prohibition is based on an economic perspective to ensure fair competition of goods between Member States and to encourage international trade. Article III:8a and Article XX provide for exceptions that Member States may seek to use. However, LCRs in the renewable energy do not fall under the protection accorded under these exceptions as demonstrated in the cases outlined in Part IV.

2. *Agreement on Subsidies and Countervailing Measures Agreement (ASCM)*

The Agreement on Subsidies and Countervailing Measures Agreement (ASCM) is a separate yardstick for government support. Article 1 defines the three elements that must be satisfied for a subsidy to exist. These are: (i) a financial contribution (ii) by a government or any public body within the territory of a Member (iii) which confers a benefit.⁶⁵

Article 2 defines specificity, “*Where the granting authority, or the legislation pursuant to which the granting authority operates, explicitly limits access to a subsidy to certain enterprises, such subsidy shall be specific.*” Consequently, a government that states subsidies shall be given to developments that produce renewable energy solely will fall into the definition of specificity as enshrined under Article 2.

Article 3 defines subsidies that shall be prohibited, “*subsidies contingent, whether solely or as one of several other conditions, upon the use of domestic over imported goods.*” This directly relates to subsidies that include LCRs as they require recipients to use domestic products over imported goods. Subsidies in the offshore wind energy sector contravene this as development of projects offer preferential treatment to domestic goods and tariffs charged for energy produced thereafter. At this point an important distinction should be made, that is between prohibited subsidies and actionable subsidies. Actionable subsidies are proscribed as far as the adverse effects they cause whereas, prohibited subsidies are completely disallowed and must be fully withdrawn.⁶⁶ Subsidies that include LCRs must be fully withdrawn as they are prohibited subsidies under Article 3.

3. *General Agreement on Trade in Services (GATS)*

Article I outlines the scope of the GATS, this includes trade in services except those supplied in the exercise of governmental authority which should be not for a commercial purpose. The development and maintenance of offshore wind farms, which is the target of most subsidies in the offshore wind energy industry, as illustrated in Part II of this article, is not normally carried out by governmental authorities. Consequently, the subsidies can be assessed for whether they are in accordance with GATS as far as they apply to services. Article XXVIII defines supply of a service as the production, distribution, marketing, sale and delivery of a service. The maintenance and construction of an offshore wind farm is a service.

Article II provides that Member States should not accord less favourable treatment to services and services supplied by other Member States unless it meets the conditions set in the Annex of Article II exemptions. Article XXI authorizes Member States to modify market access or national treatment obligations, this however may require negotiation and compensation to any

⁶⁵ Agreement on Subsidies and Countervailing Measures (https://www.wto.org/english/tratop_e/scm_e/subs_e.htm)

⁶⁶ Jorge Miranda, ‘The Economics of Actionable Subsidy Disputes’, in Theresa Carpenter, Marion Jansen and Joost Pauwelyn (eds), *The Use of Economics in International Trade and Investment Disputes*, (Cambridge University Press, 2017).

affected trading partners. Article XVI GATS states that Member States should avoid subsidies that have the effect of distorting trade. Renewable energy subsidies focus on the provision of goods. However, services are a key element of renewable energy developments. With governments seeking to ensure employment in the renewable energy sector as part of the green transition, the inclusion of local employment requirements may be in contravention of GATS. Article XV foresees that Member States enter into negotiations with other Member States regarding subsidies that have a trade distortive effect to the provision of domestic services. This is less prohibitive than the GATT as it provides an avenue for dialogue rather than prohibiting subsidies containing LCRs.

The GATS embodies a positive list approach, meaning the above disciplines only apply to commitments put forward by Member States to the WTO.⁶⁷ Each country negotiates the list of sectors with the WTO.⁶⁸ Governments may want to retain the power to offer subsidies to attain certain developmental objectives, hence the broad scope of GATS as compared to the ASCM.⁶⁹ The GATS provides more leeway to Member States, therefore they may impose LCRs in offshore wind energy subsidies containing services rather than goods as currently in place.⁷⁰ This has been suggested in Taiwan where LCRs are used for goods used to manufacture offshore wind power generating equipment, however the construction and marine services industry should be targeted instead to prevent contravention of the WTO legal regimes.⁷¹

Part IV. Panel and Appellate Body Cases

The disputes discussed below were initiated to challenge support schemes for renewable energy development that contain LCRs for violation of the WTO provisions discussed in Part III.⁷²

1. *Canada - Feed-in tariffs*⁷³

The European Union and Japan challenged the LCRs of the Feed-in tariff program employed by Canada. Equipment utilised to generate electricity from renewable sources that was manufactured from imported goods would be treated unfavourably as compared to those sourced locally. This was in contravention of the GATT. The matter was finally resolved by the Appellate Body of the WTO Dispute Settlement Body (AB). The relevant provisions of the GATT are Article III:4 and Article III:8(a). The relevant provisions of the ASCM are Articles 1.1(a)(iii) and Article 1.1(b).

⁶⁷ Silvana Tordo, Michael Warner, Osmel Manzano and, Yahya Anouti, *Local Content Policies in the Oil and Gas Sector* World Bank Studies (2013). (<https://doi-org.ezphost.dur.ac.uk/10.1596/978-0-8213-9931-6>).

⁶⁸ Id.

⁶⁹ World Trade Organization, “*The Challenges Ahead*,” *A Handbook on the GATS Agreement: A WTO Secretariat Publication* (Cambridge University Press 2005).

⁷⁰ Hai-Ning Huang, 'Localization of Taiwan Offshore Wind Industry and Onward: Critiques and Recommendations for Its Policy Design through the Lens of WTO Law' (2021) *16 Asian J WTO & International Health L & Policy* 59.

⁷¹ Id.

⁷² Jan-Christoph Kuntze and Tom Moerenhout, 'Local Content Requirements And The Renewable Energy Industry - A Good Match?', (2012) *International Centre for Trade and Sustainable Development (ICTSD)* (https://unctad.org/system/files/non-official-document/DITC_TED_13062013_Study_ICTSD.pdf)

⁷³ Canada – Certain Measures Affecting The Renewable Energy Generation Sector Canada – Measures relating to the Feed-In Tariff Program, Report of the Appellate Body, 6 May 2013, WT/DS412/AB/R WT/DS426/AB/R, 412_426abr_e.pdf (wto.org)

The AB interpreted the sale of electricity based on Article III:8(a) as being for commercial resale. Consequently, the program was prohibited under Article III:4. It stated: “*Commercial resale will not always necessarily involve profit, but ...because the Government of Ontario and municipal governments profit from the resale of electricity under the FIT Programme and Contracts, and because the resales of electricity are made in competition with licensed electricity retailers, the purchases of electricity by the Government of Ontario are undertaken 'with a view to commercial resale'.*” Due to the narrow interpretation of the provision in the Canada-EU (feed-in tariff) case, governments are now constrained in their use of local content requirements in renewable energy developments as they cannot benefit from the exemption enshrined in Article III:8(a) GATT. The AB stated that even a loss-making commercial venture can constitute a commercial purpose for the purpose of Article III:8(a).⁷⁴ This is because the commercial viability of the venture is not relevant but rather the perceived trade distortion.

Based on the ASCM provisions, the measures instituted by Canada met the provisions of Article 1.1(a)(iii) but the AB could not determine if they conferred a benefit under Article 1.1(b). At paragraph 5.246, the AB held that there was insufficient factual evidence to enable it to conduct a comparison to determine if a benefit was conferred. The AB stated that the local content requirement for eligibility to the FiT scheme contravened the ASCM, but it did not censure the scheme as a whole.⁷⁵ The benefit was not conferred as the comparison used was between other energy producers against wind and solar energy producers. The AB was of the view that the correct comparison would have been the market for wind and solar generated electricity.

Offshore wind energy subsidies that include LCRs as outlined in Part 2 would contravene the GATT and the ASCM based on these findings.

*2. China - Onshore Wind Power Equipment*⁷⁶

The USA challenged the local content requirements for subsidies awarded to wind power unit manufacturers in China as they were detrimental to imported goods. The government in China had enacted a Special Fund for Wind Power Generation equipment that conferred grants, funds, or awards to manufacturers of wind power generation equipment that purchased local components. The dispute was initiated in response to a petition filed by the Steelworkers Union in the USA.⁷⁷ This is important as it illustrates that Member States may also initiate disputes due to lobbying by domestic aggrieved parties. This resulted in domestic wind turbine brands being 10% cheaper than foreign locally assembled brands and 20% cheaper than imports.⁷⁸ The challenge focused on the ASCM and the GATT.

Article XVI of the GATT requires a Member State to inform other Member States of the existence of a subsidy that will reduce imports or exports to its territory. Specifically, contracting Parties that will be harmed by the subsidy. In the instant case the USA was an

⁷⁴ Canada – Feed-In Tariff.

⁷⁵ Dirk De Bievre, Ilaria Espa & Arlo Poletti, 'No Iceberg in Sight: On the Absence of WTO Disputes Challenging Fossil Fuel Subsidies' (2017) 17 *International Environment Agreements: Pol L & Econ* 411.

⁷⁶ China - Measures concerning wind power equipment, Request for consultations by the United States, 2010, WT/DS419/1, Microsoft Word - 16_D_01.doc (wto.org).

⁷⁷ Office of the United States Trade Representative, *China Ends Wind Power Equipment Subsidies Challenged by the United States in WTO Dispute* (2011), (<https://ustr.gov/about-us/policy-offices/press-office/press-releases/2011/june/china-ends-wind-power-equipment-subsidies-challenged>)

⁷⁸ Seung-Youn-Oh, 'How China Outsmarts WTO Rulings in the Wind Industry', (2015) *Asian Survey*, Vol. 55

exporter of goods used in the manufacture of wind power equipment and suffered prejudice due to these actions, and China had not informed the USA of the existence of the subsidy.

Further, China failed to notify the WTO of the subsidy contrary to Article 25 ASCM. This matter was resolved after WTO consultations as the measures were rescinded by the Chinese government.⁷⁹ This illustrates the restrictive approach the WTO places on local content rules as China had to rescind the local content rules in order to be compliant with the WTO legal regime. However, the LCRs may also have been rescinded as the manufacturing industry for wind power equipment had already matured and the companies could now compete without the need for subsidies.⁸⁰

Member States that enact subsidies containing LCRs in the offshore wind energy industry but inform other aggrieved Member States may still contravene the WTO legal regime as LCRs are prohibited under the GATT.

3. USA - Solar Cells⁸¹

India challenged the USA because of the financial incentives granted in several states for renewable energy programs. The financial incentives were provided to companies that generated electricity from locally sourced components.

The Panel found that the USA had contravened Article III:4 GATT as the measures by the USA would be detrimental to goods imported from India for the renewable energy sector. This is because the measures enacted created incentives to buy domestic goods over imported goods. Furthermore, as LCRs are automatically deemed to result in an adverse effect to imported goods India did not have to prove actual adverse effect, but rather demonstrate the potential adverse effect due to the imposition of the LCRs.⁸² This is based on WTO jurisprudence in Thailand — Customs and Fiscal Measures on Cigarettes from the Philippines.⁸³ This illustrates the application of the objective test by the WTO Panel as the effect of a measure in this case LCRs, rather than the purpose is analysed to determine compatibility with the GATT.⁸⁴ The USA was therefore required to bring the particular measures into conformity with Article III:4. GATT. The Panel held that in exercising judicial economy it would not address the alleged contravention of the ASCM s resolving the measures contravening Article III:4 would have the same effect.

4. India - Solar Cells⁸⁵

The United States challenged the local content requirement imposed by India for power generators wishing to sell electricity generated from solar power to the government. The panel

⁷⁹ China — Measures concerning wind power equipment.

⁸⁰ Mandy Meng Fang and Weihuan Zhou, 'Greening the road: China's low-carbon energy transition and international trade regulation' (2022) 35 *Leiden Journal of International Law* 35.

⁸¹ United States — Certain Measures Relating to the Renewable Energy Sector, Report of the Panel (27 June 2019), WT/DS510/R, [directdoc.aspx \(wto.org\)](https://www.wto.org)

⁸² Douglas Nelson and Laura Puccio, 'Nihil novi sub sole: the need for rethinking WTO and green subsidies in light of United States - Renewable Energy', (2021) 20 *World Trade Review* 491.

⁸³ *Id.*

⁸⁴ Rüdiger Wolfrum, Peter-Tobias Stoll and Holger Hestermeyer (eds), *WTO - trade in goods* (Max Planck Commentaries on World Trade Law, Volume 5 (2010).

⁸⁵ India — Certain Measures Relating to Solar Cells and Solar Modules, Appellate Body report, 17 October 2016, (https://www.wto.org/english/tratop_e/dispu_e/cases_e/ds456_e.htm)

was guided by Canada-Renewable Energy in that the measures were affecting products that did not have a competitive relationship as solar cells and electricity are not in the same market. Consequently, Article III:8(a) was not contravened. However, Article III:4 was held to have been contravened as the measures undertaken by India were discriminatory to imported goods. India defended the use of the measures by invoking Article XX(d) GATT as “*necessary to secure compliance with laws or regulations which are not inconsistent with the provisions of this Agreement, including those relating to customs enforcement, the enforcement of monopolies operated under paragraph 4 of Article II and Article XVII, the protection of patents, trade marks and copyrights, and the prevention of deceptive practices*”. However, this was held not to be justified. The other exception under Article XX(j) GATT was held as not applicable: “*Essential to the acquisition or distribution of products in general or local short supply*”. The strict interpretation of Article XX GATT in the case indicates the high threshold that Member States seeking to enact LCRs in offshore wind energy subsidies would have to pass.

5. United Kingdom - Contracts for Difference⁸⁶

The EU claimed that the UK was in contravention of its obligations under Article III:4 of GATT.⁸⁷ The UK contracts for difference scheme for applicants to develop projects 300 MW or more and successfully gain a subsidy had a local content criterion added. This is due to the target set by the government of 60% of lifetime UK content in offshore wind energy projects.⁸⁸ This is crucial as the UK seeks to build the world’s largest offshore wind farm and also to build an offshore floating wind farm in Scotland.⁸⁹ On 1 July 2022, the UK announced that it had resolved the matter with the EU, among the changes made it had revised the CfD scheme for offshore wind energy.⁹⁰ The UK government averred that use of local content would not be a prerequisite for developers of offshore wind energy, however data would be collected to monitor the use of local content for information purposes only during the application process for subsidies.⁹¹ This dispute demonstrates that Member States are unable to enact LCRs for subsidies in the offshore wind energy industry. The UK may have chosen to take the easier path and shelve the LCRs to prevent a dispute at the WTO. If so, then it points towards a stance that the WTO legal regime does not permit LCRs for subsidies in the offshore wind energy industry.

⁸⁶ ‘United Kingdom – Measures Relating To The Allocation Of Contracts For Difference In Low Carbon Energy Generation, 30 March 2022, (https://docs.wto.org/dol2fe/Pages/FE_Search/FE_S_S009-DP.aspx?language=E&CatalogueIdList=283434&CurrentCatalogueIdIndex=0&FullTextHash=&HasEnglishRecord=True&HasFrenchRecord=True&HasSpanishRecord=True)

⁸⁷ EU initiates WTO dispute complaint regarding UK low carbon energy subsidies, *World Trade Organisation* (March 2022) (https://www.wto.org/english/news_e/news22_e/ds612rfc_30mar22_e.htm)

⁸⁸ UK Department for Business, Energy and Industrial Strategy, *Offshore wind Sector Deal*, (4 March 2020) (<https://www.gov.uk/government/publications/offshore-wind-sector-deal/offshore-wind-sector-deal#places-2>)

⁸⁹ Equinor, ‘Full blown: building the world’s largest offshore wind farm in the UK’, *Financial Times* (London) (<https://equinor.ft.com/articles/building-worlds-largest-offshore-windfarm-in-uk>)

⁹⁰ Hon. Anne-Marie Trevelyan MP, ‘Secretary of State for International Trade letter to Executive Vice President of European Commission’ (1 July 2022) (<https://www.gov.uk/government/publications/uk-and-eu-letters-agreeing-way-forward-on-energy-dispute/secretary-of-state-for-international-trade-letter-to-executive-vice-president-of-european-commission-web-version>).

⁹¹ *Id.*

Part V. Critique

UN Sustainable Development Goal 7 prioritises the provision of renewable energy and access for all to modern energy services. It is complemented by Goal 13 on protecting the climate, demanding the limiting of carbon emissions and hence fossil fuel consumption.⁹² The current Russia-Ukraine crisis has further forced States to prioritise renewable energy for energy security. The EU Commission has proposed fast-tracking of renewable energy developments for this very reason.⁹³ The WTO disciplines should be interpreted in line with the UN Sustainable Development Goals and the energy security objective where states seek to exploit of renewable resources under their control. That will often include developing local capacities through LCRs. However, the WTO disciplines as currently interpreted do not consider the positive aspects of LCRs as they are deemed to be inherently distortive to trade, which was seen in the *India* and *USA solar cells* cases above. This restrictive stance should be compared with the facts that subsidies with LCRs that have traditionally been used in the fossil fuel energy industry have not led to any legal dispute at the WTO. This raises the question whether the use of LCRs in fossil fuel subsidies displays any differences that would explain the lack of legal disputes at the WTO.

Subsidies and LCR use in the Fossil Fuel Sector

The use of fossil fuel subsidies globally is still prevalent. Fossil fuel subsidies have decreased in value globally since 2010, however the value is still significant at \$440 billion in 2021, a steep rise from \$180 billion in 2020,⁹⁴ but lower than the value in 2010 which was over \$600 billion.⁹⁵ According to the IMF, fossil fuel subsidies are expected to increase to 7.4 percent of global GDP in 2025 as the share of fuel consumption in emerging markets (where price gaps are generally larger) continues to climb.⁹⁶ Resource-endowed States deploy fossil fuel subsidies in the forms of direct grants to fossil fuel producers, credit support measures and tax credits.⁹⁷ These are transfer of funds by a government body or government revenue foregone leading to a benefit bestowed upon the recipient. Both types are subsidies conferring benefits within the meaning of the ASCM by rendering the recipient better off than if they were not bestowed. They are also specific as they only benefit certain industries.⁹⁸ LCRs have been used as part of such subsidies for fossil fuels since the early period of growth of the industry, with the aim of bolstering the local economies.⁹⁹ State oil companies such as Petrobras in Brazil, Statoil in Norway and Petronas in Malaysia gained significant presence in the respective States due to the implementation of local content policies to bolster local ownership.¹⁰⁰ The UK

⁹² Volker Roeben, 'Energy Provision' in Jan Klabbbers (ed), *The Cambridge Companion to International Organizations Law* (Cambridge University Press 2022), (<https://www.cambridge.org/core/books/cambridge-companion-to-international-organizations-law/energy-provision/BDE2C96A6A84E3830F495703EB52C123>)

⁹³ Andrew Bounds, Alice Hancock and Javier Espinoza, 'EU considers looser green standards as it seeks to replace Russian fossil fuels', *Financial Times* (London, 11 May 2022)

⁹⁴ <https://www.iea.org/topics/energy-subsidies>.

⁹⁵ Ieva Baršauskaitė, 'Background Note on Fossil Fuel Subsidy Reform', (2022) International Institute for Sustainable Development (<https://www.iisd.org/system/files/2022-08/background-note-fossil-fuel-subsidy-reform.pdf>)

⁹⁶ International Monetary Fund, *Fossil Fuel Subsidies*, (<https://www.imf.org/en/Topics/climate-change/energy-subsidies>)

⁹⁷ De Bievre et al (note 75) 411.

⁹⁸ Id.

⁹⁹ Ulrich Klueh, Gonzalo Pastor, Alonso Segura, and Walter Zarate, 'Inter-sectoral Linkages and Local Content in Extractive Industries and Beyond– The Case of São Tomé and Príncipe', (2007) IMF Working Paper (<https://www.imf.org/external/pubs/ft/wp/2007/wp07213.pdf>)

¹⁰⁰ Id.

government in the early 1970s engaged with international oil companies (IOCs) to ensure that local companies secured contracts in the supply of goods and services needed in the offshore oil industry.¹⁰¹ This government support and the LCRs associated with them contradicts efforts to mitigate climate change, as the use of public finance to support the fossil fuel industry encourages the consumption of fossil fuels.¹⁰² The lack of WTO disputes to counter barriers to trade in the by now mature fossil fuel industry is a puzzle.¹⁰³

One explanation is that subsidies imposed on fossil fuels do not always result in negative trade impacts in foreign countries. This has been suggested as a possible reason as to why they are not challenged by Member States.¹⁰⁴ For instance, subsidies that result in lower energy prices globally are unlikely to be challenged.¹⁰⁵ Some scholars have argued that pricing mechanisms that set lower prices for domestic consumers as compared to export prices do not contravene the ASCM definition of subsidy.¹⁰⁶ Furthermore, the LCRs regarding services used in the fossil fuel industry may be permitted as the GATS offers more leeway than the GATT. Consequently, LCRs that compel IOCs to engage with domestic service suppliers as used in various fossil fuel producing nations may not be contrary to GATS.¹⁰⁷

The other explanation has to do with the structure of the industry. IOCs are present in countries with large fossil fuel reserves as they have the resources capable of extracting fossil fuel where domestic companies alone may be unable to.¹⁰⁸ IOCs aim to secure stakeholder support and therefore acquiesce to local content requirements imposed by foreign governments.¹⁰⁹ This tends to involve negotiation with the host government and may be a reason for the lack of disputes at the WTO involving LCR requirements in fossil fuel subsidies.¹¹⁰ This is despite the harsh repercussions that host governments have imposed on IOCs. For instance, IOCs have had bids for operational licenses rejected in Brazil and assets nationalized in Venezuela due to non-compliance with local content requirements embedded in legislation.¹¹¹ This did not result in legal action at the WTO. This is significant as IOCs can lobby the government in their country of origin to initiate a dispute at the WTO, similar to the lobbying witnessed by the Steelworkers Union in the USA that led to the USA and China onshore wind power equipment case discussed earlier in this article. However, negotiation with host governments rather than dispute resolution at the WTO seems to be preferred.

In conclusion, the use of locally made components arguably contravenes the GATT as this confers an unfair advantage to locally made goods. Yet, IOCs negotiate with host governments to establish the applicability of LCRs in fossil fuel subsidies, therefore negotiation is used as a tool to prevent disputes. This differs from LCRs applied to a more diverse and dispersed

¹⁰¹ Id.

¹⁰² Christian Harris Slattery, 'Fossil fueling the apocalypse': Australian coal subsidies and the Agreement on Subsidies and Countervailing Measures' (2019) 18 *World Trade Review* 109.

¹⁰³ De Bievre (note 75).

¹⁰⁴ Id.

¹⁰⁵ Id.

¹⁰⁶ Id.

¹⁰⁷ Michael Zisuh Ngoasong, 'How international oil and gas companies respond to local content policies in petroleum-producing developing countries: A narrative enquiry', (2014) 73 *Energy Policy* 471.

¹⁰⁸ Qing Xue and others, 'Bargaining strategy of oil companies in international oil and gas development Projects—Based on a bilateral bargaining model', (2021) 18 *Petroleum Science* 1270.

¹⁰⁹ Zisuh Ngoasong (note 107).

¹¹⁰ Id.

¹¹¹ Id.

renewable energy industry, and so state-state negotiation and resort to the WTO mechanisms will be used rather than negotiation between industry and the host states to resolve disputes.

LCRs and Subsidies in the Renewable Energy Industry

In the renewable energy sector, LCRs operate in a different context. Public financial support for the development of renewable energy currently is needed to mitigate the risk that investors face from price volatility due to the intermittent nature of renewable energy.¹¹² The use of subsidies in the early stages of growth of offshore wind energy may also lead to the development of an improved global supply chain and lower costs of production. Longer term, that need is likely to recede as the industry matures and learnings yield the expected benefits. Research and development and newer technologies, including for storage of renewably generated electricity, will reduce the intermittency characteristic of this energy source. Reliance on diversified sources of renewable energy should also reduce the intermittency problem. The use of subsidies can also have negative effects on the economy as witnessed in the Indian context, where renewable energy subsidies left fiscal balances on the federal and national level.¹¹³ Long-term use of subsidies may then come to be seen to hamper competition, productivity and increase investment risk as developers are more likely to stick to well-established technology.¹¹⁴ However, the abolition of subsidies can lead to less investment.¹¹⁵ For instance, in China, due to the phase-out of subsidies the growth of offshore wind energy is expected to slow.¹¹⁶ Yet, the industry grew tremendously due to the imposition of subsidies and LCRs in its initial stage.¹¹⁷ In the medium-term, market-based solutions such as power purchase agreements may be utilised to reduce the need for subsidies while encouraging the growth of offshore wind farms as seen between 2018 and 2019 in the EU where offshore windfarms won auctions without direct subsidies imparted upon them.¹¹⁸ In Germany, zero subsidy bids in 2021 for offshore wind farms expected to be operational in 2026, were seen as proof of strong interest from developers.¹¹⁹ In Denmark, zero subsidy bids were successful for the Thor offshore wind farm expected to be connected to the grid between 2025 and 2027 will be the first offshore wind farm to generate revenue for the State.¹²⁰

The use of local content requirements should not be looked at in isolation but as part of a wider strategy to grow clean energy through government support. Governments may enact local content requirements due to the finance-content deadlock, which is that public finance should

¹¹² Sadeq Bigdeli, “Incentive Schemes to Promote Renewables and the WTO Law of Subsidies” in Thomas Cottier, Olga Nartova and Sadeq Z Bigdeli (eds), *International Trade Regulation and the Mitigation of Climate Change: World Trade Forum* (Cambridge University Press 2009).

¹¹³ S. Narayan, “Fiscal Implications of Energy Subsidies” in Supriyo De (ed), *India's Fiscal Policy: Prescriptions, Pragmatics and Practice* (Cambridge University Press 2016).

¹¹⁴ Megan Hogan, ‘Local content requirements threaten renewable energy uptake’, (2021) *Peterson Institute for International Economics* (<https://www.piie.com/blogs/trade-and-investment-policy-watch/local-content-requirements-threaten-renewable-energy-uptake>)

¹¹⁵ Simon Evans, ‘Q&A: What does ‘subsidy-free’ renewables actually mean?’, (2018) *CarbonBrief* (<https://www.carbonbrief.org/what-does-subsidy-free-renewables-actually-mean>).

¹¹⁶ IEA, *Renewable Electricity* (2022), (<https://www.iea.org/reports/renewable-energy-market-update-may-2022/renewable-electricity>)

¹¹⁷ Id.

¹¹⁸ European Union Agency for the Cooperation of Energy Regulators (ACER) ‘*ACER’s Final Assessment of the EU Wholesale Electricity Market Design*’ (2022).

¹¹⁹ Bundesnetzagentur, *Auction results for offshore wind power* (2021). (https://www.bundesnetzagentur.de/SharedDocs/Pressemitteilungen/EN/2021/20210909_Offshore.html)

¹²⁰ Danish Energy Agency, *Offshore Wind Development* (2022) (https://ens.dk/sites/ens.dk/files/Vindenergi/offshore_wind_development_final_june_2022.pdf)

not be deployed without local content benefits.¹²¹ Governments are unlikely to utilise public finance to benefit foreign companies, LCRs are a means to counteract this.¹²² The USA and the UK utilise LCRs in the offshore wind energy sector as a means to grow the domestic economy and provide employment. LCRs serve to grow the local industry base and foster public support of the subsidisation of the faster transition to low-carbon energy that satisfies both energy security and climate protection. LCRs used in China enabled it to grow its manufacturing industry to cater for offshore wind power generating equipment as outlined earlier. Fossil fuel subsidies aided in the development of the global supply chain currently in place and the low price of fossil fuels.¹²³ LCRs enable developing nations to grow the local manufacturing industry rather than import components.¹²⁴ This is vital as the WTO has so far taken a narrower approach excluding these non-economic rationales that can be beneficial to the economy in the long run.

Part VI. Options to Ensure Compatibility of LCRs with the WTO Disciplines

It is normatively desirable that global offshore wind energy capacity be strongly increased to meet global demand whilst complying with the WTO legal regime. This will prevent the disputes outlined in this article from reoccurring as more States are seeking to expand their offshore wind energy capacity. This Part develops options to this effect. They fall broadly into two categories.

The first category are design options for LCRs that states may elect to deploy. Five such options emerge from the preceding discussion. First, LCRs that are not tied to the grant of subsidies but rather to the grant of the right to develop an offshore wind farm may bypass the ASCM as this is not a subsidy and may then be compatible with the WTO.¹²⁵ Second, LCRs that prioritise services rather than goods may also be used to grow the domestic offshore wind energy industry and not contravene the WTO legal regime.¹²⁶ Third, grants to local manufacturers to boost their competitiveness may be WTO-compatible as they do not distort trade. For instance, the Floating Offshore Wind Manufacturing Investment Scheme (FLOWMIS) announced by the UK Government in May 2022 will provide £160 million in government funding to boost floating offshore wind capability around the UK by supporting manufacturers.¹²⁷ This will enable domestic producers to have access to funding to produce components of offshore wind power generating equipment. Fourth, upskilling the workforce to ensure they have the required skills to work in the offshore wind energy industry may reduce the reliance on LCRs as the workforce will be able to compete fairly. For instance, in Scotland the National Energy Skills Accelerator (NESA) is an organization that provides skills to the local workforce to ensure they

¹²¹ Jan-Christoph Kuntze and Tom Moerenhout, 'Local Content Requirements And The Renewable Energy Industry - A Good Match?', (2012) International Centre for Trade and Sustainable Development (ICTSD) (https://unctad.org/system/files/non-official-document/DITC_TED_13062013_Study_ICTSD.pdf)

¹²² Id.

¹²³ Jefferson W. Tester, Elisabeth M. Drake, Michael J. Driscoll and others, 'Sustainable Energy, Choosing among Options' (2nd ed, 2012 MIT Press).

¹²⁴ Thomas Hebo Larsen and Ulrich Elmer Hansen, 'Sustainable industrialization in Africa: the localization of wind-turbine component production in South Africa', (2020) 12 *Innovation and Development* 189.

¹²⁵ Hai-Ning Huang (note 70).

¹²⁶ Id.

¹²⁷ UK Department for Business, Energy & Industrial Strategy, *Offshore Wind Champion appointed as £160m floating offshore wind fund opens for expressions of interest* (2022) (<https://www.gov.uk/government/news/offshore-wind-champion-appointed-as-160m-floating-offshore-wind-fund-opens-for-expressions-of-interest>)

can work in the growing renewable energy industry.¹²⁸ In May 2022 NESAsigned a memorandum of understanding with ScottishPower Renewables and Shell to roll out a skills programme linked to the development of offshore floating wind. This is ideal as offshore floating wind energy is set to grow in Scotland with a 2GW floating offshore wind farm planned off the north-east coast.¹²⁹ With the upskilling of the workforce, the industry should be competitive and not need to rely on LCRs and subsidies. Article 3 ASCM defines prohibited subsidies as those subsidies contingent, whether solely or as one of several other conditions, upon the use of domestic over imported goods. Fifth, recommendations by the State that do not compel but rather urge local development may be preferable and comply with the WTO legal regime. This is the path that has been taken by the UK to resolve its dispute with the EU as earlier outlined. The UK government will now only collect data on local content in the offshore wind energy industry rather than compel developers using LCRs.

The second category of options relate to the WTO law itself. During UNFCCC COP27, the WTO Director General stated, “I will ask leaders to join forces in creating a trade-related agenda for a just and ambitious response to climate change.”¹³⁰ She illustrated the benefits of an open trading system using the example of the lower prices of solar panels since 2001 that could be attributed to international trade and fewer barriers to trade.¹³¹ This new trade-related agenda could include permitted LCRs for emerging and not yet mature renewable energy technologies such as offshore wind energy. This could involve a re-interpretation of the existing WTO disciplines. Thus, the provision of renewable energy should not be seen as a commercial purpose even when the government is not making a profit as stated in the Canada-feed-in tariffs case, instead a new legal instrument that distinguishes the unique characteristics of renewable energy should be enacted. The law as it stands should be interpreted by the WTO Dispute Settlement Body to be open to non-economic rationales. For instance, electricity generated from renewable and non-renewable sources should be deemed to operate in different markets for the purpose of disapplying the “like products” requirements under Article III:4 due to their dissimilar fuel source, method of generation and environmental impacts.¹³² The new trade-related agenda could also involve the adoption of tailored legal instruments. The Sustainable Energy Trade Agreement is a proposed international instrument that could include provisions on the use of LCRs in the renewable energy sector internationally.¹³³ The LCRs could be capped depending on the specific renewable energy sector in question, with countries specifying the duration and percentage.¹³⁴ It would complement the Environmental Goods Agreement is a proposed plurilateral WTO legal instrument that seeks to eliminate tariffs on environmental goods and services that include products that generate renewable energy.¹³⁵ 46

¹²⁸ National Energy Skills Accelerator, *Introducing NESAs* (<https://the-nesa.org/introducing-nesa>)

¹²⁹ ChampionWind, *The project* (2022), (<https://championwind.co.uk>)

¹³⁰ Ngozi Okonjo-Iweala, “Ngozi Okonjo-Iweala: Decoupling is not the answer to climate crisis”, *Financial Times* (London, 7 November 2022), (<https://www.ft.com/content/22744417-de2b-446e-9631-0dabc864bfba?emailId=7802a8a3-3b6e-47ba-a391-7bbfc84d290c&segmentId=22011ee7-896a-8c4c-22a0-7603348b7f22>).

¹³¹ *Id.*

¹³² Mukta Batra and Namit Bafna, ‘Renewable Energy: The WTO’s Position on Local Content Requirements’, (2018) 39 *Energy Law Journal* 401.

¹³³ Jan-Christoph Kuntze and Tom Moerenhout, ‘Local Content Requirements and The Renewable Energy Industry - A Good Match?’, International Centre for Trade and Sustainable Development (ICTSD) (2012). (https://unctad.org/system/files/non-official-document/DITC_TED_13062013_Study_ICTSD.pdf)

¹³⁴ SM Stephenson, ‘Addressing Local Content Requirements in a Sustainable Energy Trade Agreement: June 2013’, in Gary C Hufbauer, Ricardo Meléndez-Ortiz and Richard Samans (eds), *The Law and Economics of a Sustainable Energy Trade Agreement* (Cambridge University Press 2016).

¹³⁵ WTO, ‘Progress made on Environmental Goods Agreement, setting stage for further talks’ (4 December 2016).

WTO Members have been involved in the negotiations since January 2014.¹³⁶ This would be beneficial as it may reduce the need for subsidies globally.

A multi-faceted approach is the most promising to ensure WTO compatibility of LCRs in subsidies for offshore wind energy. In the short term, States could provide grants to local manufacturers and for upskilling of the domestic workforce to make them competitive. This is to prevent potential disputes as witnessed between the UK and the EU as well as the US and the EU. In the long term, rather than anticipating another dispute and using it as an opportunity to re-interpret the current WTO legal regime, a new plurilateral legal instrument should be negotiated. The proposed Sustainable Energy Trade Agreement would cater to energy whilst enabling States to achieve energy security and climate change mitigation. This would also achieve the just and ambitious response to climate change and the global energy transition that the WTO Director General seeks to achieve through a novel trade-related agenda with actions to support the trade of environmental goods and services.¹³⁷ The sale of components or equipment to generate renewable energy could be included in this instrument as they are already deemed to be environmental goods as demonstrated by their inclusion in the Environmental Goods Agreement.

Conclusion

Coastal States across the globe seek and financially support a rapid expansion of their offshore wind energy capacity, taking advantage of technological advances. This makes disputes under the WTO likely due to the widespread use by these States of LCRs, which offer benefits to the domestic economy. The crux of the disputes witnessed thus far is indeed the use of LCRs, not the support as such. In the short term, Member States could implement WTO compliant subsidy and LCR schemes such as grants to manufacturers locally and upskilling of the workforce to enable the domestic industry to effectively compete with imported goods. This would prevent disputes as witnessed with the UK-EU and the current US-EU disputes. In the longer term, the use of LCRs in subsidies for renewable energy developments globally should be permitted in principle and effectively governed to prevent adverse trade distortions through a legal instrument. The proposed Sustainable Energy Trade Agreement here could prevent further disputes concerning LCRs in subsidies in the renewable energy industry as a whole and specifically cater to the needs of the growing offshore wind energy industry.

¹³⁶ Id.

¹³⁷ Ngozi Okonjo-Iweala, 'Ngozi Okonjo-Iweala: Decoupling is not the answer to climate crisis', *Financial Times* (London, 7 November 2022).