LOCALIZATION OF TAIWAN OFFSHORE WIND INDUSTRY AND ONWARD: CRITIQUES AND RECOMMENDATIONS FOR ITS POLICY DESIGN THROUGH THE LENS OF WTO LAW

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ABSTRACT

Since the Taiwanese government launched the national development program to promote and develop offshore wind, localization of the offshore wind power industry not tied to the feed-in tariff (hereinafter "FIT") scheme has become the program's signature policy. However, discussions on its compatibility with the World Trade Organization (hereinafter "WTO") law and the potential trade distortion impact are absent in the process of policy design. How the WTO law weighs in to determine the legitimacy of pure local content requirement (hereinafter "LCR") measures without an attachment to feed-in tariff in the context of energy transition? By dissecting the structure of Taiwan's national development program for offshore wind and conducting a WTO compatibility analysis on such program, this article argues that although a LCR measure imposed in the context of energy transition, renewable energy development, and/or climate change may run against the national treatment principle, it can still be designed as a WTO-compatible industrial policy if (i) the LCR in services is

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prioritized; (ii) the LCR and government support scheme (such as FIT) are severable; and (iii) Article XX of the GATT (in particular paragraph (b)) is used wisely, in which case the LCR is closely connected to the objectives pursued, thorough effectiveness analysis on the implementation of the LCR has been provided, and due process of law has been honored.

KEYWORDS: *green industrial policy, localization, local content requirements, climate change, renewable energy, energy transition, offshore wind, GATT, TRIMs Agreement, GATS*

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I. INTRODUCTION

Energy transition is a burning issue in Taiwan. In 2016, the Taiwanese government, under the leadership of President Tsai Ing-wen, launched an ambitious energy transition plan, aiming to change the nation's energy structure. To achieve this policy goal, the administrative agencies promulgated a flood of energy policy directives and programs, among which the offshore wind programs are the major pillar of the government's energy strategy. The signature policy of Taiwan's offshore wind program is the localization of the offshore wind power industry, which consists of a series of local content requirements (hereinafter "LCR" or "LCRs") targeting almost every segment on the supply chain and professional services.

On the surface, the localization policy has gotten off to a successful start, as all the offshore wind farm developers have followed the government's instructions and produced comprehensive localization proposals, and most of which have been approved by government authorities. The localization policy also gained political traction as the growth potential of the relevant sectors within the next five to ten years is vouched by the government. This progress has helped the ruling party to gain political momentum on the economic front.[1]

However, at its core, this localization policy is troubling. This is because the discussions on its compatibility with the World Trade Organization (hereinafter "WTO") law and the potential trade distortion impact are almost absent in the process of policy design (at least they are not visible and accessible publicly). Despite the lack of a WTO compatibility analysis, the offshore wind localization policy is still embraced by the government and the domestic industries. Specifically, in planning the next phase of offshore wind development for the next decade, the government has shown its appetite to continue the localization policy and might even expand its coverage.[2]

Having observed Taiwan's energy transition plan since its birth, the continuation of localization in the offshore wind market has piqued the author's interest in assessing whether its policy design is compatible with the WTO law. Although discussions surrounding local content requirements attached to renewable energy programs peaked in the academic circle a couple of years ago, they are still warranted within the Taiwan context, particularly from the perspectives of international trade rules.

To this end, this article will be organized in five parts. In Part II, given

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[1] Shih-ching Kao, *2020 Elections: Economy to Gain Momentum in Wake of Tsai Win*, TAIPEI TIMES (Jan. 13, 2020), http://www.taipeitimes.com/News/biz/archives/2020/01/13/2003729136.

[2] Yu-Huan Yin, *Fongdian Guochanhua Jiang Yanxu Zhi 2035 Bupaichu Zengjia Xinxiangmu* [*Wind Power Localization Extended to 2035, Would Not Rule Out Adding New Projects*], STORM MEDIA (Jan. 21, 2020), https://www.storm.mg/article/2209386.

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the great volume of the literature, this article will start by setting up its theoretical foundation. In Part III, this article will break down the details of the localization requirements embedded in Taiwan's national development program for offshore wind. In Part IV, building on the policy details, this article then conducts a WTO compatibility analysis on the localization requirements. Lastly, in Part V, this article ventures into laying out the guiding principles identified in the course of the WTO compatibility analysis, which may serve the policy recommendations for the Taiwanese government and the policymakers to craft WTO-compatible LCRs for renewable energy development. Part VI concludes.

II. THEORETICAL FOUNDATION

Local content requirements, by definition, are performance requirements. They refer to policy measures that require "foreign or domestic investors to source a certain percentage of intermediate goods from local manufacturers or producers."[3] Localization measures, by and large, can be construed as a broader term that covers not only localizing component manufacturing sectors, but also professional service sectors.[4] Overall, scholars have described local content requirements as a policy instrument to include mandatory local content percentage of goods and services, tariff and price concessions conditioned on local procurements, or certain lines of business that can be conducted only by domestic firms.[5]

Given the protectionist nature of local content requirements,[6] a great volume of literature, in the context of the WTO, has focused on the tension between its trade distortion effects and the WTO's national treatment principle and subsidy laws. Further, owing to the fact that local content requirements are used pervasively in promoting green energy, this group of literature has navigated how the WTO regime should respond to the pressing need of policy space to "safe harbor" the green industrial policies, including local content requirements as a threshold condition of receiving financial incentives.[7] On the other hand, another school of literature, in the context of

[3] JAN-CHRISTOPH KUNTZE & TOM MOERENHOUT, LOCAL CONTENT REQUIREMENTS AND THE RENEWABLE ENERGY INDUSTRY—A GOOD MATCH? 5 (2013), https://www.greengrowthknowledge.org/sites/default/files/downloads/resource/local-content-requirements-renewable-energy-industry-ICTSD.pdf.

[4] *See generally* GARY CLYDE HUFBAUER ET AL., LOCAL CONTENT REQUIREMENTS: A GLOBAL PROBLEM chs. 1-2 (2013).

[5] *See, e.g.*, HARSHA VARDHANA SINGH & RASHMI JOSE, INDUSTRIAL POLICY AND THE WTO RULES-BASED SYSTEM 4 (2016), https://e15initiative.org/wp-content/uploads/2015/09/E15-Industrial-Policy-Singh-and-Jose-1.pdf.

[6] KUNTZE & MOERENHOUT, *supra* note 3, at 7.

[7] *See generally* Aaron Cosbey & Petros C. Mavroidis, *A Turquoise Mess: Green Subsidies, Blue Industrial Policy and Renewable Energy: The Case for Redrafting the Subsidies Agreement of the WTO*, 17(1) J. INT'L ECON. L. 11 (2014); SHERRY STEPHENSON, ADDRESSING LOCAL CONTENT

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industrial policy, weighs in to evaluate the political motivation, economic and environmental benefits of local content requirements in renewable energy sectors, and views their negative trade impacts as one of the factors in assessing their effectiveness.[8]

Since the purpose of this article is to provide policy recommendations to Taiwan's localization of the offshore wind industry through the lens of the WTO law, this article sets its foundation in the former school.

III. LOCALIZATION POLICY OF THE TAIWAN OFFSHORE WIND INDUSTRY

A. Bones: Overview of the Policy Context

1. Energy Transition, Feed-in Tariff, and Electricity Sector — Clean energy had been a policy *on paper* in Taiwan for years. It had not turned into a policy *in action* until Ms. Tsai Ing-wen won the 2016 presidential election and vowed to attain the island's energy transition by 2025, aiming to change the nation's energy mix by decreasing coal-fired power, phasing out nuclear power, and most critically, significantly increasing renewable energies to tackle climate change.[9] Among the renewables with commercial potential, offshore wind is a type of renewable resources that the Tsai Administration plans to promote at full throttle. This is predominately because a number of potential sites off the western coast of the island of Taiwan were ranked as the top development sites for offshore wind power.[10]

Another engine that bolsters offshore wind development is the feed-in tariff (hereinafter "FIT") scheme and the give-and-take mechanism adopted for the electricity wholesale market since 2010. The FIT scheme and power purchase and sale are underpinned by the Electricity Business Act (hereinafter "EBA") and the Renewable Energy Development Act (hereinafter "REDA"). The laws set out a concrete regulatory framework for the implementation of the FIT scheme for renewable power plants and the twenty-year guarantee purchase of renewable-generated electricity by

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REQUIREMENTS IN A SUSTAINABLE ENERGY TRADE AGREEMENTS (2013), https://pdfs.semanticscholar.org/8d6e/3864668d88c93f1218eab0c1174b5436e64e.pdf; SINGH & JOSE, *supra* note 5; Luca Rubini, *Ain't Wastin' Time No More: Subsidies for Renewable Energy, the SCM Agreement, Policy Space, and Law Reform*, 15(2) J. INT'L ECON. L. 525 (2012); ROBERT HOWSE, SECURING POLICY SPACE FOR CLEAN ENERGY UNDER THE SCM AGREEMENT: ALTERNATIVE APPROACHES (2013), https://e15initiative.org/wp-content/uploads/2015/09/E15-CETs-Howse-Final.pdf.

[8] *See, e.g.*, HUFBAUER ET AL., *supra* note 4, ch. 1. *See also* KUNTZE & MOERENHOUT, *supra* note 3, at 6-13.

[9] Justin Chou & John A. Mathews, *Taiwan's Green Energy Transition Under Way*, 15(21) ASIA-PAC. J.: JAPAN FOCUS (Nov. 1, 2017), https://apjjf.org/-Justin-Chou--John-A--Mathews/5085/article.pdf.

[10] *Global Offshore Wind Speeds Rankings*, 4C OFFSHORE, https://perma.cc/ZYC3-URFL (last visited Jan. 27, 2021).

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Taiwan Power Company (hereinafter "Taipower"), the national grid operator and state-owned monopoly.

Interestingly, however, the FIT scheme plus twenty-year guarantee purchase is not the only option for renewable power purchase and sale by independent power producers (hereinafter "IPPs"). The amendments to EBA in 2017 and REDA in 2019 allow IPPs to sell electricity to end users directly via direct supply with its own power cables or the wheeling services provided by Taipower without entering the Taipower-monopolized electricity wholesale market. While only being partially liberalized, this market structure attests that although the FIT scheme unequivocally provides economic incentives, it is not a must for the renewable energy promotion. In other words, policies in relation to offshore wind industry, such as LCRs, do not necessarily have to attach to FIT.

2. The Offshore Wind National Development Program — Built on the prime natural resources and a solid legal foundation, the Taiwanese government launched a national development program for offshore wind (hereinafter "Program")—a policy blueprint for offshore wind promotion—and divided it into three phases:

1. Phase 1: pilot projects;[11]
2. Phase 2: projects developed in shallow sea (the Tsai Administration pledged to install 5.5 GW from 2020 to 2025); and
3. Phase 3: projects developed in deep sea (an estimate of 10 GW will be installed from 2026 to 2035).[12]

Phase 2 of the Program launched in July 2015 has gotten off to a successful start as it attracted a record number of developers to enroll, most of which bring in foreign direct investments and international financing.[13]

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[11] There are three awarded offshore wind farm demonstration projects. But except for the Chun-Nan Project, the other two projects have not kicked-off the development process. The Fu-Hai Project is still in the preliminary development phase (and is likely no going to succeed due to significant delay in development), and the Taipower project is undergoing the permission process. *See* Wen-Zi Chen, *Baibu Fuhuo Suyuan Chenggong: Fuhai Lian Fengji Zhongqi Huanping* [*Petition Turned Successful: Fu-Hai Project Restarts Environmental Impact Assessment*], TAIWAN ENVTL. INFO. CTR. (Mar. 14, 2019), https://e-info.org.tw/node/216946; *Shifan Jiangli* [*Demonstration Incentives*], FENGLI FADIAN DANYI FUWU CHUANGKOU [THOUSAND WIND TURBINES PROJECT], https://www.twtpo.org.tw/offshore_show.aspx?id=18 (last visited Mar. 4, 2021).

[12] *The Development of Taiwan's Offshore Wind Power*, DEP'T INT'L COOPERATION M.O.E.A. (Oct. 17, 2019, 3:22 PM), https://www.moea.gov.tw/MNS/ietc_e/bulletin/Bulletin_En.aspx?kind=38&html=1&menu_id=25449&bull_id=6320.

[13] Phase 2 of the Program launched in July 2015 had attracted a number of offshore wind farm developers, including wpd, Orsted, Swancor Renewable Energy, Macquarie's Green Investment Group, Energie Baden-Württemberg AG (EnBW), Northland Power Inc. (NPI), Copenhagen Infrastructure Partners (CIP), LeaLea Group, China Steel Corporation, Taipower, and Asia Cement Corporation, to enroll in order to bid for the development right for 18 offshore wind farm projects, the majority of which have foreign direct investments involved. The installed capacity of these 18 offshore wind farms in aggregate is 11GW, which is far more than the target capacity originally proposed under the Phase 2. Other new foreign investors have invested in some projects when they were awarded development rights, e.g., JERA, Stonepeak Infrastructure Partners.

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The outcome sends an important market signal—Taiwan is a hotspot for offshore wind projects by global players.[14] As the market emerged, the government further launched Phase 3 in June 2020 to officially kick off offshore wind development for the next decade.[15]

The most ambitious part of the Program, however, is not offering market entry to wind farm developers, but to build local supply chain and service hub for the offshore wind industry, and the key to achieve this goal is to embed various localization requirements (i.e., local content requirements) as a condition of offshore wind farm development. Owing to the localization requirements, the Program is expected to steer up the relevant offshore wind segments, such as upstream manufactures and the professional technical and marine construction services.

3. Green Industrial Policy as the Wider Policy Context — Although the Taiwanese government is silent on (or at least, only explained it subtly) the rationale of introducing the localization requirements to the Program, a global trend on green industrial policy may explain such policy design.

While industrial policy evolved when the policy landscape changed overtime,[16] scholars have observed that there has been a resurgence of industrial policy since the financial crisis of 2008.[17] Since then, industrial policy has "taken on a 'green' tinge"[18] and has become salient as proactive government actions, including harnessing industrial strategies, are desirable measures to tackle clean energy transition and climate change. At the same time, lack of policy momentum due to frustrating international climate negotiations and stalled trade talks also forced countries to embrace "uncoordinated national-level solutions" to create green jobs and prosperity.[19]

Green industrial policy can be implemented through various policy instruments, and the LCR is one of its prominent forms.[20] This is empirically true, as studies reveal that LCRs have proliferated in the national schemes of major developed and developing economies pertaining to

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[14] Stine Jacobsen, *Offshore Wind Power Firms See Taiwan as a Battleground to Expand in Asia*, REUTERS (Apr. 30, 2018, 10:35 PM), https://www.reuters.com/article/us-taiwan-windpower/offshore-wind-power-firms-see-taiwan-as-a-battleground-to-expand-in-asia-idUSKBN1I11IV.

[15] *Banli Lian Fengdian Oukuai Kaifa Shuominghui Qidong Xiajieduan Lian Fengdian Fazhan* [*Holds Offshore Wind Project Block Development Seminar, Starts Next Phase of Offshore Wind Power Development*], BUREAU ENERGY (June 19, 2020, 6:15 PM), https://www.moeaboe.gov.tw/ECW/populace/news/News.aspx?kind=1&menu_id=41&news_id=17637.

[16] HARSHA VARDHANA SINGH, NEW INDUSTRIAL POLICY AND MANUFACTURING: OPTIONS FOR INTERNATIONAL TRADE POLICY 9 (2016), http://www3.weforum.org/docs/E15/WEF_New_Industrial_Policy_Manufacturing_report_2015_1401.pdf.

[17] *Id.* at 8.

[18] Mark Wu & James Salzman, *The Next Generation of Trade and Environment Conflicts: The Rise of Green Industrial Policy*, 108(2) NW. U. L. REV. 401, 417 (2014).

[19] KUNTZE & MOERENHOUT, *supra* note 3, at 4.

[20] Wu & Salzman, *supra* note 18, at 422.

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renewable energy industries.[21] In this light, it is not surprising that the Taiwanese government has joined this trend and planted the localization elements in its offshore wind program.

From a wider policy context, localization requirements paints a strong shade of green industrial policy on Taiwan's offshore wind development, thereby transforming the Program from a pure energy policy to a mixture of complex legal issues at different market levels that involves award of development right, eligibility of FIT, and whether a pure LCR measure in the context of energy transition can survive the scrutiny of the WTO law.

B. Meat: The Offshore Wind Localization Playbook

The localization requirements are implemented differently in Phase 2 and Phase 3 of the Program. This section briefly dissects how the localization requirements are implemented and how the design and architecture thereof might possibly determine its WTO compatibility.[22]

1. Localization Requirements in Phase 2 of the Program —

(a) Structure — In Phase 2, localization requirements are imposed as a condition of developers' development right under the Grid Allocation Contract to be entered into between the awarded developer and Taiwan's Ministry of Economic Affairs (hereinafter "MOEA"). In other words, it is a contractual obligation borne by the offshore wind farm developers.[23]

To elaborate, developers who participate in Phase 2 may bid for the development right through the pageant mechanism or the auction mechanism, both of which are not governed by the government procurement law.[24] Furthermore, only those who are awarded the development right and the Grid Allocation Contract under the pageant mechanism are eligible to

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[21] *See* Sherzod Shadikhodjaev, *Regulation of Renewable Energy Trade in the Megaregionals Era: Current Issues and Prospects for Rule-Making Reforms*, *in* GOVERNING SCIENCE AND TECHNOLOGY UNDER THE INTERNATIONAL ECONOMIC ORDER: REGULATORY DIVERGENCE AND CONVERGENCE IN THE AGE OF MEGAREGIONALS 160, 165-66 (Shin-yi Peng et al. eds., 2018); SACHA SILVA, LOCAL CONTENT REQUIREMENTS AND THE GREEN ECONOMY 6-10 (2014), https://unctad.org/webflyer/local-content-requirements-and-green-economy; RICARDO MELÉNDEZ-ORTIZ, ENABLING THE ENERGY TRANSITION AND SCALE-UP OF CLEAN ENERGY TECHNOLOGIES 5-6 (2016), https://e15initiative.org/publications/enabling-energy-transition-scale-clean-energy-technologies-options-global-trade-system/; James J. Nedumpara & Akshaya Venkataraman, *The Rise of Import Substitution Subsidies and Local Content Requirements in a Dystopian WTO 2.0 Regime*, *in* A POST-WTO INTERNATIONAL LEGAL ORDER: UTOPIAN, DYSTOPIAN AND OTHER SCENARIOS 221, 227-28 (Meredith Kolsky Lewis et al. eds., 2020).

[22] Nedumpara & Venkataraman, *supra* note 21, at 231.

[23] In fact, the spirit of localization was also implanted into the selection criteria of the pageant mechanism, in which the developers had to demonstrate to the MOEA the level of localization of its wind farm projects and which local suppliers and service provider it planned to connect and collaborate with in the future.

[24] LIAN FENGLI FADIAN GUIHUA CHANGZHI RONGLIANG FENPEI ZUOYE YAODIAN [RULES GOVERNING THE GRID ALLOCATION FOR OFFSHORE WIND FARMS] art. 4 (Taiwan) [hereinafter Grid Allocation Rules].

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FIT, on an optional basis. Among the winning developers under the pageant mechanism, only those who commit to complete the wind farm construction and start commercial operation at the later stage (i.e., in 2021 to 2025, as opposed to 2020) will be bound by the localization requirements. Those who are awarded the development right under the auction mechanism are not eligible to FIT, and will not be bound by the localization requirements.[25]

(b) Components — For the developers who are obliged to implement the localization requirements, they must submit a supply chain proposal to Taiwan's Industrial Development Bureau (hereinafter "IDB"), the government's industry wing with a strong voice on industrial policy.[26] To "guide" the preparation of the supply chain proposal and to "match" the developers with the local suppliers, IDB formulated a framework that contains a localization timeline and a list of potential suppliers and further identified the items that are subject to localization (see Annex below).[27]

Under IDB's localization framework, the developers should team up with their major contractors to collaborate with the local suppliers and service providers in the designated areas in both manufacturing (of turbine, foundation, cables, and so forth) and maritime construction.[28] Per IDB's localization framework, each developer's supply chain proposal will be implemented in the multi-layer contracting structures that cover not only engagement of manufacturing and provision of services, but also a substantial level of technology transfer, local personnel training, and facility upgrades.[29] IDB is under a mandate to review the contracting structure, production capacity, involvement of local suppliers in the core production process (e.g., numbers of component purchased) and service providers in the key construction services, and decide whether the supply chain proposal meets the localization goal.[30] According to the Grid Allocation Contract, the

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[25] Developers who sign the Grid Allocation Contracts under the auction process should sell electricity to Taipower at the bidding price or to an end-user as a negotiated price, which are much lower than the FIT rates. In fact, the bidding mechanism was criticized as the Taiwan market is not mature enough to implement such a mechanism. On the other hand, developers may also sell electricity to a corporate, based on a rate negotiated by the parties. For example, Orsted, a developer who was awarded 920MW capacity in both pageant and auction process, has signed a corporate power purchase agreement with Taiwan Semiconductor Manufacturing Company (TSMC), the global semiconductor giant. *See Ørsted and TSMC Sign the World's Largest Renewables Corporate Power Purchase Agreement*, ORSTED (Aug. 7, 2020, 3:00 PM), https://orsted.tw/en/news/2020/07/orsted-tsmc-cppa.

[26] *Template of Grid Allocation Contract*, FENGLI FADIAN DANYI FUWU CHUANGKOU [THOUSAND WIND TURBINES PROJECT] (Mar. 22, 2018, 11:29 AM) arts. 6.1, 11.1, https://www.twtpo.org.tw/gas.aspx?id=3260.

[27] *Lian Fengli Fadian Chanye Zhengce Ji Lian Fengli Fadian Chanye Guanlian Zhixing Fangan Jihuashu Jiagou Shuoming* [*Offshore Wind Power Industrial Policy*], INDUS. DEV. BUREAU (Jan. 18, 2018), https://www.moeaidb.gov.tw/ctlr?PRO=policy.rwdPolicyView&id=5614.

[28] *Id.*

[29] *Id.*

[30] JINJIBU GONGYEJU LIAN FENGLI FADIAN CHANYE GUANLIAN ZHIXING FANGAN SHENCHA ZUOYE YAODIAN [INDUSTRIAL DEVELOPMENT BUREAU, DEPARTMENT OF ECONOMIC AFFAIRS

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MOEA may revoke the developer's right to develop offshore wind farms if it fails to submit the proposal or IDB concludes that the proposal is not feasible.[31]

(c) Policy Intention — In addition to imposing localization requirements in different segments, the government on many occasions has also expressed its ambition to use IDB's localization framework to build an offshore wind supply chain that is not only able to support the domestic market, but is also competitive on the international level, especially in the Asian Pacific region.[32] Such a policy intention clearly mirrors the wider policy context of the Program, namely, it is designed with a trait of industrial policy. Although the effectiveness of capacity building, the positive spillover effects and the competitiveness projected under this localization framework have not yet been spelt out in quantitative terms, IDB's localization framework reflects the government's ideal of strengthening industrial capacity through loud policy interventions.

2. Localization Requirements in Phase 3 of the Program — As of the date this article was finalized, localization under Phase 3 was still undergoing intense discussions. Given the divide in regard to the scope and timeline, for the government and the stakeholders, there is a long way down to reaching an agreement on the content and the details of implementation. Having said that, from the introductory materials released by Taiwan's Bureau of Energy,[33] price competition through an auction process (i.e., FIT would be no longer available in Phase 3) with extended localization commitments as a condition of development right will be the basic contour of Phase 3. Like Phase 2, Phase 3 is not designed as a government procurement program and thus will not be subject to the government procurement law.

IV. WTO COMPATIBILITY ANALYSIS ON THE PROGRAM

How the WTO law weighs in to determine the legitimacy of *pure* LCR measures without an attachment to FIT in the context of energy transition opens a can of worms, given most literature and the WTO jurisprudence pertaining to renewable energy only focused on the grant of certain benefits by government conditioned on the use of local goods and/or services.[34] As

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OFFSHORE WIND FARM PROJECT IMPLEMENTATION REVIEW RULES] arts. 16-17 (Taiwan) [hereinafter Localization Rules].

[31] *Template of Grid Allocation Contract*, *supra* note 26, art. 11.1.

[32] *See* Feng Shuo Yang, *Taiwan Lüneng Fan Xinye Fangyan Yatai Lüdian Shichang* [*New Page Turned for Green Energy in Taiwan, Eyes on Asian-pacific Green Energy Market*], 18(3) TAIWAN ECON. F. 51 (2020).

[33] *Lian Fengdian Qukuai Kaifa Guihua Caoan* [*Offshore Wind Farm Block Development Plan Draft*], BUREAU ENERGY (June 19, 2020), https://www.twt po.org.tw/tools/download.ashx?id=253.

[34] In addition to the relevant disputes resolved at the consultation stage, see Panel Report, *United*

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the Program deviates from the default policy design (i.e., FIT plus LCR), this Section will examine whether *pure* LCR measures without an attachment to FIT in the context of energy transition are compatible with or justifiable under the WTO law.

A. Re-Framing Taiwan's Localization Requirements Through the Lens of WTO Law

How would the international trade rules potentially factor into the policy design of Taiwan's offshore wind development as a route toward energy transition? By reframing the localization requirements embedded in Phase 2 and Phase 3 of the Program through the lens of the WTO law, the design and content of which bring to light the crucial elements for the WTO compatibility analysis on the Program.

First, the localization requirements are bundled with the grant of development right, which, in Hestermeyer & Nielsen's taxonomy, can be categorized as a type of LCR being deployed as a condition of *licensing* via contract.[35] In Hestermeyer & Nielsen's taxonomy, local content measures as a condition of licensing in the exploitation of natural resources is a type of local content measures adopted by states (which is often used in the field of oil and gas).[36] This taxonomy is rooted from extraction economy, under which states see their natural resources not just as a financial benefit of themselves, but as the dawning to foster industrial development; and commitments on local content as a condition of grant of concession is one of the means employed in this respect.[37] It is fascinating to see that the Taiwanese government borrowed the concept from the natural resources exploitation and attached the localization requirements to the developer's right to develop offshore wind farms.

Second, because the awarded developer may elect to sell electricity directly to end-users at a negotiated price, the localization requirements are not necessarily tied to the FIT scheme. It marks an important feature of the Program, i.e., *LCRs and FIT are severable*. Crucially, this feature will likely excuse the WTO compatibility analysis on the Program from the policy

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States — Certain Measures Relating to the Renewable Energy Sector, WTO Doc. WT/DS510/R (circulated June 27, 2019) [hereinafter *US — Renewable Energy* Panel Report]; Panel Report, *Canada — Certain Measures Affecting the Renewable Energy Generation Sector & Canada — Measures Relating to the Feed-in Tariff Program*, WTO Doc. WT/DS412/R, WT/DS426/R (adopted May 24, 2013) [hereinafter *Canada — Renewable Energy* Panel Report]; Panel Report, *India — Certain Measures Relating to Solar Cells and Solar Modules*, WTO Doc. WT/DS456/R (adopted Oct. 14, 2016) [hereinafter *India — Solar Cells* Panel Report].

[35] Holger P. Hestermeyer & Laura Nielsen, *The Legality of Local Content Measures Under WTO Law*, 48(3) J. WORLD TRADE 553, 557-60 (2014).

[36] *Id.* at 560-61.

[37] *Id.* at 560.

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space debate of renewable energy subsidy under the Agreement on Subsidies and Countervailing Measures (hereinafter "SCM Agreement"), as the localization requirements in Phase 2 and Phase 3 are not contingent upon any *benefit* given by the government. On the other hand, this feature will bring the policy space discussion on LCRs back to the convention venue, namely, Article XX of the General Agreement on Tariffs and Trade (hereinafter "GATT"), as pure LCR measures *in goods* are highly likely to be in violation of the national treatment clause under the GATT and the Agreement on Trade-Related Investment Measures (hereinafter "TRIMS Agreement"). Sections IV.C.1 and 3 will discuss the possible GATT and TRIMS Agreement violations.

Third, while scholars generally agree that the Agreement on Government Procurement (hereinafter "GPA") and Article III:8(a) of the GATT preserves certain policy space for the use of LCRs under the WTO regime,[38] given Phase 2 and Phase 3 are not designed as a government procurement program, GPA and GATT Article III:8(a) will not be available sources of justification (see analysis in Section IV.C.2).

Fourth, IDB's localization framework reveals how the government projected their localization mindset onto the offshore wind industry: (i) the localization of manufacturing and professional services is being implemented *simultaneously*; [39] (ii) the timeline and the required localization items under each phase indicate the expected level of localization from the periphery to the core capacities;[40] and (iii) the design of this localization framework evidently revolves around the *building of*

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[38] *Id.* at 576.

[39] In fact, in order to localize both sectors in parallel, China Steel Corporation, the largest steel maker in Taiwan and a state-owned enterprise, and CSBC Corporation Taiwan, a prominent and state-owned shipbuilder, took the lead to build the supply chain, integrating the relevant resources, looking for potential suppliers, and matching these suppliers with the offshore wind farm developers and their main manufacturing and construction teams. In particular, China Steel Corporation formed a "wind team," consisting of a number of suppliers that are interested in and might have the capacity to partake in the projects; and CSBC formed a "marine team," consisting of a number of local or joint-venture vessel operators that have the potential to work on complex maritime construction. Like it or not, the wind team and marine team effectively set the parameters for the wind farm developers' supply chain proposals.

[40] Pei-Jun Huang, *Lian Fengdian Linxuan Banfa Jin Chulu Bentuhua Fenduan Shanglu* [*Offshore Wind Power Selection Regulations Revealed Today, Localization Implemented Through Phases*], LIBERTY TIMES NET (Jan. 15, 2018, 6:00 AM), https://news.ltn.com.tw/news/focus/paper/1168756. *See also* Yu-Huan Yin, *Lian Fengdian Pin Qicheng Guochanhua Jingjibu Yaoding Linxuan Zhibiao* [*The Minisry of Economic Affairs Will Promulgate Selection Guidelines as the Offshore Wind Industry Aims to Achieve Seventy Percent of Localization*], STORM MEDIA (Aug. 14, 2017, 7:27 PM), https://www.storm.mg/article/320761. As shown in the Annex, in the lead-time and prior phases, the localization requirements are only imposed on capabilities pertaining to steel structure and electrical and mechanical works, whereas in the latter phase, advanced technologies, such as those essential to the key turbine components, are also subject to such requirements. The same applies to the maritime construction segment, i.e., ancillary vessel operations in the lead-time and prior phases and major maritime construction planning and management in the latter phase.

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capacity. The foregoing shows that the localization requirements under Phase 2 and Phase 3 are a combination of LCR *in goods* and LCR *in services*, which integrates both the GATT and the General Agreement on Trade in Services (hereinafter "GATS") into the WTO compatibility analysis on the Program (see our analysis in Section IV.D).

Lastly, the Taiwanese government's intention to deploy LCRs in the Program as a green industrial policy, and the lack of quantitative evidence in respect of the effectiveness of the localization requirements are also pivotal on whether a justification under GATT Article XX can be established (see analysis in Section IV.C.2).

B. Four-Mode Categorization

For the purpose of the WTO compatibility analysis and based on how IDB's localization framework is implemented, this article dissects Phase 2 and Phase 3 of the Program into four modes.

As shown in the table below, because Mode 1 and Mode 3 do not contain the localization requirements, they are presumably WTO compatible. As for Mode 2 (under Phase 2) and Mode 4 (under Phase 3), since they both involve localization requirements, they will fall within the WTO compatibility analysis. Note that although the FIT scheme still plays a role in Mode 2, given FIT plus twenty-year guarantee purchase is only optional for the awarded developers in Mode 2, Mode 2 and Mode 4, both being the *pure* LCR measures without an attachment to FIT, would barely have no difference in the WTO compatibility analysis.

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Mode	Policy	Elements	Entry of WTO Compatibility Analysis of LCRs
Mode 1	Phase 2	Award of development right under pageant mechanism Enjoy FIT (optional; developer may elect to exit the FIT scheme and switch to private purchase and sale) No localization requirements	X
Mode 2	Phase 2	Award of development right under pageant mechanism Enjoy FIT (optional; developer may elect to exit the FIT scheme and switch to private purchase and sale) **Localization requirements as a condition of the right to develop offshore wind project**	O
Mode 3	Phase 2	Award of development right under auction mechanism No FIT No localization requirements	X
Mode 4	Phase 3	Award of development right under an auction process (still under discussion) No FIT **Localization requirements as a condition of the right to develop offshore wind project**	O

C. Localization Requirements in Goods

Although no specific provision in the WTO covered agreements expressly outlaws LCR *per se*,[41] a LCR measure in goods is subject to Article III of the GATT, Article 2 of the TRIMS Agreement, and possibly Article 3.1(b) of the SCM Agreement.[42]

1. GATT — The dominant view among the scholars and the WTO

[41] Hestermeyer & Nielsen, *supra* note 35, at 566.

[42] Appellate Body Report, *Canada — Certain Measures Affecting the Renewable Energy Generation Sector & Canada — Measures Relating to the Feed-in Tariff Program*, ¶ 5.5, WTO Doc. WT/DS412/AB/R, WT/DS426/AB/R (adopted May 24, 2013) [hereinafter *Canada — Renewable Energy* Appellate Body Report].

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jurisprudence denote that recourse to LCRs runs afoul of the national treatment obligation under Articles III:4 and 5 of the GATT.[43] Given Mode 2 and Mode 4 contain the localization requirements in goods, the WTO compatibility analysis shows that such a long-standing view remains unchanged in this case, i.e., Mode 2 and Mode 4 are not compatible with Article III of the GATT.

GATT Article III provides a foundation principle of national treatment under the WTO law, according to which each Member should treat imported goods and locally manufactured goods equally.[44] Article III:4 of the GATT provides in the relevant part:

> The 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.

To establish a violation of Article III:4, three elements must be satisfied: (i) the imported and domestic products at issue are *like products*; (ii) the measure at issue is a *law, regulation, or requirement* affecting their internal sale, offering for sale, purchase, transportation, distribution, or use; and (iii) the imported products are accorded *less favorable treatment* than that accorded to like domestic products.[45] These three elements are discussed as follows.

Like products. Following the Panel and Appellate Body's determination in *India — Solar Cells*, the key components of wind turbines such as towers, transformers, switchgears, and foundations, which are covered by IDB's localization framework for Mode 2 and Mode 4,[46] would be considered as like products of foreign-manufactured products because the criterion to

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[43] Umberto Celli Junior, *The Impact of WTO Case Law on the Use of Local Content Requirements*, *in* THE WTO DISPUTE SETTLEMENT MECHANISM 83, 89-91 (Alberto do Amaral Júnior et al. eds., 2019).

[44] *Principles of the Trading System*, WORLD TRADE ORG. [hereinafter WTO], https://www.wto.org/english/thewto_e/whatis_e/tif_e/fac t2_e.htm (last visited Jan. 27, 2021).

[45] Appellate Body Report, *Korea — Measures Affecting Imports of Fresh, Chilled and Frozen Beef*, ¶ 133, WTO Doc. WT/DS161/AB/R, WT/DS169/AB/R (adopted Jan. 10, 2001) [hereinafter *Korea — Beef* Appellate Body Report].

[46] Under the Grid Allocation Rules and the Localization Rules, the developer should submit its supply chain proposal and supporting documents, including all the contract packages and memorandum of understandings (MOU) signed for the purpose of the project. According to Industrial Development Bureau (IDB), the supply chain proposal should cover a series of key components of wind turbine manufacturing, such as towers, transformers, switchgears, and foundations.

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distinguish domestic and foreign products is solely based on the origin.[47] The latest Panel Report pertaining to local content dispute, i.e., *US — Renewable Energy*, once again confirmed this finding.[48]

Law, regulations affecting internal trade. Although IDB's localization framework implemented in Mode 2 and Mode 4 did not go through a formal agency rulemaking process before it was promulgated, given it still binds all awarded developers and has been incorporated into the Grid Allocation Contract as a condition of development right, it should not be difficult to conclude that it is regulations affecting internal trade.[49]

Less favorable treatment. Albeit the less favorable treatment analysis largely lies on the evidence regarding the actual effects of the measure in each case,[50] it is generally recognized that a measure involving LCRs will automatically constitute a *de jure* discrimination on the basis of the origin of the product, thereby treating the foreign product less favorably than the local product and modifying the conditions of competition. In the same vein, it is highly likely that Mode 2 and Mode 4 accord less favorable treatment to the foreign key components of wind turbines.[51]

Article III:5 of the GATT also has high relevance to the legality of a LCR measure. Article III:5 of the GATT provides in the relevant part:

> No 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.

Despite the scarcity of precedents due to the panels and the Appellate

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[47] Panel Report, *India — Measures Affecting the Automotive Sector*, ¶ 7.174, WTO Doc. WT/DS146/R, WT/DS175/R (adopted Apr. 5, 2002) [hereinafter *India — Autos* Panel Report].

[48] *US — Renewable Energy* Panel Report, *supra* note 34, ¶¶ 7.87-.90.

[49] According to *India — Solar Cells* Panel Report, the Panel held that if a local content measure is "necessary to obtain an advantage", and if the local content measure "requires the purchase or use by an enterprise of products of domestic origin", such measure would be considered as a "law, regulation, or requirement affecting their internal sale, offering for sale, purchase, transportation, distribution, or use." *See India — Solar Cells* Panel Report, *supra* note 34, ¶ 7.88.

[50] Appellate Body Report, *Thailand — Customs and Fiscal Measures on Cigarettes from the Philippines*, ¶¶ 130, 134, WTO Doc. WT/DS371/AB/R (adopted July 15, 2011) [hereinafter *Thailand — Cigarettes (Philippines)* Appellate Body Report].

[51] If a measure would change the condition of competition in the relevant market to the detriment of imported products, such a measure would be deemed as causing less favorable treatment under Article III.4. *See* Panel Report, *Japan — Measures Affecting Consumer Photographic Film and Paper*, ¶ 10.379, WTO Doc. WT/DS44/R (adopted Apr. 22, 1998); Panel Report, *Korea — Measures Affecting Imports of Fresh, Chilled and Frozen Beef*, ¶ 627, WTO Doc. WT/DS161/AB/R, WT/DS169/AB/R (adopted Jan. 10, 2001) [hereinafter *Korea — Beef* Panel Report]; Hestermeyer & Nielsen, *supra* note 35, at 572.

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Body's exercise of judicial economy,[52] scholars' views are that a LCR measure would essentially satisfy the elements set forth in the first sentence of GATT Article III:5 and would run conflict to this provision.[53] Here, as Mode 2 and Mode 4 require the awarded developers to engage in local manufacturing and use locally made components of wind turbines, they would, by nature, violate GATT Article III:5.[54]

2. Possible Defenses Under GATT — Several defenses under the GATT might be brought to justify Mode 2 and Mode 4's violation of Articles III:4 and 5 of the GATT.

(a) Voluntary Commitment — One of the few responses the Taiwanese government has made to address the concern of WTO compatibility of the localization requirements in the Program is that they do not impose *mandatory* LCRs; instead it is the awarded developers who voluntarily committed to localizing the supply chain.[55] However, WTO jurisprudence indicates that a measure would still be subject to Article III:4 even if it is not mandatory,[56] and voluntary adherence to a LCR in order to obtain an advantage from the government will fall within the meaning of Article III:4.[57] Hence, the Taiwanese government's assertion on voluntary commitment would likely fail to justify the implementation of Mode 2 and Mode 4.

(b) Article III:8(a) of the GATT — Article III:8(a) provides: "(a) [t]he 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."

Invoked in both *Canada — Renewable Energy* and *India — Solar Cells*, Article III:8(a) of the GATT has been argued by the respondents as an exception to the LCR measures in renewable energy development.

Although Article III:8(a) of the GATT does offer certain flexibilities for the WTO Members to adopt LCR measures to attain their policy goals, the fact that the Program is not designed as a government procurement program

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[52] *See* Hestermeyer & Nielsen, *supra* note 35, at 573-74; Celli Junior, *supr*a note 43, at 88.
[53] Hestermeyer & Nielsen, *supra* note 35, at 574.
[54] *Id.*
[55] Chia-Wei Liang, *Dungou Jingbiao Guochanhua 2025 Qian Lian Fengdian Chanye Sumiao* [*FIT Bidding Localization, Sketch of Offshore Wind Industry Before 2035*], EVENTS FOCUS (Dec. 10, 2018), https://www.eventsinfocus.org/news/2791.
[56] Panel Report, *Canada — Certain Measures Affecting the Automotive Industry*, ¶ 10.73, WTO Doc. WT/DS139/R, WT/DS142/R (adopted June 19, 2000) [hereinafter *Canada — Autos* Panel Report].
[57] Panel Report, *Turkey — Measures Affecting the Importation of Rice*, ¶ 7.219, WTO Doc. WT/DS334/R (adopted Oct. 22, 2007) [hereinafter *Turkey — Rice* Panel Report]. *See also* Report of the Panel, *Canada — Administration of the Foreign Investment Review Act*, ¶ 5.6, L/5504 (Feb. 7, 1984), GATT BISD (30th Supp.), at 140; SHERZOD SHADIKHODJAEV, *Local Content Requirements and Industrialization*, *in* INDUSTRIAL POLICY AND THE WORLD TRADE ORGANIZATION: BETWEEN LEGAL CONSTRAINTS AND FLEXIBILITIES 147, 154 (2018).

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would make no room for Article III:8(a) to be an available derogation. As stated in Section IV.A, Mode 2 and Mode 4 are deployed as a condition of *licensing* (i.e., grant of development right). It has nothing to do with government procurement.

However, one cannot rule out the possibility that the Taiwanese government may argue that while the FIT scheme plus twenty-year guarantee purchase of electricity is optional, government procurement would exist if the awarded developer elects to participate in the FIT scheme and enters into a power purchase agreement with Taipower. Even if this is the case, Article III:8(a) of the GATT is still not likely to be a derogation for Mode 2 and Mode 4, because the panels and Appellate Body had ruled in *Canada — Renewable Energy* and *India — Solar Cells* that electricity (subject of government procurement) and electricity generation equipment (subject of the LCR) are not in a competitive relationship and so procurement of electricity does not fall within the ambit of Article III:8(a).[58] Owing to such a narrow interpretation, the availability of Article III:8(a) to justify use of LCR is significantly limited.[59] It follows that a LCR measure in the context of energy transition, even in the form of government procurement, would hardly survive under Article III:8(a) of the GATT.

(c) Article XX of the GATT — Wu and Salzman have suggested that the rise of "NextGen" green industrial policy disputes has shifted how the WTO law is applied in the disputes with respect to the balance between the competing trade and environmental interests.[60] In explaining why it has happened, Wu and Salzman's insight was that it is because the traditional two-step balancing mechanism under Article XX of the GATT disappears in the NextGen cases, as most of them veer away from the GATT and largely concern the legality of pro-environmental subsidies as part of an industrial policy.[61]

This is not the case here. Although the localization requirements implemented in Mode 2 and Mode 4 form a critical part of Taiwan's offshore

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[58] *Canada — Renewable Energy* Appellate Body Report, *supra* note 42, ¶ 5.75; *India — Solar Cells* Panel Report, *supra* note 34, ¶ 7.114. Note in the *Canada — Renewable Energy* Panel Report, while the Panel recognized the differences between the products, it found that a close relationship between electricity and the generation equipment is sufficient for electricity procurement to fall under Article III:8 of the GATT. The Appellate Body, however, concluded that electricity and generation equipment are not in a competitive relationship and this procurement of electricity does not fall within the scope of Article III:8 of the General Agreement on Tariffs and Trade (GATT) (*see Canada — Renewable Energy* Appellate Body Report, *supra* note 42, ¶¶ 5.79, 5.85). *See also* Celli Junior, *supra* note 43, at 92; Hestermeyer & Nielsen, *supra* note 35, at 581.

[59] AARON COSBEY & LUCA RUBINI, DOES IT FIT? AN ASSESSMENT OF THE EFFECTIVENESS OF RENEWABLE ENERGY MEASURES AND OF THE IMPLICATIONS OF THE CANADA — RENEWABLE ENERGY/FIT DISPUTES 6 (2013), http://e15initiative.org/wp-content/uploads/2015/09/E15-Clean-Energy-Technologies-CosbeyRubini-FINAL.pdf.

[60] Wu & Salzman, *supra* note 18, at 451.

[61] *Id.* at 452-54.

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wind development and energy transition policy, unlike typical NextGen cases, they do not contain a financial contribution by the government, and so the SCM Agreement does not apply. This makes the legality of Mode 2 and Mode 4 a pure national treatment issue. Hence, intriguingly, Article XX of the GATT returns to the center in this case serving as the mechanism for the policy space debate.

In the trade and climate/environment domain, key paragraphs of GATT Article XX popularly referred to in the classic trade-environmental disputes, namely paragraphs (b), (d) and (g),[62] may potentially serve as the justifications for Mode 2 and Mode 4. On this premise, this article conducts a GATT Article XX analysis to see if Mode 2 and Mode 4, which are inconsistent with GATT and TRIMS, can be justified by these three paragraphs.[63] On the structure of analysis, this article will follow the two-tiered approach with an examination of the Chapeau of Article XX.[64]

Article XX of the GATT provides in the relevant part:

> Subject to the requirement that such measures are not applied in a manner which would constitute a means of arbitrary or unjustifiable discrimination between countries where the same conditions prevail, or a disguised restriction on international trade, nothing in this Agreement shall be construed to prevent the adoption or enforcement by any contracting party of measures:
> . . .
> (b) necessary to protect human, animal or plant life or health;
> . . .
> (d) 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;
> . . .
> (g) relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with

[62] Rubini, *supra* note 7, at 559-60; Committee on Trade and Environment, *Note by the Secretariat: GATT/WTO Dispute Settlement Practice Relating to GATT Article XX Paragraphs (b), (d) and (g)*, at 3, WTO Doc. WT/CTE/W/203 (Mar. 8, 2002).

[63] In *India — Solar Cells*, the Panel and Appellate Body also examined whether the measure at issue can be justified by paragraph (j) of the GATT Article XX. However, considering that paragraph (j) is of less relevance to Taiwan's localization requirements in its offshore wind development program, this article does not examine this general exception clause.

[64] *See* Appellate Body Report, *Brazil — Measures Affecting Imports of Retreaded Tyres*, ¶ 139, WTO Doc. WT/DS332/AB/R (adopted Dec. 17, 2007) [hereinafter *Brazil — Retreaded Tyres* Appellate Body Report].

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restrictions on domestic production or consumption;

(i) Objectives Pursued? — *Paragraphs (b) and (g)*. To identify whether the objectives pursued through the measure at issue fall within the range of policies set forth in the relevant paragraphs under GATT Article XX, the scope of the measure at issue matters. Here, if the measure at issue is "localization requirements implemented in Mode 2 and Mode 4", given its strong green industrial policy background and the Taiwanese government's policy intention to strengthen domestic industrial capacity and competitiveness through such a measure, it would be challenging, if not impossible, for the Taiwanese government to demonstrate that the measure aims to pursue the policy objectives prescribed in paragraphs (b) or (g) of GATT Article XX.

Nonetheless, if the measure at issue is "the offshore wind national program as a whole" (i.e., the Program), given that the Program is designed to attain energy transition by decreasing dirty power plants shored up by coal and phasing out nuclear power plants that generate harmful nuclear wastes,[65] there might be a chance for the Taiwanese government to argue that the measure at issue, including the localization requirements imbedded therein, is meant to protect public health and/or conserve exhaustible natural resources (by limiting greenhouse gas (GHG) emissions into clean air).[66] In particular on paragraph (b), as the energy transition goal has been codified into REDA in which curbing climate change is one of its legislative objectives,[67] there might also be a chance for the Taiwanese government to argue that the measure at issue is critical to climate change mitigation, a policy objective recognized by the Appellate Body as relevant to protection of human life and health.[68]

Given that the targeted measure in the WTO compatibility analysis is Mode 2 and Mode 4 instead of the entire Program (as a substantial part of it is WTO compatible, see Section IV.B), to pinpoint the measure at issue to localization requirements implemented in Mode 2 and Mode 4 would make more practical sense.

Paragraph (d). The WTO precedents have demonstrated that for a

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[65] *Locally Made Components for Taiwan's Growing Offshore Wind Sector*, MAR. EXECUTIVE (Nov. 1, 2020), https://www.maritime-executive.com/article/locally-made-components-for-taiwan-s-growing-offshore-wind-sector.

[66] Panel Report, *United States — Standards for Reformulated and Conventional Gasoline*, ¶¶ 6.21, 6.37, WTO Doc. WT/DS2/R (adopted May 20, 1996) [hereinafter *US — Gasoline* Panel Report]. *See also* KUNTZE & MOERENHOUT, *supra* note 3, at 39.

[67] Article 1 of REDA provides that "[f]or purposes of encouraging renewable energy use, promoting energy diversification, improving energy structure, reducing emission of greenhouse gases, improving environmental quality, assisting relevant industries, and enhancing sustainable development of the country, this Act is specially formulated."

[68] *Brazil — Retreaded Tyres* Appellate Body Report, *supra* note 64, ¶ 151. *See also* Rubini, *supra* note 7, at 559.

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measure to be justified by paragraph (d), it must be designed to secure compliance with laws or regulations that are not themselves inconsistent with the GATT.[69] The Panel and Appellate Body in *India — Solar Cells* provided a comprehensive analysis on whether paragraph (d) may justify certain domestic content requirements,[70] in which what counts as laws or regulations is the core of the assessment.[71] In *India — Solar Cells*, the Panel and Appellate Body opined that for international instruments such as the United Nations Framework Convention on Climate Change (UNFCCC) to be laws or regulations, they must *form a part of the domestic legal system* of a WTO Member, either being incorporated into the domestic legislation or executive acts intended to implement an international agreement, or having direct effect in the domestic legal system without specific domestic implementation.[72] As for domestic instruments, the Appellate Body set out several criteria to examine whether a domestic rule would fall within the scope of laws or regulations, such as *operation with a sufficient degree of normativity*.[73]

Here, there would be little room for the Taiwanese government to invoke paragraph (d), as Taiwan is not a contracting party to the majority of international conventions or instruments.[74] Moreover, although the localization requirements implemented by Mode 2 or Mode 4 are a contractual obligation of the awarded developers in the Grid Allocation

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[69] *Korea — Beef* Appellate Body Report, *supra* note 45, ¶ 157.

[70] In order to incentivize the development of solar energy, the Indian government imposed the domestic content requirement (DCR) measures. Under the DCR measure, the government would enter into a power purchase agreement with the developers in an agreed rate for twenty-five years. In exchange, the developers should use the solar cells and modules manufactured in India.

[71] SHADIKHODJAEV, *supra* note 57, at 159.

[72] Appellate Body Report, *India — Certain Measures Relating to Solar Cells and Solar Modules*, ¶¶ 5.140-.141, WTO Doc. WT/DS456/AB/R (adopted Oct. 14, 2016) [hereinafter *India — Solar Cells* Appellate Body Report]; *India — Solar Cells* Panel Report, *supra* note 34, ¶¶ 7.288-.293.

[73] *India — Solar Cells* Appellate Body Report, *supra* note 72, ¶ 5.127:

> As explained above, such factors may include, among others: (i) the degree of normativity of the instrument and the extent to which the instrument operates to set out a rule of conduct or course of action that is to be observed within the domestic legal system of a Member; (ii) the degree of specificity of the relevant rule; (iii) whether the rule is legally enforceable, including, e.g. before a court of law; (iv) whether the rule has been adopted or recognized by a competent authority possessing the necessary powers under the domestic legal system of a Member; (v) the form and title given to any instrument or instruments containing the rule under the domestic legal system of a Member; and (vi) the penalties or sanctions that may accompany the relevant rule.

[74] Due to limited space, this article will not go into details on whether any climate-related international instrument may be argued by the Taiwanese government as laws or regulations. However, it would be interesting to explore whether "self-imposed" international law obligations may fall within the definition of laws or regulations under paragraph (d) of the GATT Article XX, as this is a tactic used by the Taiwanese government to "incorporate" international law obligations into the domestic legal system in face with its marginalized international participation.

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Contract, they do not aim to secure compliance with any domestic instruments, because the major pillars of the electricity sector and renewable energy regulation in Taiwan govern electricity generation, not the upstream manufacturing sectors. As a result, paragraph (d) may not be available justification for Mode 2 and Mode 4.

(ii) Necessary to, Relating to and in Conjunction with? — Assuming that the Taiwanese government successfully establish the first element of the two-tiered test under paragraphs (b) and (g), in the second step, this article shall examine the elements of "necessary for" in paragraph (b) and "relating to" and "in conjunction with" in paragraph (g).

Paragraph (b). There has been an evolution in the interpretation of the necessity requirement under paragraph (b) of the GATT Article XX[75], but the dominant approach to date is to examine the necessity "in a process of weighing and balancing a series of factors which prominently include the contribution made by the compliance measure to the enforcement of the law or regulation at issue, the importance of the common interests or values protected by that law or regulation, and the accompanying impact of the law or regulation on imports or exports";[76] and whether there is a reasonably available alternative measure.[77]

The weighing and balancing test involves a complex fact finding and evidentiary process. This article suggests that whether the localization requirements implemented in Mode 2 and Mode 4 "contribute" to its importance in the protection of human life and health heavily depend on their *effectiveness*.[78] In other words, the Taiwanese government would need to demonstrate that the localization requirements implemented in Mode 2 and Mode 4 do have positive spillover effects in terms of technology transfer, job creation, and international competitiveness of the offshore wind industry, which foster not only economic benefits but also environmental benefits, and that they further benefit human life and health or prevent health risks associated with coal-fired and nuclear power plants. Ultimately, the

[75] The evolution of interpretation can be seen from the "least-trade restrictiveness" approach in *Thailand — Cigarettes* to the "less-trade restrictiveness" approach in *US — Measures Affecting Alcoholic and Malt Beverages*, and to the "weighing and balancing" approach in *Korea — Beef*. *See* Committee on Trade and Environment, *supra* note 62, at 14-15.

[76] *Korea — Beef* Appellate Body Report, *supra* note 45, ¶ 164. *See also* Panel Report, *Brazil — Certain Measures Concerning Taxation and Charges*, ¶ 7.529, WTO Doc. WT/DS472/R, WT/DS497/R (adopted Jan. 11, 2019) [hereinafter *Brazil — Taxation* Panel Report].

[77] *US — Gasoline* Panel Report, *supra* note 66, ¶¶ 6.26, 6.28. *See also* Appellate Body Report, *United States — Measures Affecting the Cross-Border Supply of Gambling and Betting Services*, ¶¶ 306-08, WTO Doc. WT/DS285/AB/R (adopted Apr. 20, 2005); *Brazil — Taxation* Panel Report, *supra* note 76, ¶ 7.532.

[78] Limited effectiveness has been taken into account by the panel and Appellate Body when assessing the measures contribution to the realization of the end pursued. *See* Appellate Body Report, *Dominican Republic — Measures Affecting the Importation and Internal Sale of Cigarettes*, ¶ 72, WTO Doc. WT/DS302/AB/R (adopted May 19, 2005).

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Taiwanese government needs to prove that a LCR measure on offshore wind industry is not "window dressing", but an effective policy tool for the energy transition and green economy and in a wider policy context—a crux of protecting human life and health.

As to whether there may be a reasonably available alternative measure, scholars have held the view that there is none, as a renewable energy promotion policy without the LCR measure is always less trade restrictive.[79] However, that does not answer the question whether there are reasonably available alternative means to achieve the same policy objectives as those of the LCR measure. To explore, this article suggests that instead of mandatory local procurement, a possible alternative could be to require the awarded offshore wind farm developers and their major contractors to collaborate with the component and equipment suppliers who are *joint ventures* (hereinafter "JV") in which certain shareholding percentage must be domestically funded. Under this JV approach, transfer of technology, financial and technical support and job creation, i.e., those why the LCR is preferred,[80] can possibly be achieved as well. Note that the JV approach will not trigger the non-discrimination principle violation under GATS as it only concerns upstream manufacturing.

Paragraph (g). The long-established interpretation affirmed by the WTO precedents with regard to "relating to" under paragraph (g) of the GATT Article XX is that it means the measure at issue has to be *primarily aimed at* the conservation of an exhaustible natural resource.[81] As for the element of "in conjunction with", the Appellate Body in *US — Gasoline* interpreted this as meaning that it is a requirement of *even-handedness* in the imposition of restrictions on the production or consumption of exhaustible natural resources, namely in the name of conservation, the measure must also

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[79] Hestermeyer & Nielsen, *supra* note 35, at 590. *See also* KUNTZE & MOERENHOUT, *supra* note 3, at 39.

[80] On an economic front, the proponent camp of LCRs considers that local content requirements create short-term benefits like green jobs, as well as long-term benefits like sectorial growth by nurturing infant industries until they reach economics of scale and are able to compete in the international markets. On an environmental front, the proponents of LCRs argue that local content requirements in renewable energy sectors create positive spillover effects in the medium-term or the long-term, thereby lowering the costs of green technology, spurring innovation and technology transfer, and ultimately bringing more mature players into the green markets. One element central to the discussion is transfer of technology through the "learning-by-doing" process, as this is commonly seen in implementing the localization goal in the renewable energy sectors when the quality of products needs to be maintained by local suppliers. Scholars have pointed out that, although positive spillover effects of local content requirements usually come with time and experience, the cost of which is high in the short-term, so long as local content requirements can facilitate technology transfer and industrial capacity building, it is still worth doing. *See generally* KUNTZE & MOERENHOUT, *supra* note 3; STEPHENSON, *supra* note 7; Wu & Salzman, *supra* note 18, at 422.

[81] Report of the Panel, *Canada — Measures Affecting Exports of Unprocessed Herring and Salmon*, ¶ 4.6, L/6268 (Mar. 22, 1988), GATT BISD (35th Supp.), at 98; Appellate Body Report, *United States — Standards for Reformulated and Conventional Gasoline*, at 18, WTO Doc. WT/DS2/AB/R (adopted May 20, 1996) [hereinafter *US — Gasoline* Appellate Body Report].

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be made effective for domestic products.[82]

While there may be debates on whether the localization requirements implemented in Mode 2 and Mode 4 are *primarily aimed at* reducing GHG emission and the conservation of clean air, since the localization requirements explicitly demand that the awarded developers source domestically, by nature, it cannot be an equal treatment for foreign and domestic wind turbine equipment and components.[83] Hence, the Taiwanese government will likely fail to prove that the measure at issue passes the second step under paragraph (g).

(iii) Chapeau. — Finally, even if all the conditions under relevant paragraphs of GATT Article XX are met, the localization requirements implemented in Mode 2 and Mode 4 have to fulfill the chapeau of GATT XX, which requires that the measure at issue does not constitute an abuse or misuse of the provisional justifications, i.e., it should be applied in good faith.[84] The Chapeau of GATT XX is a matter of manner; it is about the *detailed operating provisions* of the measure at issue and how it is *actually applied*.[85] Pauwelyn, in his article addressing the unilateral carbon tax or regulation on imports by the United States, had commented that the Chapeau of GATT Article XX may be the most important provision in the entire GATT agreement in terms of climate-trade related disputes.[86]

A number of circumstances have been taken into account by the panels and Appellate Body when examining whether the Chapeau of GATT Article XX is met, such as whether local conditions have been considered, and whether due process has been complied with.[87] Based on the precedents, it would be challenging for the Taiwanese government to demonstrate that it had considered the local conditions in foreign countries,[88] such as whether other countries also adopted LCR measures or similar policies in their offshore wind development programs. Importantly, although the Program is squarely crafted, the localization requirements embedded therein were made under a sort of fight-or-flight and closed-door strategy during the rulemaking process, during which how long and how far such localization policy will go

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[82] *US — Gasoline* Appellate Body Report, *supra* note 81, at 20-21. *See also* Appellate Body Report, *United States — Import Prohibition of Certain Shrimp and Shrimp Products*, ¶¶ 143-45, WTO Doc. WT/DS58/AB/R (adopted Nov. 6, 1998) [hereinafter *US — Shrimp* Appellate Body Report].

[83] *See* KUNTZE & MOERENHOUT, *supra* note 3, at 39.

[84] *See WTO Rules and Environmental Policies: GATT Exceptions*, WTO, https://www.wto.org/english/tratop_e/envir_e/envt_rules_exceptions_e.htm (last visited Feb. 6, 2021).

[85] *US — Shrimp* Appellate Body Report, *supra* note 82, ¶ 160.

[86] Joost Pauwelyn, *U.S. Federal Climate Policy and Competitiveness Concerns: The Limits and Options of International Trade Law* 37 (Nicholas Inst. Env't Policy Sols., Working Paper No. NI WP 07-02, 2007).

[87] *US — Shrimp* Appellate Body Report, *supra* note 82, ¶¶ 177-83. *See also* Lorand Alexander Bartels, *The Chapeau of the General Exceptions in the WTO GATT and GATS Agreements*, 109(1) AM. J. INT'L L. 95, 122 (2015).

[88] *US — Shrimp* Appellate Body Report, *supra* note 82, ¶¶ 161, 163.

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was unknown, nor did we know on what basis and statistics the IDB had made the localization framework. Hence, the degree of transparency and predictability of the localization requirements in Mode 2 and Mode 4 are likely to fail to pass the basic fairness and due process requirement.[89]

In conclusion, the GATT Article XX analysis suggests that if the measure at issue is "localization requirements implemented in Mode 2 and Mode 4", there may be room for the Taiwanese government to argue that the objective pursued elements in paragraph (b) and (g) are met, but it would be difficult, if not impossible, for the Taiwanese government to demonstrate that the measure at issue is in conjunction with the requirement in paragraph (g). Even if the Taiwanese government can successfully demonstrate that the measure at issue is necessary for the protection of human, animal or plant life or health under paragraph (b), the rulemaking process and how Mode 2 and Mode 4 were actually implemented and applied would hardly fulfill the Chapeau of GATT Article XX. Consequently, if Mode 2 and Mode 4 are not justified by paragraph (b), they would be found GATT incompatible.

3. TRIMS Agreement — The TRIMS Agreement governs investment measures related to trade, under which the WTO Members are prohibited from imposing any measure that discriminates against foreign products.[90] With regard to whether a measure would constitute a trade-related investment measure (hereinafter "TRIM" or "TRIMs"), the Panel in *India — Solar Cells*, referencing the Panel in *Indonesia — Autos*,[91] held that the measures (i) that aim to incentivize the production of solar power generation equipment explicitly reflected in relevant documents, and (ii) have investment-related aims within the border policy context outlined constitute TRIMs.[92] The localization requirements implemented in Mode 2 and Mode 4 manifestly incentivize local manufacturing of wind turbine equipment and do have clear investment-related aims in terms of the nation's green economy strategy. Thus, Mode 2 and Mode 4 are likely to be considered as TRIMs.

A TRIM would be inconsistent with Article 2.1 of the TRIMS Agreement if it is inconsistent with Article III of the GATT.[93] Paragraph 1(a) of the Illustrative List in the Annex thereof states:

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[89] *US — Shrimp* Appellate Body Report, *supra* note 82, ¶ 181. *See also* Pauwelyn, *supra* note 86, at 40.

[90] *Agreement on Trade Related Investment Measures*, WTO, https://www.wto.org/english/tratop_e/invest_e/invest_info_e.htm (last visited Feb. 6, 2021).

[91] Panel Report, *Indonesia — Certain Measures Affecting the Automobile Industry*, ¶ 14.72, WTO Doc. WT/DS54/R, WT/DS55/R, WT/DS59/R, WT/DS64/R (adopted July 23, 1998) [hereinafter *Indonesia — Autos* Panel Report].

[92] *India — Solar Cells* Panel Report, *supra* note 34, ¶¶ 7.58-.62.

[93] Article 2.1 of the Agreement on Trade-Related Investment Measures (TRIMS Agreement). *See also* SHADIKHODJAEV, *supra* note 57, at 147, 160.

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> TRIMs that are inconsistent with the obligation of national treatment provided for in paragraph 4 of Article III of GATT 1994 include those which are mandatory or enforceable under domestic law or under administrative rulings, or compliance with which is necessary to obtain an advantage, and which require: (a) the purchase or use by an enterprise of products of domestic origin or from any domestic source, whether specified in terms of particular products, in terms of volume or value of products, or in terms of a proportion of volume or value of its local production . . . .

A breach of Article 2.1 of the TRIMS Agreement, however, may be justified under Article 3, which incorporates the general exception clause of GATT Article XX.[94]

Since the localization requirements implemented in Mode 2 and Mode 4 are likely not compatible with the GATT and are not likely to be justified by GATT Article XX, they would be in breach of the TRIMS Agreement automatically.

4. SCM Agreement — The LCR, which is generally recognized as a type of import substitution, is a prohibited subsidy under Article 3.1(b) of SCM Agreement: "Except as provided in the Agreement on Agriculture, the following subsidies, within the meaning of Article 1, shall be prohibited: . . . (b) subsidies contingent, whether solely or as one of several other conditions, upon the use of domestic over imported goods."

A LCR measure would not be subject to the disciplines of Article 3.1(b) of SCM Agreement unless a subsidy, within the meaning of Article 1 of the SCM Agreement, exists. Under the SCM Agreement, a subsidy exists if two elements are present: (i) a *financial contribution* by a government and (ii) a *benefit* is thereby conferred.[95]

As stated in Section III.A.1, since participating in the FIT scheme and selling electricity to Taipower at an applicable FIT rate is optional for the awarded offshore wind farm developers, the localization requirements in the Program implemented by Mode 2 and Mode 4 are not tied to the FIT scheme, a possible type of financial contribution (i.e., government purchases goods) recognized by the Appellate Body in *Canada — Renewable Energy*.[96] The idea that the localization requirements and the FIT scheme are severable means no element of financial contribution by government will be present in

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[94] *Indonesia — Autos* Panel Report, *supra* note 91, ¶ 14.92; SHADIKHODJAEV, *supra* note 57, at 161.

[95] Articles 1.2 and 2 of the Agreement on Subsidies and Countervailing Measures (SCM Agreement). *See also* DOMINIC COPPENS, WTO DISCIPLINES ON SUBSIDIES AND COUNTERVAILING MEASURES 39 (2014).

[96] *Canada — Renewable Energy* Appellate Body Report, *supra* note 42, ¶ 5.128; *Canada — Renewable Energy* Panel Report, *supra* note 34, ¶¶ 7.223-.224.

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the design of Taiwan's offshore wind localization policy. As a result, the localization requirements in the Program will not enter the sphere of SCM Agreement.

As FIT and LCRs are conflated in *Canada — Renewable Energy*, Rubini and Cosbey had once commented that had the Panel and Appellate Body found the FIT to be a subsidy in that case, they would arguably have found no particular difficulty in concluding that the LCR breached Article 3.1(b) of the SCM Agreement which prohibits so-called local content subsidies.[97] This observation implies that if a LCR is not attached to FIT, meaning no measure would be found to be a subsidy, a LCR *per se* will not constitute a breach of Article 3.1(b) of the SCM Agreement.

In sum, Mode 2 and Mode 4 are compatible with the SCM Agreement.

D. Localization Requirements in Services

The dichotomy of trade in goods and trade in services under the WTO law makes the application of the national treatment principle in the GATT and GATS completely different. To be specific, although Article III of the GATT generally bans LCR measures (except where it can be justified under Article III:8 of the GATT), depending on the schedule of specific commitments, WTO Members have more leeway under Article XVII of GATS to impose LCR measures on service sectors. In other words, if a WTO Member (i) does not commit the national treatment to a specific service sector,[98] or (ii) is unbound on a specific mode of supply in a service sector,[99] that WTO Member may go unfettered in deciding whether to deploy a LCR measure as an industrial policy instrument in a service sector.[100]

IDB's localization framework requires the awarded developers to hire and/or subcontract the construction to local contractors and use Taiwan-flag vessels (meaning that the developers must engage local vessel carrier companies and crews) for the construction and development of offshore wind farms.[101] These services are mostly relevant to the *construction and related engineering services* and *maritime transport services* under the Services Sectorial Classification List (W/120).[102] According to Taiwan's

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[97] COSBEY & RUBINI, *supra* note 59, at 6.

[98] Isabelle Ramdoo, *Local Content, Trade and Investment: Is There Policy Space Left for Linkages Development in Resource-rich Countries?* viii (ECDPM, Discussion Paper No. 205, 2016).

[99] ISABELLE RAMDOO, UNPACKING LOCAL CONTENT REQUIREMENTS IN THE EXTRACTIVE SECTOR: WHAT IMPLICATIONS FOR THE GLOBAL TRADE AND INVESTMENT FRAMEWORKS? 8 (2015), https://e15initiative.org/publications/unpacking-local-content-requirements-in-the-extractive-sector-what-implications-for-the-global-trade-and-investment-frameworks/.

[100] Hestermeyer & Nielsen, *supra* note 35, at 588.

[101] *See supra* note 27.

[102] Under Services Sectorial Classification List, construction and related engineering services include general construction work for buildings, general construction work for civil engineering, installation and assembly work, and building completion and finishing work; and maritime transport

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Schedule of Specific Commitments, on the former, Taiwan is *unbound* for cross-border supply (mode 1) and the presence of a natural person (mode 4) except as indicated in the horizontal section,[103] and does not impose any restriction on consumption abroad (mode 2) and commercial presence (mode 3).[104] On the latter, Taiwan does not commit to open maritime transport services.[105]

In view of the foregoing, it follows that IDB's localization framework implemented by Mode 2 and Mode 4 would be GATS compatible in respect of the construction and related engineering services, because the Taiwanese government is not obliged to accord national treatment to the presence of a natural person, and IDB's localization framework does not impose any restriction on the unrestricted commercial pretense. As for the marine transport services, since the Taiwanese government does not even commit to open such market, a LCR on such services should be GATS compatible.

V. HOW TO CRAFT WTO-COMPATIBLE LOCAL CONTENT REQUIREMENTS?—RECOMMENDATIONS FOR POLICYMAKERS AND THE TAIWANESE GOVERNMENT

So far, this article has demonstrated that the space for Mode 2 and Mode 4 to be GATT compatible measures is quite limited. This suggests that the Taiwanese government's attempt to localize the offshore wind industry is no exception to the WTO disciplines of guarding free trade and the non-discrimination principle. On the other hand, the above WTO compatibility analysis shows that, depending on the design of localization policy, there may be lines which the WTO Members can draw to keep the LCR measures WTO-compatible in the discourse of proliferating green industrial policies in the context of energy transition and climate change. On this premise, in Part V, this article lays out the lines identified in the course of the WTO compatibility analysis, which may serve as the guiding principles for the Taiwanese government and the policymakers to craft WTO-compatible LCRs for renewable energy development.

A. Prioritize Local Content Requirements in Services

First, the distinction between LCR in goods and LCR in services should

services include passenger transportation, freight transportation, rental of vessel with crew, maintenance and repair of vessels, pushing and towing services, and supporting services for maritime transport. *See Sectoral Classification List (W/120)*, UN TRADE STAT., https://unstats.un.org/unsd/tradekb/Knowledgebase/50640/Sectoral-Classification-List-W120 (last visited Mar. 12, 2021).

[103] *See* SHADIKHODJAEV, *supra* note 57, at 168-70.

[104] WTO, The Separate Customs Territory of Taiwan, Penghu, Kinmen and Matsu, Schedule of Specific Commitments, WTO Doc. GATS/SC/136/Rev.1 (July 2, 2002).

[105] *Id.*

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be taken into account. Cottier had suggested that "in assessing the need for support of local industries and domestic policy space in the context of renewable energy, services should be primarily taken into account."[106] This is because the GATS allows a tailor-made response to the need to support domestic services providers, thereby offering ample policy space to the WTO Members. The WTO compatibility analysis of the Program shows exactly the same. It follows that when a government intends to promote renewable energy by steering up the relevant industries through WTO compatible local content requirements, it should prioritize the service sectors.

Currently, the localization of manufacturing and professional services in the offshore wind industry is implemented by the Taiwanese government *simultaneously*. Given GATS offers more flexibilities for the Members' to use LCRs in the service sectors to promote the offshore wind industry than those offered in the GATT for goods, the Taiwanese government should consider implementing LCRs in service sectors only, if feasible; or prioritize LCRs in the construction and marine transport service sectors over the LCR measures on wind turbine equipment and components. This could be done by granting more scores to the localization in service sectors during the developer selection or auction process.

B. Sever Local Content Requirements from Feed-in Tariff Scheme

Second, severing LCRs from the government support scheme designed for renewable energy promotion, such as FIT, is a preferred policy option in comparison with attaching LCR measures to a renewable support scheme. This is because, as the WTO compatibility analysis shows, at least there will not be a subsidy issue under the SCM Agreement if a LCR is not attached to FIT, whereas the legitimacy of LCR measures in the context of energy transition can still be addressed under Article XX of the GATT.

In the discussions on the legal issues and trade distortion effects revolving LCRs and FIT, scholars have noticed that the LCR and FIT are severable in view of their policy objectives and may be treated as separate measures.[107] In particular, when discussing how a pro-environmental LCR subsidy can have more policy space in the WTO regime without going through a structural, legal reform, Wu and Salzman have argued that one of the options is to sever the trade-problematic, industrial-driven LCR, but continue with the rest of the measure.[108] Although Wu and Salzman's suggestion focuses on how to preserve the FIT program and does not touch

[106] Thomas Cottier, *Renewable Energy and WTO Law: More Policy Space or Enhanced Disciplines?*, 5(1) RENEWABLE ENERGY L. & POL'Y REV. 40, 45 (2014).
[107] COSBEY & RUBINI, *supra* note 59, at 2.
[108] Wu & Salzman, *supra* note 18, at 460-62.

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on the safe harbor for LCRs, the rationale of severability applies in the same way to the case where policymakers, or, as addressed in this article, look for ways to craft WTO-compatible LCRs. If a LCR is severable from the renewable support scheme, it will not be subject to the SCM Agreement, thereby becoming SCM compatible. On this account, the current design of the Program is on the right path.

The reason why LCRs and FIT are severable in Taiwan's offshore wind promotion lies in the design of the structure of the electricity wholesale market and the rules of market entry for offshore wind farm developers. On the former, in Taiwan's electricity wholesale market, selling electricity to Taipower, the monopolized grid operator, is not the sole option; instead, the awarded developers are free to sell electricity generated by offshore wind facilities directly to end-users. This could be the policy trend in the future in which the electricity wholesale market for renewable energy no longer needs financial incentives but ambitious industrial policies to nurture local manufacturing and service sectors are still demanded. On the latter, the localization requirements implemented in Mode 2 and Mode 4 are not the condition of the application of the FIT scheme, but the condition of grant of development right. Such policy design can be a strategic move to set apart the government financial incentives and grant of development right, so that a renewable energy promotion of a government will not enter the sphere of GATT plus SCM that doubles the legal complexity.

C. Use GATT Article XX Wisely

The third guiding principle on how to craft a WTO compatible LCR for energy transition is to use GATT Article XX wisely. In the WTO compatibility analysis, this article has demonstrated, albeit not easily, that paragraphs (b) of GATT Article XX can still be a possible defense to justify the violation of the national treatment principle by the localization requirements implemented in Mode 2 and Mode 4. Based on the analysis, this article argues that Article XX of the GATT should be (and still is) an important mechanism in the WTO regime for the Members to weigh and balance the trade distortion impact and the need to adopt green industrial policies, and it is possible and feasible for the WTO Members to craft WTO-compatible LCRs on the basis of GATT Article XX.

With regard to the objectives pursued, this article has found that given the strong green industrial policy background and Taiwanese government's policy intention to strengthen domestic industrial capacity and competitiveness, it would be challenging for the Taiwanese government to argue that, based on the WTO precedents, the localization requirements implemented in Mode 2 and Mode 4 aim to pursue the policy objectives prescribed in paragraphs (b) of GATT Article XX.

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This conclusion is not surprising. The idea that the LCR is protectionist, merely politically attractive, market and industry driven and often lacks other social contexts seems to be entrenched.[109] As Rubini and Cosbey had commented, the LCR is fundamentally not motivated by environmental consideration; rather it is an instrument of industrial policy seeking to build up backward linkages in the domestic economy.[110] Another sharp-edged view pertaining to the motivation of green energy policymaking was further taken on by scholars to challenge the rationale of local content requirements. They observed that policymakers usually conceive localization measures as politically attractive because they have immediate import-substitute and job-creating effects at insignificant, or even no, cost to the government, which gratifies the sponsoring politicians.[111] Also, use of local content requirements is a tactic in the political reality as costly renewable programs might not be supported by the public if there were not enough local benefits attached to it.[112] These views suggest that the "policy objective" of a LCR measure is not about protecting public health or conservation of exhaustible natural resources, even though it is usually imposed under an umbrella policy of promoting renewable energy or climate mitigation.

Should such views be maintained in the era of low-carbon economy? This article holds that it should not. WTO Members' autonomy to determine their own policy objectives has been reaffirmed on a number of occasions.[113] If a WTO Member can tighten the policy connections of LCRs in renewable energy and the broader policy goals, i.e., public health, climate change, and sustainable development, the boundary of that WTO Member's policy narratives might widen, thereby increasing the chance to pass the first step of the GATT Article XX analysis.

With regard to the necessity test, this article has found that proof of effectiveness of a LCR is critical to establish that the LCR is necessary to protect human life or health. It is not an easy task. Skepticism about effectiveness is why economists oppose to the use of LCRs in renewable energy promotion. The opponent camp maintains that whether the medium-term benefits generated by the localization policy would outweigh the high, short-term costs is unknown or in many cases difficult to predict.[114] The opponent camp also maintains that local content requirements will lead to inefficient allocation of resources, as they distorts the operation of comparative advantages,[115] limit the producer's options for using cost-

[109] Rubini, *supra* note 7, at 530.
[110] COSBEY & RUBINI, *supra* note 59, at 2.
[111] *See generally* SHADIKHODJAEV, *supra* note 57, chs. 1-2.
[112] HUFBAUER ET AL., *supra* note 4, at 10. *Contra* HOWSE, *supra* note 7, at 1.
[113] *WTO Rules and Environmental Policies: GATT Exceptions*, *supra* note 84.
[114] *See generally* SHADIKHODJAEV, *supra* note 57, chs. 1-2.
[115] STEPHENSON, *supra* note 7, at 5.

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efficient products,[116] causes higher prices for local products under the model of increasing returns of scale, and create artificial competitiveness in local supply chains.[117] Scholars had indicated that in the worst case scenario where the renewable industries can never achieve a level of efficiency or be competitive enough to export without the support of local content requirements, such policy would become a permanent protection—a mirror of the reality that local content requirements seldom contain a sunset provision.[118] The above views reveal that demonstrating effectiveness of a LCR measure would be strenuous.

Nevertheless, there may still be space for a lively discussion about the necessity of a green industrial policy for energy transition and other wider policy goals. For example, in contrast to the economists, Howse has noted that LCRs could have been found necessary for renewable energy promotion for three reasons: limited possibility of technology transfer, exceptionally great demands for alternative energy, and the life and death environmental situation behind those needs.[119] A radical view in pushing for greater policy autonomy for the promotion of public welfare and sustainable development even asserts that GATT Article XX should be interpreted to permit "politically necessary" proportional and justifiable LCR measures by governments.[120]

The above reasons, including political necessity, may be demonstrated by the Taiwanese government by converting them into a set of indicators for the evaluation of the effectiveness of the localization requirements in Mode 2 and Mode 4 to achieve the policy objectives under paragraph (b) of GATT Article XX. Such evaluation indicators, if crafted well, may also be able to identify whether there are other reasonably available means to achieve the same policy objective. In Part IV, this article has suggested a JV approach. This approach should be evaluated by the Taiwanese government and other policymakers as to whether it may be an available alternative.

Lastly, on the Chapeau, this article has found that, like all other GATT inconsistent measures, the government must impose a LCR in good faith in order to meet the Chapeau of the GATT Article XX. To act in good faith, due process of law and good governance on the use of LCRs (such as predictability and transparency) are essential for a government to justify its use of discriminatory LCRs under GATT Article XX.[121]

In light of the foregoing, to use GATT XX wisely, meticulous policy

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[116] *See generally* SHADIKHODJAEV, *supra* note 57, chs. 1-2.
[117] KUNTZE & MOERENHOUT, *supra* note 3, at 7.
[118] HUFBAUER ET AL., *supra* note 4, at 7; STEPHENSON, *supra* note 7, at 5.
[119] Luca Rubini, *Subsidies for Emissions Mitigation Under WTO Law*, *in* RESEARCH HANDBOOK ON ENVIRONMENT, HEALTH AND THE WTO 561, 613 (Geert Van Calster & Denise Prévost eds., 2013). *See also* Nedumpara & Venkataraman, *supra* note 21, at 226.
[120] Nedumpara & Venkataraman, *supra* note 21, at 236-37.
[121] *See generally* SINGH, *supra* note 16.

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design that tightens the policy connections of LCRs in renewable energy and the broader policy goals, rigorous cost and benefit analysis on the effectiveness of the LCR measure, and due process and good governance, are the must-dos.

VI. CONCLUSION

An insider commentary published in January 2020 once described Taiwan's offshore wind market as the most open one in East Asia, while acknowledging that national protectionism is no secret when it comes to doing business in Asian markets.[122] This article sees great potential for Taiwan's offshore wind development to become the most promising market in the Asian Pacific region, but does not share the view that policy intervention necessarily earns legitimacy simply because of the pattern of the nation's industrial and economic development.

Legitimacy of a LCR measure lies on whether its policy design and application are compatible or justifiable in certain legal frameworks. By dissecting the structure of Taiwan's national development program for offshore wind and conducting a WTO compatibility analysis on such program, this article argues that although a LCR measure imposed in the context of energy transition, renewable energy development, and/or climate change may run against the national treatment principle, it can still be designed as a *WTO-compatible* industrial policy if (i) the LCR in services is prioritized; (ii) the LCR and government support scheme (such as FIT) are severable; and (iii) Article XX of the GATT (in particular paragraph (b)) is used wisely, in which case the LCR is closely connected to the objectives pursued, thorough effectiveness analysis on the implementation of the LCR has been provided, and due process of law has been honored.

[122] Liming Qiao, *From 0 to 15GW by 2030: Four Reasons Why Taiwan Is the Offshore Wind Market in Asia*, GWEC (Jan. 16, 2020), https://gwec.net/from-0-to-15gw-by-2030-four-reasons-why-taiwan-is-the-offshore-wind-market-in-asia/.

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ANNEX

Project's Grid Connection Year		2021	2022	2023	2024	2025
Timeline		Lead-time	Lead-time	Phase 1	Phase 2	Phase 2
Required Localization Items	Components	tower underwater foundation electrical facilities	Items required in 2021	Except the items set forth in 2021 and 2022, the following should be included. components of wind turbine: fabrication of nacelle, transformer, distribution panel, uninterrupted power supply, nose cone, nacelle, cable, rotor hub/ cast-iron mainframe, and fasteners	Except the items set forth in 2021 to 2023, the following should be included. components of wind turbine: gearbox, generator, power conversion system, and blade	Items required in 2021 to 2024
	Services	maritime construction planning, design, construction, supervision and manufacturing construction and supervision, vessels and facilities' design and safety management in relation to survey, cable installation, inspect Vessel Manufacturing: survey, support, sorting, transport, and cable installation	Items required in 2021	Except the items set forth in 2021 and 2022, the following should be included. maritime construction planning, design, construction, supervision and manufacturing construction and supervision, vessels and facilities' design and safety management in relation to tower, underwater foundation Vessel Manufacturing: transportation and cable installation	Except the items set forth in 2021 to 2023, the following should be included. maritime construction planning, design, construction, supervision and manufacturing: construction and supervision, vessels and facilities' design and safety management in relation to wind turbine	Items required in 2021 to 2024

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