Journal of World Energy Law and Business, 2025, **18(1)**, jwaf003
https://doi.org/10.1093/jwelb/jwaf003
Article

OXFORD

Local content requirements in Asia's Just Energy Transition: Neutralizing tensions with international economic law

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ABSTRACT

Just Energy Transition Partnerships (JETPs) encourage coal-dependent emerging economies to phase out coal and transition to renewable energy. However, JETPs face significant obstacles, creating tensions with international economic law. Local content requirements (LCRs) represent a particularly problematic regulatory barrier to energy transitions. This article thus examines whether international economic law expedites or obstructs Asia's energy transition, and whether LCRs are incompatible with international economic law. To answer these questions, this article juxtaposes LCR provisions in JETPs and domestic regulations in two case studies: Indonesia and Vietnam. It then contextualizes LCR costs and benefits before examining tensions with international economic law and potential state defences justifying LCRs. It culminates in suggesting how LCRs could be designed to neutralize such tensions. This article argues that international economic law complements, rather than collides with, energy transition goals and that LCRs are not anathema to international economic law, as long as they are designed and implemented in a non-discriminatory manner.

INTRODUCTION

Just Energy Transition Partnerships (JETPs) are novel financing mechanisms encouraging coal-dependent emerging economies, such as Indonesia or Vietnam, to phase out fossil fuels and transition to renewable energy (RE).[1] JETPs are of particular significance due to their financing scale, country-led nature, and private sector involvement.[2] However, JETPs face significant obstacles, including tensions with international economic law obligations under the World Trade Organization (WTO) and international investment law. As Hailes and Viñuales argue, energy transitions have reached a 'critical juncture' between international environmental and

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[1] K Kramer, 'Just Energy Transition Partnerships: An Opportunity to Leapfrog from Coal to Clean Energy' (*IISD Insight*, 7 December 2022) <https://www.iisd.org/articles/insight/just-energy-transition-partnerships> accessed 1 September 2024; M Maskun and others, 'Justice Element in Just Energy Transition Partnership Decarbonization Policy: A Conceptual Analysis' (2023) 463 E3S Web of Conferences (9th International Conference on Climate Change, 20 December 2023) 1.

[2] M Martinus, 'Just Energy Transition Partnerships (JETPs) in Indonesia and Vietnam: Implications for Southeast Asia' (2024) 40 ISEAS—Yusof Ishak Institute Perspective 3.

economic law.[3] In this critical juncture, the 'direction of travel set by low-carbon policies *collides* with blurred investment signals'.[4] This 'collision', as they contend, relies on climate law on one hand, and potential lock-in of new fossil fuel investments on the other.[5] It is with this collision in mind that this article investigates how JETPs anticipate such tensions, and whether international economic law serves as catalyst or constrainer to Asia's energy transition.

Southeast Asia's economic and population growth significantly increases energy demand.[6] To ensure that such increase is sustainable, 8 of 10 Southeast Asian countries committed to carbon neutrality goals, and two took the lead in adopting JETPs: Indonesia and Vietnam.[7] Yet, Southeast Asia's RE investments concerningly lag behind and represent only the global total's 2 per cent.[8] Despite JETPs, Southeast Asia's energy transition towards renewables has not achieved expected results.[9]

Local content requirements (LCRs) represent a particularly problematic market and regulatory barrier to the energy transition. While there is no universal LCR definition, LCRs may be characterized as provisions requiring investors to adopt a 'minimum criterion' for locally sourced goods and services procurement,[10] and further 'industrial policy measures that condition the grant of a benefit, by means of subsidies or other kinds of incentives, on the use of domestic products and services'.[11] In the energy transition context, LCRs may be defined as 'regulatory measures, contractual provisions and policies that require energy market participants and operators to give priority to nationals, domestic companies and locally produced materials, in the procurement of goods and services used for energy operations'.[12]

LCR definitions, coupled with the paradox between decarbonization objectives and RE investment scarcity, beg the following research question:

> How could energy transition goals favouring LCR-based RE deployment align with international economic law's non-discrimination principles?

Against this background, this article examines whether international economic law facilitates or impedes Southeast Asia's just energy transition, whether LCRs are essentially incompatible with international economic law, and how LCRs could be designed to neutralize the discords between Southeast Asia's energy transition and international economic law.

To answer these questions, this article adopts doctrinal, normative, and comparative methods to critically analyse tensions with international economic law and suggest legal reforms based on two leading case studies: Indonesia's and Vietnam's just energy transition. This article argues that LCRs are not necessarily anathema to international economic law, as long as they are carefully designed and enforced in a non-discriminatory manner. It further submits that international economic law supplements, rather than collides with, energy transition goals and that LCRs may alleviate, rather than aggravate, potential dispute resolutions under the WTO or investment law regimes.

[3] O Hailes and JE Viñuales, 'The Energy Transition at a Critical Juncture' (2023) 26 JIEL 627.
[4] O Hailes and JE Viñuales, 'Introduction to the Symposium' (2023) 26 JIEL 625; Emphasis added by author.
[5] ibid 626.
[6] International Energy Agency, *World Energy Investment 2024* (IEA 2024) 206.
[7] ibid.
[8] ibid.
[9] M Lackovic and others, 'Asia-Pacific Is Ready for Renewables. Are Energy Players?' (*BCG*, 23 April 2024) <https://www.bcg.com/publications/2024/apac-markets-offer-potential-for-renewables> accessed 1 December 2024; T Taylor, 'Southeast Asian Energy Transition Stalling Amid Sparks of Progress' (*Infrastructure Investor*, 17 October 2024) <https://www.infrastructureinvestor.com/southeast-asian-energy-transition-stalling-amid-sparks-of-progress/> accessed 1 December 2024.
[10] See, eg, PD Farah and E Cima, 'The World Trade Organisation, Renewable Energy Subsidies, and the Case of Feed-in Tariffs: Time for Reform toward Sustainable Development?' (2015) 27 Geo Intl Envtl L Rev 519; OC Artantas, *Promotion of Green Electricity in Germany and Turkey: A Comparison with Reference to the WTO and EU Law* (Springer 2023) 115; United Nations Conference on Trade and Development [hereinafter UNCTAD], *Local Content Requirements and the Green Economy* (UNCTAD 2014) 1–16.
[11] U Celli Junior, 'The Impact of WTO Case Law on the Use of Local Content Requirements' in A do Amaral Júnior and others (eds), *The WTO Dispute Settlement Mechanism: A Developing Country Perspective* (Springer 2019) 84.
[12] DS Olawuyi (ed), *Local Content and Sustainable Development in Global Energy Markets* (CUP 2021) 5.

The existing just energy transition literature chiefly focuses on the justice and equity aspects of a 'just' energy transition[13] where 'no one is left behind' in advancing an integrated theory amalgamating climate, energy, and environmental justice,[14] emphasizing on public participation,[15] or suggesting a 'new social contract'.[16] It also increasingly addresses climate governance,[17] finance,[18] and related de-risking strategies.[19] The existing literature on LCRs and energy transition mainly concentrates on RE deployment[20] and implications for international economic law in general,[21] but not on LCRs in JETPs, let alone Asian JETPs. This article thus fills the gaps in the existing literature and contributes to legal scholarship pertaining to LCRs, energy transition, and international economic law in (i) conducting a nuanced but thorough legal analysis of potential tensions between LCRs and international economic law in the context of Asia's energy transition generally, and Indonesia's and Vietnam's JETPs specifically; and (ii) providing normative juridical suggestions to design LCRs potentially alleviating such tensions while accelerating the energy transition.

In examining the costs, benefits, and challenges emanating from LCRs under Southeast Asia's JETPs, addressing related frictions with international economic law, and highlighting potential state defences, this article provides a novel perspective to the debate on energy transition, LCRs, dispute settlement, and international economic law useful for both academics and practitioners working at the investment–climate nexus in Asia and beyond. Most importantly, this article sheds light on how JETPs anticipate the tensions with international economic law, and delineates how LCRs could in fact support, rather than inhibit, the implementation of energy transition objectives. This article thus contributes to existing legal scholarship on international economic law and energy transition in arguing that rather than clashing, international economic law and JETPs complement each other to support Asia's energy transition, provided that relevant LCRs are carefully designed and duly implemented.

To advance above arguments, the article is structured as follows. First, this article juxtaposes relevant LCR clauses in JETPs and domestic regulations before contextualizing the costs and benefits of LCRs. It then examines the tensions with WTO law and jurisprudence, as well as international investment law, including investment treaties, Investor–State dispute settlement (ISDS), and investors' access to dispute settlement. The article further analyses which defences states could invoke to justify their LCRs. The article culminates in investigating how LCRs could be best designed to pacify the dissonances with international economic law, and concludes in providing normative suggestions.

[13] See, eg, X Wang and K Lo, 'Just Transition: A Conceptual Review' (2021) 82 Energy Res & Soc Sci 1–11; R Heffron and D McCauley, 'What is the "Just Transition"?' (2018) 88 Geoforum 74; R Heffron and others, 'Defining a "Just Energy Investment" for the ASEAN Just Transition' (2024) 22 Envtl Sustain Indic 1; S Carley and DM Konisky, 'The Justice and Equity Implications of the Clean Energy Transition' (2020) 5 Nat Energy 569.

[14] See, eg, P Newell and D Mulvaney, 'The Political Economy of the Just Transition' (2013) 179 Georg J 132, D McCauley and R Heffron, 'Just Transition: Integrating Climate, Energy, and Environmental Justice' (2018) 119 Energy Policy 1.

[15] M Yuniza and others, 'Revisiting Just Energy Transition in Indonesia Energy Transition Policy' (2024) 17 J World Energy Law & Bus 118; See also, eg, J Chilvers and N Longhurst, 'Participation in Transition(s): Reconceiving Public Engagements in Energy Transitions as Co-Produced, Emergent and Diverse' (2016) 18 J Environ Policy Plan 585-607; O Renn and others (eds), *The Role of Public Participation in Energy Transitions* (Academic Press 2020).

[16] R Heffron and others, 'Pathways of Scholarship for Energy Justice and the Social Contract' (2023) 41 J Energy Nat Res L 211.

[17] See, eg, J Alelulia, 'Accelerating a Clean Energy Transition in Southeast Asia: Role of Governments and Public Policy' (2022) 159 Renew Sustain Energy Rev 1; T Hoppe and M Miedema, 'A Governance Approach to Regional Energy Transition: Meaning, Conceptualisation and Practice' (2020) 12 Sustainability 1.

[18] See, eg, K Anantharajah and AB Setyowati, 'Beyond Promises: Realities of Climate Finance Justice and Energy Transitions in Asia and the Pacific' (2022) 89 Energy Res Soc Sci 1; A Jindal and others, 'Financing Just Energy Transitions in Southeast Asia: Application of the Just Transition Transaction to Indonesia, Vietnam, and Philippines' (2024) 81 Energy Sustain Dev 1.

[19] See, eg, F Egli, 'Renewable Energy Investment Risk: An Investigation of Changes Over Time and the Underlying Drivers' (2020) 140 Energy Policy 1; GLF Holburn, 'Assessing and Managing Regulatory Risk in Renewable Energy: Contrasts Between Canada and the United States' (2012) 45 Energy Policy 654; L Kitzing, 'Risk Implications of Renewable Support Instruments: Comparative Analysis of Feed-in Tariffs and Premiums Using a Mean-Variance Approach' (2014) 65 Energy 495.

[20] See, eg, C Ettmayr and H Lloyd, 'Local Content Requirements and the Impact on the South African Renewable Energy Sector: A Survey-Based Analysis' (2017) 20 S Afr J Econ Manag Sci 1; UE Hansen and others, 'The Effects of Local Content Requirements in Auction Schemes for Renewable Energy in Developing Countries: A Literature Review' (2020) 127 Renew Sustain Energy Rev 1.

[21] See this article's sections 'Costs and benefits of local content requirements' and 'Tensions with international economic law obligations'.

LOCAL CONTENT REQUIREMENTS IN JETPS

Indonesia

Indonesia committed to achieve net-zero emissions by 2060[22] and accelerate RE deployment to reach 'at least 34% of all power generation by 2030'.[23] To achieve this goal, Indonesia's JETP aims at '[a]ccelerating the development of a vibrant and competitive local industry in renewable energy and energy efficiency, as appropriate and as feasible, by investing in local technological capacity and knowledge'.[24] It further aims to align LCRs with the 'roadmap for domestic renewable manufacturing capability in order to achieve the renewable goals' enshrined in the Electricity Supply Business Plan (Rencana Usaha Penyediaan Tenaga Listrik) and to 'scale renewable deployment to support robust domestic renewable energy manufacturing capability'.[25] In doing so, LCRs must consider domestic market size, scale, and viability.[26] Indonesia's JETP equally acknowledges that it 'aims to provide an opportunity for Indonesian companies to improve their capacities and become part of the manufacturing value chain for clean energy solutions, including renewables and energy efficiency'.[27]

At the same time, the implementation document of Indonesia's JETP, the Comprehensive Investment and Policy Plan, acknowledges that LCRs constrain renewable investments, decrease high-quality material availability, raise 'production costs amid limited manufacturing capacity', levy substantial 'capital cost penalty' up to 10 per cent relative to global pricing, and impede funding access from international financing institutions.[28]

Vietnam

Similar to Indonesia, Vietnam adopted a JETP to achieve net-zero by 2050 and to reach 'at least 47%' of power generation from RE by 2030.[29] The implementation document of Vietnam's JETP, the Resource Mobilisation Plan (RMP), prioritizes less on LCRs than Indonesia's JETP. Yet, it requires some 'domestic content rate of equipment' for RE manufacturing industry development.[30] For electric vehicles, the RMP suggests to take policy action to '[e]nhance and consolidate regulation to encourage [electric vehicle] EV manufacture in Viet Nam, and assembly with high national content of different brands for the national market and for export', while encouraging Vietnam's EV demand.[31]

LOCAL CONTENT REQUIREMENTS IN NATIONAL CONTEXTS

Indonesia

New local content regulations

Despite JETPs, Indonesia struggles to attract international RE investments and concessional grants from Multilateral Development Banks (MDB).[32] LCRs are often misaligned with MDBs' procurement standards.[33] Indonesia's JETP Secretariat thus proposed to temporarily ease LCRs

[22] Republic of Indonesia, Enhanced Nationally Determined Contribution (2022) 4.

[23] Joint Statement by the Government of the Republic of Indonesia (GOI) and the Governments of Japan, the United States of America, Canada, Denmark, the European Union, the Federal Republic of Germany, the French Republic, Norway, the Republic of Italy, and the United Kingdom of Great Britain and Northern Ireland (together the 'International Partners Group' or IPG) [hereinafter JETPI] (22 November 2022), art 3(ii).

[24] JETPI ibid, art 3(v).

[25] ibid, art 3(ix).

[26] ibid.

[27] ibid, art 15.

[28] JETPI, Comprehensive Investment and Policy Plan 2023 [hereinafter CIPP] (21 November 2023) 109.

[29] Political Declaration on Establishing the Just Energy Transition Partnership with Viet Nam [hereinafter JETPV] (14 December 2022), arts 1, 5, and 24(d).

[30] Socialist Republic of Viet Nam, Resource Mobilisation Plan Implementing Viet Nam's Just Energy Transition Partnership [hereinafter VRMP] (November 2023) 47.

[31] ibid 120, 125, 176.

[32] E Mahendra, 'Just Energy Transition Partnership Indonesia', ADB EDM in Southeast Asia and Kazakhstan, Coordinating Ministry for Maritime Affairs and Investment, Republic of Indonesia (11 November 2023) 13.

[33] Reccessary, 'Local content rules hampering 9 renewable energy projects in Indonesia' (1 January 2024) <https://www.reccessary.com/en/news/id-market/local-content-rules-hampering-9-renewable-energy-projects-indonesia> accessed 26 August 2024; H Imelda and others, 'The Role of the Just Energy Transition Partnership (JETP) in Indonesia in Making Finance Flows Consistent

in combination with 'recommended local content level' for priority programs and 'revisit existing regulations for LCR application on government procurements financed by MDBs concessional loans or grants' in the short- to mid-term.[34] At the same time, it suggested to enhance local research and development (R&D) and human resources, as well as design 'targeted incentives for domestic manufacturers', including duty exemptions and 'relaxing non-tariff barriers for upstream components'.[35]

Accordingly, the government adopted the Minister of Energy and Mineral Resources (MEMR) Regulation on the Use of Domestic Products for Electricity Infrastructure Development exempting LCRs from projects with more than 50 per cent funding from multilateral lenders.[36] This regulation applies to projects under Power Purchase Agreements (PPAs) signed before 2024 and operationalized by 2026.[37] It seeks to equilibrate LCR 'threshold approach' in 'developing and encouraging local content threshold for manufacturers that have already invested in Indonesia' and 'offering solutions for projects funded by government two-step or direct loans or grants'.[38] LCR implementation is centralized under MEMR rather than the Ministry of Industry to optimize LCR governance in Indonesia's power sector while stimulating RE investments.[39]

According to the new regulations, solar power projects may use imported panels, albeit with some administrative constraints, including obtention of ministerial approval, PPA signature by late 2024, plant operation by early 2026, and investment commitment into an Indonesian solar module production site by end of 2025.[40] Minimum LCR is defined by MEMR Decree 191/2024, significantly reducing LCRs for renewable power plants as compared to the 2012 Regulation.[41] Yet, certain state and private entities must still use local products and services for procurement based on national or regional funding, public–private partnership schemes, and/or state-controlled resources.[42]

Although these regulatory developments balance international funding with domestic industrial developments, they do not equate to full-fledged LCR dismantlement.[43] They may thus be invoked as violation of national treatment or most-favoured nation (MFN) standards under international trade and investment law as demonstrated in this article's section 'Tensions with international economic law obligations'.

Revoked and revised local content regulations

Indonesia's revoked domestic LCR regulations sought to boost domestic RE production growth. The now repealed Ministry of Industry Regulation on the Use of Domestic Products for

with Low Greenhouse Gas Emissions and Climate-Resilient Development' (2024) Policy Paper, Indonesia Research Institute for Decarbonization and Germanwatch, 27.

[34] Mahendra (n 32).

[35] ibid.

[36] S Strangjo, 'Indonesia Relaxes Local Content Rules to Spur Green Energy Investments' (*The Diplomat*, 8 August 2024) <https://thediplomat.com/2024/08/indonesia-relaxes-local-content-rules-to-spur-green-energy-investments/> accessed 26 August 2024; F Nangoy and G Suroyo, 'Indonesia Eases Local Content Rules to Access Foreign Cash for Renewable Power Projects' *Reuters* (London, 7 August 2024) <https://www.reuters.com/sustainability/indonesia-eases-local-content-rules-access-foreign-cash-renewable-power-projects-2024-08-07/> accessed 26 August 2024; C Riswantyo, 'Indonesian Energy Transition: A Snapshot', White & Case Alert (16 February 2024) <https://www.whitecase.com/insight-alert/indonesian-energy-transition-snapshot> accessed 26 August 2024; Minister of Energy and Mineral Resources Regulation No. 11 of 2024 on the Use of Domestic Products for Electricity Infrastructure Development [hereinafter MEMR Regulation 11/2024] (adopted and entered into force 31 July 2024).

[37] E Kuneman and others, 'Electricity Market Designs in Southeast Asia: Harnessing Opportunities for Renewable Energy Growth—Indonesia, Thailand, Viet Nam and the Philippines' Agora Energiewende, NewClimate Institute, and Energy Research Institute, Clean, Affordable and Secure Energy for Southeast Asia Project (September 2024) 35; see also P Jowett, 'Indonesia Relaxes Local Content Requirements for Solar Projects' (*PV Magazine*, 16 August 2024) <https://www.pv-magazine.com/2024/08/16/indonesia-relaxes-local-content-requirement-for-solar-projects/> accessed 1 November 2024.

[38] K Sastrawijaya and others, 'Reforms on Local Content Governance for Indonesia Power Projects' (Umbra Newsletter, 6 August 2024) 3.

[39] M Kasmali and others, 'Indonesia relaxes local content rules to energise green energy investment' (*Hogan Lovells News*, 21 August 2024) <https://www.hoganlovells.com/en/publications/indonesia-relaxes-local-content-rules-to-energise-green-energy-investment> accessed 26 August 2024; see also MEMR Regulation 11/2024 (n 36).

[40] Hogan Lovells ibid; Strangjo (n 36); Nangoy and Suroyo (n 36).

[41] Hogan Lovells ibid.

[42] ibid.

[43] Strangjo (n 36).

Electricity Infrastructure required the use of Indonesian products and services.[44] The regulation used a 'threshold approach' whereby solar power projects require at least 40 per cent LCR, hydropower 50 per cent, and geothermal 30 per cent.[45] Unmet requirements resulted in fines, which may disincentivize foreign investment.[46]

The 2023 revised regulation requires Independent Power Producers to meet LCRs, and requires local content to meet national or international standards established by the International Organization for Standardization or International Electrotechnical Commission.[47] They require that 'all electricity infrastructure for public consumption must use domestically produced goods and/or services' and 'all goods must be completely fabricated in Indonesia', except if such goods cannot be produced domestically, domestic goods 'do not meet applicable requirements', or domestic demand is too high.[48] They further require minimum LCR for renewable sources like geothermal, hydro, and solar projects generating power for public consumption, funded by the state, regional governments, grants, or foreign loans, and carried out both by state- and private-owned companies.[49] Nonetheless, 'solar plants over 50 MW capacity' for Indonesia's new capital are exempted from mandatory LCRs.[50]

The 2022 Presidential Regulation on Acceleration of Development of Renewable Energy for Electricity Provision requires Indonesia's State Electricity Company Perusahaan Listrik Negara (PLN) to use local content.[51] The Presidential Regulation on Local Industrial Empowerment also stipulates mandatory use of local products for services and goods under RE project contracts.[52] An enforcement monitoring mechanism has also been established under the same Presidential Regulation's National Team on Increased Utilization of Domestic Products.[53] The Local Industrial Empowerment Regulation further requires state-owned enterprises and state institutions funded by domestic or international sources, including loans and grants, to use domestic products both for goods and services with a minimum local procurement rate of at least 20 per cent.[54] This limit may, however, be amended by Ministerial decision for specific industries.[55]

The Presidential Regulation on List of Business Areas Closed to Capital Investment and Areas Open with Conditions also restricts foreign investments in power generation projects where foreign ownership may not exceed 49 per cent.[56] These LCRs are based on a point system evaluating contracts based on the local content level and apply to wider power generation, including coal, hydro, geothermal, gas, and solar power, as well as transmission and distribution.[57] Indonesia requires LCRs for public procurement under the Increase Use of Domestic Production Programme, then incorporated in the 2014 Law concerning Industrial Affairs and the 2018

[44] Ministry of Industry Regulation No 54/M-IND/Per/3/2012 on the Use of Domestic Products for Electricity Infrastructure (adopted and entered into force 21 March 2012); B Bernarto and S Razavi, 'Indonesian Power Projects: Ten Things to Know' Norton Rose Fullbright (November 2015) <https://www.nortonrosefulbright.com/en/knowledge/publications/954feb7e/indonesian-power-projects> accessed 1 November 2024.

[45] Ministry of Industry Regulation No 54/M-IND/Per/3/2012 ibid; Strangjo (n 36); Riswantyo (n 36).

[46] Ministry of Industry Regulation No 54/M-IND/Per/3/2012 ibid; Imelda and others (n 33) 27; Riswantyo ibid.

[47] Ministry of Industry Regulations Nos 5/2017 and 23/2023 (adopted and entered into force 10 July 2023); see also E Tapparan, 'Indonesian Renewable Energy Policy and Investment Opportunities' Asia Clean Energy Forum 2027, The Transformative Role of Renewables in Southeast Asia, International Renewable Energy Agency and ASEAN Centre for Energy (6 June 2017) 9.

[48] CIPP (n 28) 166.

[49] Asian Development Bank [hereinafter ADB], 'Renewable Energy Tariffs and Incentives in Indonesia: Review and Recommendations' (September 2020) 43.

[50] CIPP (n 28) 166.

[51] Presidential Regulation No 112/2022 on Accelerated Renewable Energy Development for Electricity Supply (adopted and entered into force 13 September 2022); see also Riswantyo (n 36).

[52] Presidential Regulation No 24/2018 on Electronic Integrated Business Licensing Services (adopted and entered into force 21 June 2018), art 73; CIPP (n 28) 166.

[53] Presidential Regulation No 24/2018 ibid; ADB (n 49) 43.

[54] Presidential Regulation No 24/2018 ibid, arts 57(a), 61(1)–(2), and 64(1)–(2); see also Imelda and others (n 33) 56.

[55] ibid, art 61(5).

[56] Presidential Regulation No 44/2016; ADB (n 49) 43.

[57] CIPP (n 28) 167.

Government Regulation concerning Industrial Empowerment.[58] The Ministry of Industry's Strategic Plan also encourages LCRs and aims to boost local economic value.[59]

Indonesia has further LCRs that could be challenged under international trade and investment law, such as the Laws on Minerals and Coal, Industry, and Trade, the Presidential Regulation on the Procurement of Government Goods and Services, as well as a dozen Ministerial Regulations.[60]

Taking stock of Indonesia's local content regulations

Risnain submits that fragmented LCRs reflect sectoral rather than national interests and create enforcement challenges.[61] Moreover, the RE industry in Indonesia is still in its infancy.[62] Domestic industries are not yet able to provide resources necessary for LCRs and meet energy transition 'volume and quality'.[63] For instance, large-scale turbines for coal-fired power plants essential for power generation cannot be produced domestically yet.[64] Indonesia's LCRs are deficient on strategic and temporal levels because of lacking domestic RE market and 'economies of scale', as well as limited policies to attract investments and increase the local industry's international competitiveness, in turn resulting in reduced RE project bankability and affordability.[65] Therefore, Kuneman and others submit that Indonesia's newly relaxed LCRs must come hand-in-hand with broader trade and investment policy reforms, as well as carbon-efficient industrial strategies.[66]

As elaborated in section 'Special and differential treatment as defence', Indonesia may justify LCRs to promote its domestic sustainable development in line with Special and Differential Treatment (S&DT) provisions and argue that they do not constitute an arbitration threat should they be challenged under international trade or investment law.

Vietnam

Similar to Indonesia, Vietnam stated in domestic legislation that it aims to expand domestic supply chains, including in the RE sector.[67] Although Vietnam adopted feed-in-tariff (FIT) mechanisms for solar and wind energy in 2017, it has not formally introduced wider LCRs for its renewable industry.[68] Vietnam's RE investment climate is thus more open and favourable with more competitive RE prices.[69] It is the country with the fastest RE growth rate in Southeast Asia, and ranks among the top 40 in RE investment attractiveness.[70] Yet, some obstacles prevail, like potential RE tariffs post-expiration of FIT policies,[71] or limited grid capacity.[72]

[58] M Limenta and others, 'Conformity of Indonesia's LCRs with its Trade and Investment Commitments' in LY Ing and G Grossman (eds), *Local Content Requirements: Promises and Pitfalls* (Routledge 2023) 145.
[59] Presidential Regulation No 74/2022 on the 2020–2024 National Industrial Strategy (adopted and entered into force 27 April 2022); see also Limenta and others ibid 146.
[60] M Risnain, 'The Model of Policy and Regulation of Local Content Requirements in Indonesia' (2018) 5 Padjadjaran J Law 594.
[61] ibid 594.
[62] CIPP (n 28) 169.
[63] ADB (n 49) 43.
[64] RF Sitompul and others, 'Policy Challenges of Indonesia's Local Content Requirements on Power Generation and Turbine Production Capability' (2022) 12 Intl J Energy Econ Policy 226.
[65] W Derbyshire and others, *Indonesia Local Content Requirement* (Mentari 2021) 1–26; Kuneman and others (n 37) 17, 35.
[66] Kuneman and others (n 37) 35, 48.
[67] Decision No 165/QD-TTg of the Prime Minister on Approving the Project on restructuring the Industry and Trade sector for the period up to 2030 (adopted and entered into force 28 February 2023).
[68] A Albayrak, 'What Other ASEAN Members Can Learn from Vietnam's Renewable Book' (East Asia Forum, 12 July 2024) <https://eastasiaforum.org/2024/07/12/what-other-asean-members-can-learn-from-vietnams-renewable-boom/> accessed 26 August 2024; M Merdekawati, NH Giang Vu and NA Utama, 'Local Content Requirements: Could it Boost Renewables in Vietnam?' (*Eco-Business*, 4 April 2023) <https://www.eco-business.com/opinion/local-content-requirements-could-it-boost-renewables-in-vietnam/> accessed 26 August 2024.
[69] Albayrak ibid; Merdekawati, Giang Vu and Utama ibid.
[70] Kuneman and others (n 37) 81.
[71] L Doan, 'Vietnam Issues Implementation Plan of Power Development Plan 8' Watson Farley & Williams (24 April 2024) <https://www.wfw.com/articles/vietnam-issues-implementation-plan-of-power-development-plan-8/> accessed 1 November 2024.
[72] Kuneman and others (n 37) 73, 81.

COSTS AND BENEFITS OF LOCAL CONTENT REQUIREMENTS

Benefits

More than 90 per cent of resource-rich countries use LCRs, 50 per cent of which impose quantitative performance requirements requiring domestic participation and use of 'human and material resources indigenous to that economy'.[73] States often use LCRs as green industrial policy tools to boost domestic RE industries, as has been observed in the wind and solar photovoltaic sectors.[74] LCRs may be effective tools to achieve development objectives and serve energy transition purposes, such as creating employment opportunities and economic growth, enhance exports, as well as promoting capacity-building in the RE sector.[75] LCRs also propel innovation thanks to push-and-pull factors, or 'backward and forward linkages'.[76] LCRs may further promote skills development and the involvement of national industrial actors.[77] Further benefits include local public–private partnerships, development of endogenous infrastructure, and procurement of goods and services.[78]

In creating employment opportunities, LCRs render the energy transition more popular among the general public,[79] especially among workers who may be directly affected by coal phase-out measures. LCRs may also support developing countries' infant industries before competing internationally.[80] This is precisely Indonesia's justification in the JETP context. Moreover, LCRs may contribute to environmental protection thanks to increased knowledge and technology transfer, as well as more established market participants.[81]

Further rationales include distributive effects to 'redistribute the benefits of resource investment activities' and 'manage social and political risks that may result from rising domestic expectations for better and more equitable distribution of wealth and authority'.[82] From a fiscal perspective, LCRs may prove positive as increased domestic production capacity widens the taxation base, leading to higher tax revenue and state income, which in turn may prove particularly useful in times of crises.[83]

Meyer goes as far as arguing that LCRs promote global public goods and welfare, including climate mitigation.[84] To be effective rather than restrictive, however, LCRs should take technology and knowledge transfer, state–industry collaboration, as well as market scale and resilience into account.[85] Sitompul further argues that science and technology, especially expedited licensing procedures for R&D, are necessary for LCRs to be successful.[86] To efficiently foster emerging local industries, LCRs must offer tailored incentives ensuring local producers' international competitiveness and cater to rising RE demand.[87] As Kuneman and others contend, effective LCRs must be

[73] DS Olawuyi, 'Local Content Policies and Their Implications for International Investment Law' in J Chaisse and others (eds), *Handbook of International Investment Law* (Springer 2019) 379; see also, eg, J Korinek and I Ramdoo, 'Local Content Policies in Minerals-exporting Countries' OECD Trade Policy Papers No 209 (December 2017) 6–7; R Dobbs and others, *Reversing the Curse: Maximizing the Potential of Resource-driven Economies* (McKinsey Global Institute, 2013).

[74] MM Fang, 'Local Content Measures and the WTO Regime: Addressing Contentions and Trade-offs' in DS Olawuyi (ed), *Local Content and Sustainable Development in Global Energy Markets* (CUP 2021) 43; OECD, Green Finance and Investment, *Overcoming Barriers to International Investment in Clean Energy* (OECD 2015) 64.

[75] SD Negara, 'Assessing the Impact of Local Content Requirements on Indonesia's Manufacturing' in LY Ing, G Hanson and SM Indrawati (eds), *The Indonesian Economy: Trade and Industrial Policies* (Routledge 2017) 213; Fang ibid 45; see also JC Kuntze and T Moerenhout, *Local Content Requirements and the Renewable Energy Industry—A Good Match?* (ICTSD, Global Green Growth Institute 2013) 11–12.

[76] Negara ibid, 213.

[77] Olawuyi (n 73) 378; Korinek and Ramdoo (n 73) 6–7; see also, eg, M Levett and A Chandler, *Maximising Development of Local Content across Industry Sectors in Emerging Markets: How Private-Sector Self-Interest Can Help US Development Policy* (Center for Strategic and International Studies, 2012) 1–5, 28–34.

[78] Olawuyi (n 73) 378.

[79] Fang (n 74) 44; see also Kuntze and Moerenhout (n 75).

[80] Fang (n 74) 44; Kuntze and Moerenhout (n 75).

[81] Fang (n 74); Kuntze and Moerenhout (n 75).

[82] Olawuyi (n 73) 385; see also, eg, I Kolstad and A Kinyondo, 'Alternatives to Local Content Requirements in Resource-Rich Countries' (2017) 45 Oxford Dev Stud 409; A Krueger, 'The Political Economy of the Rent-Seeking Society' (1974) 64 Am Econ Rev 291.

[83] Fang (n 74) 41, 44.

[84] Fang (n 74) 44; see also T Meyer, 'How Local Discrimination Can Promote Global Public Goods' (2015) 95 BU L Rev 2012.

[85] Fang (n 74) 45.

[86] Sitompul and others (n 64) 234.

[87] Kuneman and others (n 37) 35.

coupled with comprehensive industrial strategies to prevent higher expenses and RE roll-out deferral.[88]

Costs

As demonstrated by the case law analysed in this article's section 'Tensions with international economic law obligations', LCRs equate to trade barriers stifling competition, innovation, and economic liberalization.[89] While LCRs may contribute to a country's economic growth, they may equally inhibit foreign investment, thereby decreasing competitiveness and creating an unfavourable investment climate.[90] LCRs may be considered discriminatory, exert trade and investment distortive effects,[91] reduce the level-playing field between local and international products, and result in inefficient resource allocation.[92] They may increase costs, delay projects, decrease investment profitability, viability, attractiveness, and the number of eligible investors.[93] LCRs also come with reputational and contractual costs, as well as financial and legal costs, should the measures be invoked under ISDS.[94]

The job creation argument is also rebutted by the fact that although RE industries may create employment opportunities, unemployment resulting from the energy transition may be higher than created employment opportunities.[95] Upward power generation prices from renewables may in fact reduce consumption, production, and therewith employment.[96]

A further tension among various regimes is the degree of state intervention in procurement.[97] While LCRs are unequivocal about localization amount, government procurement processes often lack transparency.[98] The line between states' lawful participation in government procurement and disproportionate state intervention may result in disputes.[99] International investment law substantive standards like fair and equitable treatment (FET) or full protection and security standards protect foreign investors from unlawful state intervention in their activities.[100]

Even from a climate law perspective, LCRs could impede RE deployment due to higher costs of production, therewith increasing carbon emissions and defeating the very purpose of climate mitigation.[101] As Fang contends, to meet GHG-emission reduction goals, RE competitiveness must surpass fossil fuel competitiveness.[102] LCRs may also contravene national investment policies to attract foreign investment and hamper sustainable development objectives, as energy transition projects may be delayed due to lack of foreign investment, and therewith hinder sustainable development and energy transition.[103]

According to Negara, LCR impacts on the local economy and domestic industrial capacity are poorly understood by policymakers due to lack of empirical evidence on the costs and benefits of LCRs in Indonesia, and on LCRs' real contribution to domestic industrial capacity and decreased reliance on imported goods.[104] Indonesian companies are still dependent on imported inputs, especially if the latter are of higher quality and increase competitiveness.[105] Moreover, as Indonesia

[88] ibid.
[89] Fang (n 74) 45.
[90] Olawuyi (n 73) 389.
[91] H Hestermeyer and L Nielsen, 'The Legality of Local Content Measures under WTO Law' (2014) 48 J World Trade 553; Fang (n 74) 41; Olawuyi (n 73) 1–21.
[92] Negara (n 75) 213; Fang (n 74) 44; Olawuyi (n 73).
[93] UNCTAD, *Elimination of TRIMS: The Experience of Selected Developing Countries* (UNCTAD 2007) 9–10; R Dolzer and C Schreuer, *Principles of International Investment Law* (OUP 2012) 226; Olawuyi (n 73) 389.
[94] Olawuyi (n 73) 395.
[95] Fang (n 74) 45.
[96] ibid 44–45.
[97] Olawuyi (n 73) 391.
[98] ibid.
[99] Olawuyi ibid; see also DS Olawuyi, 'Local Content and Procurement Requirements in Oil and Gas Contracts: Regional Trends in the Middle East and North Africa' (2019) 37 J Energy Nat Resources L 93.
[100] Dolzer and Schreuer (n 93) 226.
[101] Hestermeyer and Nielsen (n 91); Fang (n 74) 45.
[102] Fang (n 74) 45.
[103] Olawuyi (n 73) 381; see also DS Olawuyi, 'Legal Strategies and Tools for Mitigating Legal Risks Associated with Oil and Gas Investments in Africa' (2015) 39 OPEC Energy Rev 247.
[104] Negara (n 75) 213, 234.
[105] ibid 234.

is increasingly integrated in global supply chains, LCRs may prove less effective.[106] Indeed, according to the World Bank, companies integrated into the global economy prove to be at least 16 per cent more productive than 'non-integrated' companies.[107] According to the Organisation for Economic Co-operation and Development, trade volumes have significantly decreased due to LCRs.[108]

As this section demonstrates, sound energy transition policies promoting RE deployment must strike a meaningful balance between the costs and benefits of LCRs. They must be designed in a manner that prevents tensions and is compatible with international economic law obligations.

TENSIONS WITH INTERNATIONAL ECONOMIC LAW OBLIGATIONS

LCRs have often been a source of contention in both international trade and investment law. Yet, they are widely adopted in both developed and developing countries.[109] China, for instance, requires 70 per cent of local production in the wind power sector.[110] Developing countries like Indonesia often resort to LCRs to develop their domestic industries, especially in the RE sector.[111]

How, then, could sustainability and energy transition goals favouring RE deployment align with international economic law? To answer this question, this section first analyses LCR tensions with WTO-law and related WTO jurisprudence before turning to investment law, related case law, and investors' access to dispute settlement.

Tensions with WTO law and jurisprudence

WTO law

LCR policies are prohibited under WTO rules and may result in disputes, especially in the RE sector.[112] As Asmelash contends, LCR-related WTO disputes may be pushed by pressure exerted from influential domestic interest groups or by greater success probability due to LCRs' unequivocal trade restrictiveness.[113]

The main WTO instrument regulating local content is the Agreement on Trade-related Investment Measures (TRIMs), explicitly prohibiting LCRs.[114] TRIMs Article 2.1. requires that trade-related investment measures shall be consistent with national treatment principle under the General Agreement on Tariffs and Trade (GATT) and the General Agreement on Trade in Services (GATS).[115] TRIMs further defines measures 'mandatory or enforceable under domestic law or under administrative rulings' inconsistent with WTO-law, especially domestic measures

[106] ibid.

[107] Negara ibid; see also B Javorcik and others, 'Productivity Performance in Indonesia's Manufacturing Sector' World Bank, Policy Note No 5 (September 2012) 1–20.

[108] S Stone, J Messent and D Flaig, 'Emerging Policy Issues: Localisation Barriers to Trade' OECD Trade Policy Papers No 180 (May 2015) 10–11.

[109] See G Hufbauer and others, *Local Content Requirements: A Global Problem* (Peterson Institute for International Economics 2013) 3; MM Fang, 'Local Content Measures and the WTO Regime: Addressing Contentions and Trade-offs' in DS Olawuyi (ed.), *Local Content and Sustainable Development in Global Energy Markets* (CUP 2021) 41; Celli Junior (n 11) 84.

[110] Artantas (n 10) 115.

[111] Celli Junior (n 11) 84.

[112] See, eg, WTO, Request for Consultations by India, *United States—Certain Measures Relating to the Renewable Energy Sector*, WT/DS510/1 (9 September 2016); WTO, Request for Consultations by the United States, *India—Certain Measures Relating to Solar Cells and Solar Modules*, WT/DS456/1 (6 February 2013); WTO, Request for Consultations by China, *European Union and Certain Member State—Certain Measures Affecting the Renewable Energy Generation Sector*, WT/DS452/1 (5 November 2012); WTO, Request for Consultations by the European Union, *Canada—Measures Relating to the Feed-in Tariff Program*, WT/DS426/1 (11 August 2011); WTO, Request for Consultations by the United States, *China—Measures Concerning Wind Power Equipment*, WT/DS419/1 (22 December 2010); WTO, Request for Consultations by Japan, *Canada—Certain Measures Affecting the Renewable Energy Generation Sector* [hereinafter *Canada—Renewable Energy*], WT/DS412/1 (13 September 2010); see also A Boute, *Energy Dependence and Supply Security* (OUP 2023) 198–99; Fang (n 109) 45–46.

[113] HB Asmelash, 'Energy Subsidies and WTO Dispute Settlement: Why Only Renewable Energy Subsidies Are Challenged?' (2015) 18 JIEL 267; see also Fang (n 109) 46–47.

[114] Agreement on Trade-Related Investment Measures [hereinafter TRIMs] (15 April 1994), Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1868 U.N.T.S. 186; Olawuyi (n 73) 386.

[115] General Agreement on Tariffs and Trade [hereinafter GATT] 1994 (15 April 1994), Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1867 U.N.T.S. 187, 33 I.L.M. 1153 (1994) art III; General Agreement on Trade in Services [hereinafter GATS] (15 April 1994), Marrakesh Agreement Establishing the World Trade Organization, Annex 1B, 1869 U.N.T.S. 183, 33 I.L.M. 1167 (1994) art XVII; Olawuyi ibid 386.

requiring investors to use domestic products or services.[116] However, TRIMs provisions cover only merchandise trade and exclude services, resulting in numerous services-related LCRs,[117] as is the case in Indonesia's energy transition analysed in this article.

WTO jurisprudence

The earliest LCR cases preceding RE cases at the WTO were raised in the automobile industry. For instance, in *Indonesia—Autos*, the Panel ruled that Indonesia's luxury tax exemption and import duty reductions for Indonesian car companies and imported auto-parts based on local content amount breached TRIMs Article 2.1.[118]

In *Canada—Autos* and *India—Autos*, the Panel and Appellate Body ruled that the domestic added value requirements in the former and 'indigenisation requirement' in the latter breached the national treatment principle under GATT Article III.4.[119] In addition, both the Panel and Appellate Body in *China—Auto Parts* ruled that China's measures imposed on automobile manufacturers using imported parts violated GATT Article III.4 and TRIMs Article 2.1.[120] In *China—Audiovisuals*, the Panel submitted that China's measures regarding distribution services for reading materials and audiovisual products breached GATS market access and national treatment obligations enshrined under Articles XVI.2(f) and XVII, as well as GATT Article III.4.[121] China defended the measures in invoking the WTO exception clause GATT Article XX(a) stipulating that the measures were necessary to protect public morals, but both the Panel and Appellate Body ruled that China failed the necessity test.[122]

In *Canada—Renewable Energy*, the first WTO case regarding LCRs in RE, the European Union and Canada submitted that Ontario's LCRs and FITs for solar and wind power projects violated the national treatment standard under GATT Article III.4 and TRIMs Article 2.1.[123] It is important to note that to prove a TRIMs Article 2.1 breach, there must first be evidence that GATT Article III on national treatment or XI on quantitative restrictions on imports (or exports) have been violated.[124]

Canada counterargued that the FIT measures corresponded to 'requirements that govern the procurement of renewable energy for governmental purpose of securing an electricity supply […] from clean sources [and] not with a view to commercial resale' and invoked the government procurement derogation under GATT Article III.8(a) for the first time in WTO jurisprudence.[125] However, the Appellate Body ruled that the discriminated RE technology and the power procured under FIT were not in a 'competitive relationship', and the challenged measure could thus not be justified under GATT Article III.8(a).[126] This narrow interpretation renders it more challenging for states to invoke the government procurement derogation for their LCRs,[127] as further demonstrated by *India—Solar Cells and Modules* below. While Canada's FITs could have been considered WTO-consistent at the time of adoption, the LCR addition, technological developments, and

[116] TRIMs (n 114) Annex, Illustrative List, para 1; Olawuyi ibid 398.
[117] Olawuyi ibid 388.
[118] *Indonesia—Certain Measures Affecting the Automobile Industry*, WT/DS54/R, WT/DS55/R; WT/DS59/R; WT/DS64/R, Panel Reports (23 July 1998), paras 14.71–14.72; Celli Junior (n 11) 89.
[119] *Canada—Certain Measures Affecting the Automotive Industry* [hereinafter *Canada—Autos*], WT/DS139/AB/R, WT/DS142/AB/R, Appellate Body Report (31 May 2000); *India—Measures Affecting the Automotive Sector* and *India—Measures Affecting Trade and Investment in the Motor Vehicle Sector*, WT/DS146/R, WT/DS175/R, Panel Reports (5 April 2002); Celli Junior (n 11) 89–90.
[120] *China—Measures Affecting Imports of Automobile Parts*, WT/DS339, WT/DS340, WT/DS342, Panel and Appellate Body Reports (12 January 2009); Celli Junior (n 11) 90.
[121] *China—Publications and Audiovisual Products*, WT/DS363/R, Panel Report (12 August 2009), paras 7.1426–7.1440 and 7.1695.
[122] *China—Publications and Audiovisual Products*, WT/DS363/AB/R, Appellate Body Report (21 December 2009), paras 210 and 237–249; Panel Report ibid, paras 7.745 and 7.911–7.913.
[123] *Canada—Renewable Energy* (n 112) WT/DS412/R and *Canada—Measures Relating to the Feed-in Tariff Program*, WT/DS426/R, Panel Reports (both adopted 19 December 2012), paras 2.1, 7.167; TRIMs (n 114), art 2.1; GATT (n 115), art III.4; see also Fang (n 109) 47; Olawuyi (n 73) 387.
[124] S Charnovitz and C Fischer, 'Canada–Renewable Energy: Implications for WTO Law on Green and Not-So-Green Subsidies' (2015) 14 World Trade Rev 184; Fang (n 109) 48.
[125] GATT (n 115), art III.8(a); Charnovitz and Fischer ibid 190; Fang (n 109) 48.
[126] GATT (n 115) III.8(a); *Canada—Renewable Energy* (n 112) Appellate Body Report (6 May 2013), paras 5.58 and 5.74–5.79.
[127] Hestermeyer and Nielsen (n 91) 577; Charnovitz and Fischer (n 124) 178; Fang (n 109) 50.

RE costs decrease, as well as power storage and cross-border trade increase, render FITs increasingly more likely to be challenged under WTO and/or investment law.[128]

In *China—Wind Power*, the United States challenged China's wind power equipment subsidies favouring domestic equipment rather than imports.[129] In *EU—Renewable Energy*, China invoked GATT Article III and the Agreement on Subsidies and Countervailing Measures (SCM), the latter prohibiting 'subsidies contingent, whether solely or as one of several conditions, upon the use of domestic over imported goods'.[130]

In *India—Solar Cells and Modules*, the United States brought a case against India after US solar exports to India dropped by 90 per cent following the adoption of India's LCR for solar cells and modules, and constituted a breach of national treatment standard GATT Article III.4 and TRIMs Article 2.1.[131] This case is noteworthy as India defended its measure in invoking the exception clauses under GATT Article XX(d) and (j) stipulating that measures must be necessary to secure compliance with laws inconsistent with GATT or 'essential to the acquisition or distribution of products in general or local short supply', as well as the derogation under GATT Article III.8(a) stipulating that national treatment shall not apply to regulations governing government procurement for governmental purposes.[132]

However, the latter defence failed as the discrimination did not apply directly to India's power purchase because the product procured, i.e. electricity, did not directly compete with the product discriminated against, namely solar cells and modules, and the production processes argument was rejected by the Appellate Body.[133] Moreover, India failed to meet the requirements regarding international instruments falling within the 'laws and regulations' scope under Article XX(d), and regarding 'short supply' determination under Article XX(j).[134]

Therefore, the Appellate Body upheld the Panel's decision that the measure breached TRIMs obligations under the Illustrative List's paragraph 1(a) stating that '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', and was thus inconsistent with GATT Article III.4. and TRIMs Article 2.1.[135]

India retaliated in filing a case against the US regarding RE policies in several American States, claiming that they breached, *inter alia*, GATT Article III.4 and TRIMs Article 2.1.[136] Although the Panel ruled that the measures violated the non-discrimination principle and required that the US brings the measures into conformity with GATT Article III.4, it exercised judicial economy regarding TRIMs obligations.[137] Meanwhile, the Parties found a mutually agreed solution and the case has been discontinued.[138]

Above cases demonstrate that LCRs create tensions with international trade law and could be challenged under WTO-law beyond the current Appellate Body's stalemate.

[128] Artantas (n 10) 115.

[129] WTO, Request for Consultations by the United States, *China—Measures Concerning Wind Power Equipment*, WT/DS419/1 (6 January 2011); see also Artantas (n 10) 118.

[130] WTO, Request for Consultations by China, *European Union and certain Member States—Certain Measures Affecting the Renewable Energy Generation Sector*, WT/DS452/1 (7 November 2012); Agreement on Subsidies and Countervailing Measures [hereinafter SCM Agreement] (15 April 1994) Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, 1869 U.N.T. S. 14, art 3.1(b); see also Artantas (n 10) 116, 118.

[131] WTO, Request for Consultations by the United States, *India—Certain Measures Relating to Solar Cells and Solar and Solar Modules*, WT/DS456/20 (6 February 2013), para 7.39; see also Fang (n 109) 50–51.

[132] India's first written submission to the Panel, paras 101–164, cited in *India—Certain Measures Relating to Solar Cells and Solar and Solar Modules* [hereinafter *India—Solar Cells*], WT/DS456/R, Panel Report (24 February 2016), paras 7.113–7.114, 7.130, 7.132, 7.220; GATT (n 115), arts XX(d), (j); Fang (n 109) 52, 59–60.

[133] *India—Solar Cells* ibid, WT/DS456/AB/R, Appellate Body Report (16 September 2016), paras 6.2, 5.4–5.9, 5.12–5.13, 5.16, 5.19, 5.22–5.27, 5.32–5.36, 5.39–5.40, and 5.42; see also Fang (n 109) 52–53.

[134] *India—Solar Cells* (n 132), paras 5.73–5.83, 5.149–5.151, and 6.6(a)–(c); Fang (n 109) 56–57.

[135] *India—Solar Cells* (n 132) WT/DS456/R, Panel Report (24 February 2016), paras 7.54, 7.135, and 7.187; *India—Solar Cells* (n 133), Appellate Body Report, para 6.2(c).

[136] *United States—Certain Measures Relating to the Renewable Energy Sector* [hereinafter *US—Renewable Energy*], WT/DS510/R, Panel Report (27 June 2019), paras 7.84–7.90 and 7.347–7.354; see also Fang (n 109) 57–58.

[137] *US—Renewable Energy*, ibid, Panel Report, paras 7.337–7.341 and 7.354; see also Fang (n 109) 58–59.

[138] *US—Renewable Energy* (n 136) WT/DS510/8, Notification of a Mutually Agreed Solution (18 July 2023).

Tensions with international investment law

Local content requirements in investment treaties

LCRs are typically regulated under investment treaties' performance requirement and national treatment provisions.[139] While only a limited amount of Indonesia's and Vietnam's investment treaties govern performance requirements, almost all of them include national treatment provisions.[140] For instance, the Regional Comprehensive Economic Partnership (RCEP), to which both Indonesia and Vietnam are Parties, does not have comprehensive substantive LCR provisions, but prohibits LCRs in its performance requirement provisions, albeit with carveouts.[141] Moreover, it has procedural provisions on anti-dumping and countervailing duties, which are, however, excluded from the RCEP's dispute settlement mechanism.[142] RCEP dispute settlement mechanism only covers State–State dispute settlement and not ISDS yet, as it only features an evolutionary clause stating that negotiations will be undertaken regarding ISDS no later than two years after entry into force.[143]

Although RCEP does not address TRIMs, the Association of Southeast Asian Nations (ASEAN) Comprehensive Investment Agreement, to which again both Indonesia and Vietnam are Parties, incorporates TRIMs *mutatis mutandis* and features performance requirement provisions.[144] The ASEAN–Japan Comprehensive Economic Partnership Agreement, ASEAN–Australia–New Zealand Free Trade Agreement (FTA), and ASEAN–Korea Agreement on Investment, to which again both Indonesia and Vietnam are Parties, all feature performance requirement prohibition provisions.[145] While the two latter provide for ISDS, the ASEAN–Japan Comprehensive Economic Partnership Agreement only provides for State–State dispute settlement.[146]

Indonesia also prohibits performance requirements in its bilateral investment treaties (BIT) with the Republic of Korea, Australia, and Japan.[147] However, the relevant provisions are not subject to ISDS in the treaties with Australia and Korea, and local content for R&D is exempted from ISDS in the treaty with Japan.[148] Moreover, only LCRs requiring foreign investors' mandatory compliance are subject to ISDS in the investment treaties with Japan, but not LCRs providing incentives.[149]

Investor–State dispute settlement under investment treaties

The North American Free Trade Agreement (NAFTA) stipulates that no Party may 'impose or enforce requirements […] of an investor of a Party or of a non-Party' to 'achieve a given level or percentage of domestic content' or 'condition the receipt or continued receipt of an advantage, in connection with an investment in its territory of an investor of a Party or of a non-Party […] to

[139] LY Ing and JJ Losari, 'Local Content Requirements: Assessment from Investment Law' ERIA Discussion Paper Series No 4163 (January 2022) 3.
[140] ibid 20.
[141] Regional Comprehensive Economic Partnership [hereinafter RCEP] (adopted 15 November 2020, entered into force 1 January 2022), art 10.6; Ing and Losari ibid 5, 20.
[142] RCEP ibid, art 7.16; Limenta and others (n 58) 154.
[143] RCEP ibid, art 10.18.1(a) and ch 19; M Ewing-Chow and JJ Losari, 'The RCEP Investment Chapter: A State-to-State WTO Style System for Now' (Kluwer Arbitration Blog, 8 December 2020) <https://arbitrationblog.kluwerarbitration.com/2020/12/08/the-rcep-investment-chapter-a-state-to-state-wto-style-system-for-now/> accessed 20 August 2024; See also Ing and Losari (n 139) 5.
[144] ASEAN Comprehensive Investment Agreement (adopted 26 February 2009, entered into force 29 March 2012), art 7; Ing and Losari (n 139) 20.
[145] ASEAN-Japan Comprehensive Economic Partnership Agreement (adopted 14 April 2008, entered into force 1 December 2008), art 51.5; Agreement Establishing the ASEAN-Australia-New Zealand Free Trade Area [hereinafter AANZFTA] (adopted 27 February 2009, entered into force 1 January 2010), ch 11, art 5; ASEAN-Korea Agreement on Investment (adopted 2 June 2009, entered into force 1 September 2009), art 6; see also Ing and Losari ibid 20–21.
[146] ASEAN-Japan Comprehensive Economic Partnership Agreement, ibid, ch 9; AANZFTA ibid, chp 11, s B; ASEAN-Korea Agreement on Investment ibid, art 18.
[147] Indonesia-South Korea Comprehensive Economic Partnership Agreement (adopted 18 December 2020, entered into force 1 January 2023), art 7.8; Indonesia-Australia Comprehensive Economic Partnership Agreement (adopted 4 March 2019, entered into force 5 July 2020), art 14.6; Indonesia-Japan Economic Partnership Agreement (adopted 20 August 2007, entered into force 1 July 2008), art 63; see also Ing and Losari ibid 21.
[148] Indonesia-South Korea Comprehensive Economic Partnership Agreement ibid, art 78, fn 21; Indonesia-Australia Comprehensive Economic Partnership Agreement ibid, art 14.6, fn 12; Indonesia-Japan Economic Partnership Agreement ibid, arts 63.1.(h), 63.2.
[149] Ing and Losari (n 139) 21.

achieve a given level or percentage of domestic content.'[150] Borrowing from WTO-style exception clauses, NAFTA's LCR prohibition features, however, some exception clauses permitting LCR measures 'necessary to secure compliance with laws and regulations that are not inconsistent with' NAFTA provisions, 'necessary to protect human, animal or plant life or health', or 'for the conservation of living or non-living exhaustible natural resources', provided the measures are 'not applied in an arbitrary or unjustifiable manner.[151]

Nonetheless, several relevant cases challenging LCRs have been brought under NAFTA's ISDS mechanism invoking NAFTA's performance requirements or national treatment principles. For instance, in *Mobil v Canada*, the US investors argued that the enforcement guidelines on research and expenditure requiring investors to allocate project revenues to R&D and Education and Training (E&T) breached NAFTA's performance requirements.[152] Like most investment treaties, NAFTA is considered a WTO-Plus Agreement as the performance requirement obligations are more exhaustive than under TRIMs or GATS.[153]

In *ADM v Mexico* and *Cargill v Mexico*, the NAFTA Tribunal ruled that Mexico breached the performance requirement provision in NAFTA Article 1106.3, and the national treatment standard under NAFTA Article 1102.[154] In *CPI v Mexico*, the Tribunal also found that Mexico's tax incentives breached the national treatment standard.[155] In *ADM v Mexico* and *Cargill v Mexico*, the Tribunal ruled that Mexico's measures constituted a de facto breach of NAFTA's performance requirement provisions, even though the measure applied to manufacturers and distributors rather than investors.[156] The *ADM v Mexico* Tribunal interpreted the performance requirement provisions in connection with NAFTA Article 1101.1 stipulating that the performance requirement obligations are 'not limited to investments of the other Member States, but to all investments in the territory of a Party', and thus performance requirements, including tax advantages, are prohibited for 'any investor from the NAFTA region, including Respondent's own investors'.[157] Therefore, the Tribunal reasoned that these tax advantages, i.e. exemptions, were 'conditioned on the exclusive use' of a domestic product, discriminated against the industry in which the investment was made, 'had a detrimental effect on the profitability of the investment', and were thus inconsistent with NAFTA's performance requirement obligations.[158] Similarly, the *Cargill v Mexico* Tribunal ruled that although the tax was imposed on the distributors, it 'conditioned a tax advantage on the use of domestically produced' product, therewith 'conditioning an advantage "in connection with" the operation of the Claimant's investment [...]'.[159]

In *SD Myers v Canada*, SD Myers claimed that Canada's export ban violated NAFTA's national treatment and performance requirement provisions because SD Myers was discriminated against Canadian operators and had to avail of Canadian products and services.[160] The Tribunal ruled that Canada breached the national treatment standard, as SD Myers operated in 'like circumstances', and Canada could have used other means than resorting to an export ban.[161]

[150] North American Free Trade Agreement [hereinafter NAFTA], 32 I.L.M. 289 and 605 (adopted 17 December 1992, entered into force 1 January 1994), arts 1106.1(b) and 1106.3(a).
[151] NAFTA ibid, art 1106.6.(a)–(b); Olawuyi (n 73) 388.
[152] NAFTA ibid, art 1106.1; *Mobil Investments Canada Inc. and Murphy Oil Corporation v Canada* [hereinafter *Mobil v Canada*], ICSID Case No ARB/07/4, Decision on Liability and on Principles of Quantum (22 May 2012) paras 234–237; Ing and Losari (n 139) 9.
[153] Ing and Losari (n 139) 10.
[154] NAFTA (n 150), arts 1102 and 1106.3(a); *Archer Daniels Midland Company (ADM) v Mexico* [hereinafter *ADM v Mexico*], ICSID Case No ARB(AF)/04/05, Award (21 November 2007), paras 193–213, 226–227; *Cargill, Inc v Mexico* [hereinafter *Cargill v Mexico*], ICSID Case No ARB(AF)/05/2, Decision on Responsibility (15 January 2008), paras 211–214, 219–221; Ing and Losari (139) 10.
[155] NAFTA art 1102; see *Corn Products International, Inc v United Mexican States* [hereinafter *CPI v Mexico*], ICSID Case No ARB (AF)/04/1, Award (18 August 2009), paras 109–142; Ing and Losari (n 139) 11.
[156] *Cargill v Mexico* (n 154), paras 312–319; *ADM v Mexico* (n 154), paras 214–227; Ing and Losari (n 139) 10–11.
[157] *ADM v Mexico* (n 154), paras 221–223; NAFTA (n 150), arts 1101.1, 1106.3.
[158] *ADM v Mexico* (n 154), paras 227 and 304.1; NAFTA (n 150), art 1106.3.
[159] *Cargill v Mexico* (n 154), paras 318–319.
[160] NAFTA (n 150), arts 1102 and 1106; *SD Myers, Inc. v Canada*, Partial Award (13 November 2000) [hereinafter *SD Myers v Canada*], paras 251, 255, 270, and 277; Ing and Losari (n 139) 11.
[161] *SD Myers v Canada* ibid, paras 215, 221, 243–251, and 255; Ing and Losari (n 139) 12.

By contrast, the Tribunal in *Merrill & Ring Forestry v Canada* ruled that there was no breach of national treatment and performance requirement provisions, as they did not operate in the same federal jurisdiction and thus not under 'like circumstances', and that the performance requirement effects on Merrill were 'incidental' and did thus not constitute a breach of NAFTA Article 1106.1.[162]

In *ADF v USA*, the Tribunal ruled that the requirement of using steel entirely produced in the United States for an infrastructure project did not breach the national treatment standard because the claimant failed to prove discriminatory treatment in 'like circumstances'.[163] Regarding performance requirement, the Tribunal ruled that there was no breach of the performance requirement provision after the US invoked the exemption under NAFTA's government procurement clause to argue that it equated to government procurement.[164] This case demonstrates that the government procurement exemption allows governments to adopt LCR without amounting to a performance requirement or national treatment breach.[165]

A further LCR case was brought under the US–Ukraine BIT. In *Joseph Charles Lemire v Ukrain*e, although the claimed measure constituted an LCR, the Tribunal ruled that it did not breach the performance requirement prohibition provisions of the US–Ukraine BIT as the measure's objective was to support Ukraine's cultural heritage.[166] As above cases demonstrate, arbitral interpretations may reveal unpredictable variations and necessitate novel approaches to balance LCRs in the energy transition context with international economic law. This article thus provides normative suggestions on how to design LCRs preventing such arbitration challenges in the 'Designing local content requirements compatible with international economic law' section.

Investors' access to dispute settlement to bring a case against LCRs

Indonesia's investment partners, especially WTO-Members simultaneously Members of the TRIMs Committee, often argue that Indonesia's LCRs breach TRIMs Article 2.1, including in the energy sector.[167] Although Indonesia terminated numerous investment treaties, it is still a WTO-Member and Party to several ASEAN Investment Agreements and RCEP. Therefore, Indonesia's LCRs must comply with WTO-law and investment treaty obligations pertaining to national treatment and performance requirements. Yet, Indonesia could defend itself in invoking the government procurement exemption in both WTO-law and investment treaties, or the S&DT provisions under WTO-law. Moreover, except for the ASEAN–Japan Comprehensive Economic Partnership Agreement providing only for State–State dispute settlement and the Indonesia–Japan BIT exempting local R&D requirements, most investment treaties exempt performance requirements prohibition from ISDS, which may make it more difficult for investors to bring a claim against Indonesia's LCRs if they do not benefit from their home state's support under State–State dispute settlement mechanisms.[168]

[162] *Merrill & Ring Forestry LP v Canada*, ICSID Case No UNCT/07/1, Award (31 March 2010) para 90; Ing and Losari (n 139) 13.

[163] *ADF Group Inc v USA*, ICSID Case No ARB(AF)/00/, Award (9 January 2023), paras 62, 64, 75, 98, 100, 151, 153, 155, 191, and 193; Ing and Losari (n 139) 13.

[164] NAFTA (n 150), arts 1108 and 1106; *ADF Group Inc v USA* ibid, paras 81–84, 91, 147, 159, 169–171, and 188; Ing and Losari (n 139) 13–14.

[165] NAFTA ibid, arts 1108 and 1106; Ing and Losari (n 139) 14.

[166] Treaty Between the United States of America and Ukraine Concerning the Encouragement and Reciprocal Protection of Investment (adopted 4 March 1994, entered into force 16 November 1996), art II.6; *Joseph Charles Lemire v Ukraine*, ICSID Case No ARB/06/18, Decision on Jurisdiction and Liability (14 January 2010), paras 505–510; Ing and Losari (n 139) 14.

[167] Panel Report, *Indonesia—Certain Measures Affecting the Automobile Industry*, DS54/DS55/DS59/DS64 (2 July 1998), paras 6.7–6.8, 6.59–6.65, and 6.69–6.70; see also WTO Committee on Trade-Related Investment Measures, Indonesia—Local Content Requirements for Pharmaceutical Products and Medical Devices: Follow-up Questions for Indonesia on Replies to Questions from the United States (14 May 2019) G/TRIMS/Q/IDN/5; Indonesia—Comprehensive Review of Localization Measures: Questions from the United States (13 March 2020) G/TRIMS/Q/IDN/6; Indonesia—Comprehensive Review of Localization Measures: Replies to Questions from the United States (6 July 2020) G/TRIMS/Q/IDN/7; Indonesia—Local Content Requirements for Pharmaceutical Products and Medical Devices: Replies to Follow-up Questions from the United States (17 July 2020) G/TRIMS/Q/IDN/8; see also Limenta and others (n 58) 146; Ing and Losari (n 139) 18.

[168] See Indonesia–South Korea Comprehensive Economic Partnership Agreement (n 148), art 7.8, fn 21; Indonesia–Australia Comprehensive Economic Partnership Agreement (n 148), art 14.6, fn 12; Indonesia–Japan Economic Partnership Agreement (n 148), arts 63.1.(h), 63.2; for a comprehensive overview of Indonesia's performance requirement provisions and applicable dispute settlement mechanisms, see also Table 2 in Ing and Losari (n 139) 20–21.

STATE DEFENCES TO JUSTIFY LOCAL CONTENT REQUIREMENTS

Government procurement as defence

As Fang contends, one avenue for defending LCR under WTO-law is to incorporate renewable energy LCRs into government procurement policies as long as the procurements are for governmental purposes and not for commercial resale.[169] Indonesia indeed does not have significant market access commitments for government procurement in its FTAs or under its specific WTO-obligations.[170] The Government Procurement Agreement (GPA) also allows developing countries to adopt or maintain non-discriminatory transitional offset measures, i.e. conditions encouraging local development, such as the use of local content, 'provided that any requirement for, or consideration of, the imposition of the offset is clearly stated in the notice of intended procurement'.[171] It is important to note at this stage, however, that both Indonesia and Vietnam are only observers and not Parties to the GPA.[172]

Nonetheless, Indonesia could argue that its LCRs are for government procurement purposes and that they fall under GATT Article III.8(a) derogating government procurement from national treatment obligations.[173] However, as *Canada—Renewable Energy* demonstrated, the scope of government procurement may be interpreted narrowly, and thus states may find it more challenging to use the government procurement derogation as defence.[174]

Moreover, LCRs may be challenged under the SCM Agreement if the measures are considered as subsidies through preferential pricing, bonus, or further tax incentives.[175] Indeed, the SCM Agreement prohibits import-substitution subsidies favouring domestic over imported products and has been invoked in various disputes, such as *Canada—Autos* and *US—Tax Incentives*.[176] According to the SCM Agreement, subsidies must constitute a financial contribution by a government or public body conferring a benefit to the recipient.[177]

Exception clauses as defence

Above-mentioned WTO jurisprudence demonstrate that LCR's inconsistency with national treatment principle are difficult to justify under WTO-law, even when invoking exception clauses.[178] Although Article XX is supposed to increase states' policy space, LCRs could not be justified under Article XX(d) or (j) stipulating that measures must be necessary to secure compliance with laws inconsistent with GATT, or 'essential to the acquisition or distribution of products in general or local short supply'.[179]

Nevertheless, energy transition LCRs could potentially be justified under Article XX(b) or (g) justifying measures 'necessary to protect human, animal or plant life or health', or 'relating to the conservation of exhaustible natural resources if such measures are made effective in conjunction with restrictions on domestic production or consumption'.[180] Indeed, in view of the climate emergency's urgency reflected in climate commitments under the Paris Agreement, Nationally Determined Contributions, and JETPs, as well as in the endeavour to align economic and sustainable development, developing countries like Indonesia and Vietnam could use Article XX(b) or (g) to justify LCRs. To meet the criteria of Article XX(b), LCRs must aim at reducing GHG

[169] Government Procurement Agreement [hereinafter GPA] (as amended on 30 March 2012 <https://www.wto.org/english/docs_e/legal_e/rev-gpr-94_01_e.htm> accessed 1 September 2024; first adoption 15 April 1994 in Annex 4 to the Marrakesh Agreement Establishing the World Trade Organization, 1867 U.N.T.S. 154), art II.2(a); Fang (n 109) 60.
[170] Fang (n 109) 26.
[171] GPA (n 169), arts I(l), V.3(b).
[172] World Trade Organisation, 'Agreement on Government Procurement, Parties and Observers' <https://www.wto.org/english/tratop_e/gproc_e/memobs_e.htm> accessed 26 August 2024.
[173] Limenta and others (n 58) 164; GATT (n 115), art III.8(a).
[174] *Canada—Renewable Energy*, Appellate Body Report (n 126), para 5.79; see also *Canada—Autos* (n 119), paras 38–59, 118–126, and 136–146; Limenta and others ibid 151; Hestermeyer and Nielsen (n 91) 577; Fang (n 109) 49–50.
[175] Limenta and others (n 173) 164.
[176] Limenta and others (n 173) 151; see also *United States—Conditional Tax Incentives for Large Civil Aircraft*, Appellate Body Report (4 September 2017); SCM Agreement (n 130), art 3.1(b).
[177] Limenta and others (n 173) 153–54; SCM Agreement ibid, art 1.1.
[178] Fang (n 109) 59.
[179] Fang (n 109) 59–60; GATT (n 115), arts XX(d), (j).
[180] GATT (n 115), arts XX(b), (g).

emissions or further 'climate-altering interventions' and be substantiated by scientific evidence, including future quantitative projections.[181] However, given the stalemate of the WTO's dispute settlement system and the discriminatory nature of LCRs, it may prove challenging to resort to Articles XX(b) or (g) and meet Article XX chapeau requirements to justify LCRs.

Police powers as defence

As observed in below investment arbitration, states could also invoke the police powers doctrine as state defence. To defend their LCRs, states could indeed make legitimate use of their police powers formally integrated in investment treaties recognizing states' right to regulate environmental, or even RE measures which are proportionate, adopted in good faith, implemented for public purposes, and not unreasonably altering relevant regulatory frameworks.[182]

In *Methanex v USA*, *Chemtura v Canada*, and *Eco Oro v Colombia*, for instance, arbitral tribunals recognized the police powers doctrine.[183] Yet, the police powers defence has not always been successful. For instance, in *Bear Creek v Peru*, the Tribunal's majority rejected the police powers defence, arguing that the applicable treaty's expropriation provisions did not allow for other exceptions 'from general international law or otherwise […] considered applicable in this case' and that there was 'thus, no need to enter into the discussion between the Parties regarding the jurisprudence concerning any police power exception for measures addressed to investments'.[184]

Similarly, in *Copper Mesa v Ecuador*, the Tribunal ruled that Ecuador's measures were arbitrary and adopted without due process, although it accepted that non-discriminatory measures adopted in good faith for public purposes like the protection of the environment or public health were not subject to compensation.[185]

While the police powers doctrine has been widely applied against expropriation claims, it could also be taken into consideration for arbitral reasoning under claims pertaining to breach of performance requirement prohibition or national treatment in the context of LCRs.

Special and differential treatment as defence

Developing countries like Indonesia may refer to the Special & Differential Treatment (S&DT) provisions under WTO-law rather than exception clauses to justify the promotion of local industries for sustainable domestic economic development. GATT and GATS S&DT provisions aim at increasing trade opportunities of developing members, providing technical assistance and 'flexibility of commitments, action, and use of policy instruments', as well as safeguarding the interests of developing countries.[186] Similarly, S&DT provisions under TRIMs and GPA offer 'flexibility of commitments, action and use of policy instruments', technical assistance, and longer

[181] I Espa and GM Durán, 'Renewable Energy Subsidies and WTO Law: Time to Rethink the Case for Reform Beyond *Canada—Renewable Energy/Fit Program* (2018) 21 JIEL 645; *Brazil—Measures Affecting Imports of Retreated Tyres*, WT/DS332/AB/R, Appellate Body Report (3 December 2007), para 151; see also *Canada—Renewable Energy* and *Canada—Measures Relating to the Feed-in Tariff Program* (n 123); Artantas (n 10) 59.

[182] See, eg, S Schill, 'Do Investment Treaties Chill Unilateral State Regulation to Mitigate Climate Change' (2007) 24 J Intl Arb 469, 477; GY Qu and W Shen, 'Public Health and Investment Protection in the Context of the Covid-19 Pandemic—From the Sustainable Perspective of Exception Clauses' (2022) 14 Sustainability 1, 4; See also, eg, C Titi, 'Police Powers Doctrine and International Investment Law' in A Gattini and others (eds), *General Principles of Law and International Investment Arbitration* (Brill 2018) 323, 324; C Titi, *The Right to Regulate in International Investment Law* (Nomos Hart Publishing 2014) 123–89; see also A Boute and F Hug, 'Coal Phase Out and Foreign Investment Protection: Tackling China's Global Carbon Footprint' (2024) 36 Geo Envtl L Rev 350, 352, 356.

[183] *Methanex v USA*, UNCITRAL, Final Award of the Tribunal on Jurisdiction and Merits (3 August 2005), pt IV, ch D, para 7; *Chemtura Corporation v Government of Canada*, Ad Hoc NAFTA Arbitration under UNCITRAL Rules, Award (2 August 2010), paras 97, 251, 254, and 266; *Eco Oro Minerals Corp v Republic of Colombia*, ICSID Case No ARB/16/41, Decision on Jurisdiction, Liability and Directions on Quantum (9 September 2021), paras 634 and 699; Boute and Hug ibid.

[184] *Bear Creek Mining Corporation v Republic of Peru*, ICSID Case No. ARB/14/21, Award (30 November 2017), paras 473–474; Boute and Hug (n 182).

[185] *Copper Mesa Mining Corporation v. Republic of Ecuador*, PCA No. 2012-2, Award, (15 March 2016), paras 6.6, 6.10–6.11, 6.13, 6.58, and 6.66–6.67; Boute and Hug (n 182).

[186] GATT (n 115), arts XVIII.7(a), 8, 13, XXXVI(2)–(9), XXXVII.1(a)–(c), 2–5, and XXXVIII.1-2(a)–(f); GATS (n 115), Preamble, arts IV.1–2, XII.1, arts III.4, IV.3, V.3, XV.1, XIX.2–3, XXV.2, and XIX.3; WTO Committee on Trade and Development, Special and Differential Treatment Provisions in WTO Agreements and Decisions: Note by the Secretariat [hereinafter WTO Special and Differential Treatment Provisions], WT/COMTD/W/271 (16 March 2023) 7, 95.

transition times, and aim at safeguarding the interests of developing countries.[187] Indeed, TRIMs explicitly allows developing Members like Indonesia or Vietnam to extend their transition times for the elimination of trade-related investment measures where domestic circumstances do not allow to proceed more expeditiously.[188] Nonetheless, Indonesia's LCRs already exceeded the transition period and are perceived as inconsistent with WTO-law.[189]

ASEAN FTAs include S&DT provisions in considering the different levels of development and flexibility needs to facilitate 'more effective economic integration'.[190] Vietnam is considered a 'newer ASEAN Member State' whereby commitments can be made according to their individual stage of development.[191] In dispute settlement procedures, 'particular sympathetic consideration shall be given to the special situation of newer ASEAN Member States'.[192] Moreover, arbitral tribunals must explicitly indicate how they took relevant S&DT provisions into account.[193] RCEP also requires Parties to take 'account of the different levels of development among the Parties, the need for appropriate forms of flexibility, including provision for special and differential treatment, especially for […] Viet Nam as appropriate'.[194]

Although Vietnam's non-ASEAN FTAs may integrate specific S&DT provisions, they chiefly refer to obligations pertaining to, for example, sanitary and phytosanitary measures.[195] The EU–Vietnam FTA does nevertheless require Parties to 'refrain from adopting measures providing for local content requirements or any other offset affecting the other Party's products, service suppliers, investors or enterprises' or 'requiring to form a partnership with local companies, unless those partnerships are deemed necessary for technical reasons and that Party can demonstrate those reasons upon request of the other Party'.[196]

Countermeasures as defence

Some states argue that their measures were lawful countermeasures, and that countermeasures are permissible under customary international law.[197] For instance, Mexico argued in *ADM v Mexico* that the tax measure was enacted in response to the US' market access violations and failure to participate in related dispute settlement under NAFTA.[198] The Tribunal did, however, rule that Mexico's tax measure did not amount to a legitimate countermeasure even if the US had breached its obligations towards Mexico, because, in accordance with the International Law Commission's Articles on State Responsibility, the measure 'was not adopted to induce the [US] to comply with its obligations under the NAFTA, nor did it meet the proportionality requirement'.[199]

Similarly, in *Cargill v Mexico*, the Tribunal rejected the countermeasures defence because 'it is the investor, and not the State of that investor, that is the named party to the proceedings', and held that the 'Respondent's argument that its actions were countermeasures cannot have the effect of precluding the wrongfulness of those actions in respect of a claim asserted under Chapter 11 by a national of the allegedly offending State'.[200] The Tribunal further reasoned that the

[187] TRIMs (n 114), arts 4, 5.2–5.3; GPA (n 169), Preamble Rec 5, arts V.1–10, XXII.7; WTO Special and Differential Treatment Provisions ibid, 54, 113.
[188] TRIMs ibid, art 5.3.
[189] See, eg, WTO, Trade Policy Review, Report by the Secretariat, Indonesia, WT/TPR/S/401 (4 November 2020), paras 10, 13, 22, 28, 30, 37, 2.14, 2.54, 3.3, 3.9, 3.48, 3.73, 3.189, 4.152, 4.186, and 4.188; see also 'Indonesia's Local Content Requirements at the 19th IRSA' ERIA (15 July 2024) <https://www.eria.org/news-and-views/indonesia-s-local-content-requirements-at-the-19th-irsa> accessed 1 September 2024.
[190] See eg, AANZFTA (n 145), Preamble Rec 6, art 1(e).
[191] AANZFTA (n 145), arts 15(d) and 20(d).
[192] ibid art 18.1.
[193] ibid art 18.2.
[194] RCEP (n 141), Preamble Rec 6.
[195] Free Trade Agreement between the European Union and the Socialist Republic of Vietnam [hereinafter EU–Vietnam FTA] (adopted 30 June 2019, entered into force 1 August 2020), arts 6.15.1–2.
[196] 'Offset' is defined as 'any undertaking that imposes the use of a local content requirement, local suppliers, technology transfer, investment, counter-trade or similar actions to encourage local development', see EU–Vietnam FTA ibid, art 7.2(c); see also EU–Vietnam FTA ibid, arts 7.4(a)–(b).
[197] *ADM v Mexico* (n 154), para 110.
[198] ibid.
[199] *ADM v Mexico* (n 154), paras 134, 148, 152–160, 180, 182–183, 192, 208, and 304.3; see also International Law Commission, Draft Articles of States for Internationally Wrongful Acts (adopted 2001), particularly arts 22 and 49–53.
[200] *Cargill v Mexico* (n 154), paras 420, 425–426, and 429.

wrongfulness of Mexico's breaches is not precluded by lawful countermeasures, and that 'countermeasures operate only to preclude the wrongfulness of an act that is not in conformity with an obligation owed to the offending state, not in regard to obligations owed […] to the nationals of the offending state'.[201] The Tribunal further determined that 'investors have both substantive and procedural rights, and investors are therefore protected […] from measures taken by a host state directly against them' even if these measures are valid countermeasures.[202]

In *CPI v Mexico*, Mexico argued that the challenged tax policy was a countermeasure to address the US' prior NAFTA violations of restricting Mexican sugar exports to the US and of blocking inter-State dispute settlement mechanism under NAFTA's Chapter XX.[203] The Tribunal also rejected the countermeasures defence and considered that the countermeasures doctrine did not apply to NAFTA's Investment Chapter.[204] Similar to *Cargill v Mexico*, the Tribunal held that the case was between the investor and Mexico, involving 'the rights, and not merely the interests, of CPI', unlike in the State–State proceedings of the *US-France Air Services* case, upon which Mexico relied on to advance its countermeasures defence.[205] The Tribunal further reasoned that there was 'no room for a defence based upon the alleged wrongdoing not of the claimant but of its State of nationality, which is not a party to the proceedings', and that 'what is in issue here is not whether countermeasures can preclude wrongfulness under the NAFTA as a whole but only whether they can preclude wrongfulness against an investor claiming under Chapter XI'.[206]

The cases analysed in this section demonstrate that although countermeasures defence may be used in potential prospective jurisprudence, it has proven even more challenging for states to successfully use the countermeasures doctrine as defence.[207]

DESIGNING LOCAL CONTENT REQUIREMENTS COMPATIBLE WITH INTERNATIONAL ECONOMIC LAW

The solution is not to fully dismantle LCR provisions or to justify them with state defences as elaborated above, but to draft them in a manner that allows for domestic and international RE investment compliant with GHG-emissions reductions goals.[208] Indeed, LCRs are not fundamentally incongruent with international economic law and climate obligations.[209] Rather, LCRs may be needed to promote a sustainable energy transition.[210] Not LCRs *per se* create the direst tensions, but their domestic abuse jeopardizing both international economic and climate law goals aiming to increase 'policy coherence for sustainable development' through the elimination of obstacles to trade, investment, and environmental technology transfer.[211] To avoid risks of abuse, due LCR implementation must be carried out with monitoring mechanisms and precise domestic and international rules on what the term 'local' entails.[212]

[201] ibid para 553.
[202] ibid.
[203] *CPI v Mexico* (n 155) Decision on Responsibility (15 January 2008), para 6.
[204] *CPI v Mexico* (n 155), paras 179–182 and 191–192.
[205] *CPI v Mexico* (n 155), paras 177–178 and 183–184; see also *Case Concerning the Air Services Agreement of 27 March 1946 between the United States and France*) (Decision of 9 December 1978) 54 ILR 304, paras 29–31 and 72–98.
[206] *CPI v Mexico* (n 155), paras 161–162.
[207] E Whitsitt, 'Tribunal Rejects the Defence of Countermeasures in Recently Published *Corn Products International Inc v The United Mexican States* award' *IISD Investment Treaty News* (28 April 2009) <https://www.iisd.org/itn/en/2009/04/28/tribunal-rejects-the-defense-of-countermeasures-in-recently-published-corn-products-international-inc-v-the-united-mexican-states-award/> accessed 1 September 2024.
[208] Imelda and others (n 33) 30.
[209] Olawuyi (n 73) 415.
[210] For a thorough analysis of LCR advantages, see eg, Artantas (n 10) 117; Meyer (n 84) 1937–2025; see also O Johnson, 'Promoting Green Industrial Development Through Local Content Requirements: India's National Solar Mission' (2016) 16 Climate Policy 178; T Cottier, 'Renewable Energy and WTO Law: More Policy Space or Enhanced Disciplines?' (2014) 5 Renew Energy L & Pol Rev 40; S Lester, 'GATT Article XX and Domestic Production of Environmental Goods' (International Economic Law and Policy Blog, 3 April 2011) <https://ielp.worldtradelaw.net/2011/04/article-xx-domestic-production-of-environmental-goods.html> accessed 1 September 2024.
[211] Olawuyi (n 73) 415.
[212] A Ezenagu and C Eze-Ajoku, 'Upgrade of Local Suppliers in the Global Production Network: The Success or Otherwise Local Content Regimes' in DS Olawuyi (ed), *Local Content and Sustainable Development in Global Energy Markets* (CUP 2021) 83–104; see also Olawuyi (n 73) 415–16.

Trade law

Developing states like Indonesia or Vietnam could use S&DT provisions, GPA, and exception clauses to justify their LCRs to develop local RE in view of the climate emergency. To prevent tensions between climate goals and potential disputes, emerging economies like Indonesia and Vietnam aiming at an energy transition while promoting domestic renewable industries may seek to integrate LCRs into non-conforming measures during treaty negotiations,[213] or insist on flexibility mechanisms for developing countries as permitted under the WTO-law's S&DT provisions.

Artantas suggests that developing countries could have a 'right to green industry', and therewith LCRs, to address climate change concerns combined with shortcomings both in domestic industries and global supply chains.[214] Therefore, LCRs should not only be considered as discriminatory protectionist measures, but may promote developing countries' endeavours to achieve a sound energy transition and develop RE industries.[215] Thus, WTO-law and LCRs can play a mutually beneficial role[216] in balancing climate and economic objectives through sufficient policy space while ensuring that measures are not unnecessarily discriminatory.

As Ezenagu and Eze-Ajoku contend, 'if developing countries are to develop, upgrade their products, and compete favourably in today's globalized economy, protectionist policies, in the form of LCRs, are inevitable'.[217] They further refer to Zhang Weiwei's description of the Chinese economic model featuring China's 'nation state' and domestic economy at the forefront and including 'down-to-earth pragmatic concern with serving the people; constant trial and error experimentation; gradual reform rather than neoliberal economic shock therapy; a strong and pro-development state; and a pattern of implementing easy reforms first, difficult ones later'.[218] This model is reminiscent of the 'mixed-economy' model amalgamating different political economic strategies and tilting towards state rather than market capitalism.[219] Such models, which would include LCRs, could equally apply to the energy transition without necessarily being at odds with international economic law or environmental law. Therefore, Ezenagu and Eze-Ajoku argue that 'protectionist regimes are important to the upgrade of products and services of developing countries and their competitiveness in the global economy'.[220]

Nonetheless, and as mentioned above, LCRs are not unique to developing economies for their development objectives; they are also applied by developed economies, especially after the 2008 crisis.[221] In the RE sector alone, LCRs may affect more than USD 100 billion trade volume yearly.[222] Therefore, it would be essential to design non-discriminatory LCRs beyond existing WTO obligations.

Investment law

LCRs underline the tensions between national and international law, between investment and climate law, as well as the general 'backlash against international investment law'.[223] Yet, the numerous carveouts pertaining to LCRs in TRIMs and relevant investment treaties illustrate that LCRs are not necessarily incompatible with international economic law as long as they are drafted and

[213] Ing and Losari (n 139) 22.
[214] Artantas (n 10) 117.
[215] ibid.
[216] Fang (n 109) 62.
[217] Ezenagu and Eze-Ajoku (n 212) 83–103; see also Olawuyi (n 12) 7.
[218] Ezenagu and Eze-Ajoku (n 212) 88, citing W Zhang, 'The Allure of the Chinese Model' *New York Times* (New York, 1 November 2006).
[219] R Nelson, 'Capitalism as a Mixed Economic System' in D Mueller (ed), *The Oxford Handbook of Capitalism* (OUP 2012) 277–98; see also F Hug, *China's Free Trade Agreement Strategies: Securing the Chinese Developmental State and Socialist Market Economy* (Springer 2024) 14–15, 147, 162, 176, 192–93, 270, and 275.
[220] Ezenagu and Eze-Ajoku (n 212) 88; see also AM Esteves, B Coyne and A Moreno, 'Local Content Initiatives: Enhancing the Subnational Benefits of the Oil, Gas and Mining Sectors' Natural Resource Governance Institute, Briefing (July 2013) 1–28.
[221] OECD, Green Finance and Investment (n 74) 50; see also Fang (n 109) 43; Negara (n 75) 213.
[222] SM Stephenson, 'Addressing Local Content Requirements in a Sustainable Energy Trade Agreement: June 2013' in G Hufbauer, R Meléndez-Ortiz and R Samans, *The Law and Economics of a Sustainable Energy Trade Agreement* (CUP 2016) 316–48; Fang (n 109), 43.
[223] Olawuyi (n 73) 392.

enforced in a manner that can serve, rather than undermine, international investment law objectives, while honouring a host country's environmental and developmental objectives.[224]

As demonstrated in the *Lemire v Ukraine* and *ADF v USA* cases, arbitral tribunals may consider the objectives and purposes of the LCR measure to decide whether the measure has been adopted to meet a legitimate public policy objective, or falls under government procurement exception clauses.[225] Similarly, WTO jurisprudence also took the objectives of the challenged measures into consideration, as demonstrated by *India—Solar Cells* and *Canada—Renewable Energy*. Consequently, to prevent potential arbitration threats, Indonesia, Vietnam, and further jurisdictions adopting LCRs for renewables in the energy transition context should carefully design their LCRs in evidently highlighting the object and purpose for legitimate public policy objectives of their LCR measures, or should consider invoking government procurement exemptions and further exception clauses as defence.

Even though certain measures may not explicitly be framed as LCRs and arbitral tribunals have adopted divergent approaches to this regard, certain measures indirectly favouring local content may still be disputed as breach of national treatment and performance requirement standards if their effect is equivalent to LCRs, as observed in *Mobil v Canada*, *ADM v Mexico*, *CPI v Mexico*, *Cargill v Mexico*, *SD Myers v Canada*, and *Lemire v Ukraine*.[226] States should thus design LCRs and related measures in a non-discriminatory manner.[227]

Most cases pertaining to tensions between LCRs and international investment law are due to 'lack of clarity and guidelines on practical expectations of the host State with respect to LCRs'.[228] A lack of regulatory certainty may fuel arbitration threats in providing room for investors to invoke the FET standard and claim that their legitimate expectations of regulatory stability have been frustrated. Jurisdictions without sound regulatory framework governing LCRs will prove less competitive and investors may consider divesting to other host states,[229] potentially resulting in less RE investments contributing to climate goals, and therewith higher carbon emissions slowing down a just energy transition.

A 'collaborative approach' between state authorities and industry actors founded on 'clear, transparent, and attainable LCRs' combining domestic value with fair opportunities for investors regardless of investment source could thus help realign LCRs with international economic law.[230] Such 'collaborative approach' could generate added-value in decreasing regulatory obstacles and offering fiscal incentives to both foreign and local investors while taking domestic limitations into account.[231] Such approach is also necessary to address domestic shortages and gauge feasible local content targets merging domestic economic development and foreign investment.[232]

Therefore, regulatory and administrative obstacles should be reduced to provide a conducive investment environment.[233] Key contractual terms like reporting requirements or government role in procurement processes must be clarified, and LCRs' 'objectives must be specific, measurable, and achievable'.[234] Investment law reforms should address local governments' potential abuse of LCR measures and ensure that LCRs are complemented with explicit, specific, and transparent legislative frameworks consistent with international investment law and accompanied by solid 'performance requirement monitoring mechanism[s]'.[235]

[224] ibid 393.
[225] See, eg, *Lemire v Ukraine* (n 166); *ADF v USA* (n 163); see also Ing and Losari (n 139) 21.
[226] See, eg, *Mobil v Canada* (n 152); *ADM v* Mexico (n 154); *CPI v Mexico* (n 155); *SD Myers v Canada* (n 160); *Lemire v Ukraine*, ibid; see also Ing and Losari (n 139).
[227] Ing and Losari (n 139) 22.
[228] Olawuyi (n 73) 397.
[229] ibid 392.
[230] ibid 393–94, 396, 417.
[231] ibid 417.
[232] ibid 394.
[233] ibid.
[234] ibid 395.
[235] T Acheampong, M Ashong and VC Svanikier, 'An Assessment of Local-Content Policies in Oil and Gas Producing Countries' (2016) 9 J World Energy L & Bus 282; see also Olawuyi (n 99) 93–117.

In a similar vein, the term 'local content' and related notions, as well as required technologies, should be defined in a more distinct and harmonized manner.[236] LCRs could also complement government procurement laws in ensuring higher flexibility for investors to maximize local added-value, therewith realigning LCRs with international investment law standards like FET.[237] As demonstrated by its newly adopted laws analysed in this article's section entitled 'New local content regulations', Indonesia is aiming to reach such a balance.

Ing and Losari further propose to subject performance requirement prohibition violations to State–State dispute settlement rather than ISDS.[238] However, rather than eliminating potential ISDS for LCRs, this article suggests to define exception clauses more clearly to allow enough policy space for states adopting measures for legitimate public policy purposes.

Further normative suggestions

While there is no one-size-fits-all, Hufbauer suggests to promote corporate social responsibility (CSR) and create a business-friendly environment.[239] By contrast, Sauvé suggests to adopt 'lighter touch' industrial policies with 'flexibilities' under the TRIMs Agreement, SCM Agreement, GPA, and further multi-, pluri-, and bilateral trade agreements.[240] Rather than prioritizing local ownership and impose LCRs on foreign investors, measures could prioritize capacity building of human resources and incentivize R&D.[241]

Furthermore, LCRs could be used solely for government procurement.[242] Indeed, protecting domestic producers without advancing their competitiveness defeats the very purpose of increasing domestic competitiveness.[243] Therefore, Indonesia's National Team on Increased Use of Domestic Product introduced in this article's section 'Revoked and revised local content regulations' is considered a meaningful initiative to monitor the implementation of LCRs in a coordinated manner among various government agencies and ensure that they align with international trade law commitments.[244]

This article's case study analysis of Indonesian and Vietnamese JETP demonstrates that LCRs do not necessarily need to be fully abolished. Rather, they must be adopted in a non-discriminatory manner taking CSR, flexibilities under WTO-law and FTAs, and R&D promotion into account, as well as prioritizing on government procurement rather than general use.

CONCLUSION

This article analysed LCRs in JETPs and domestic regulations with Indonesia and Vietnam as case studies. It then evaluated the costs and benefits of LCRs and critically assessed the potential tensions with WTO-law and international investment law.. After examining the potential defences that states could bring to justify LCRs in case of disputes, the article provided some normative suggestions aimed at neutralizing the tensions between LCRs and international economic law.

On those grounds, this article argued that LCRs aiming at a just energy transition are not necessarily at odds with international economic law. Rather than fully abolishing LCRs, this article submitted that they need to be designed in a manner that does not breach non-discrimination principles under international economic law obligations while ensuring competitiveness and attractiveness for foreign investors. Moreover, this article opened avenues for future research and expanded the argument that LCRs must aim at domestic value addition regardless of origin through

[236] See, eg, C Nwapi, 'A Survey of the Literature on Local Content Policies in the Oil and Gas Industry in East Africa' (2016) 9 School of Public Policy Technical Paper, University of Calgary, 1–30; see also Olawuyi (n 73) 394.
[237] Dolzer and Schreuer (n 93) 226; see also Olawuyi ibid 394.
[238] Ing and Losari (n 139) 22.
[239] Hufbauer and others (n 109) 3.
[240] P Sauvé, 'Life Beyond Local Content: Exploring Alternative Measures of Industry Support in the Context of WTO Accession' (2016) 1 J Intl Trade 2, 15, 20, 27, 28.
[241] O Fernando and LY Ing, 'Indonesia's Local Content Requirements: An Assessment on Consistency with Free Trade Agreement Commitments' (2022) ERIA Discussion Paper Series No. 420, 26–27.
[242] Fernando and Ing ibid 27.
[243] ibid.
[244] ibid.

'collaborative approach' between state and private entities[245] in arguing that such approach should go beyond mere state–industry scope, and involve public participation of communities affected by RE investments and energy transitions at large.

This article further posited that states could use various defences should claims challenging duly designed LCR measures be brought to arbitration, such as the government procurement defence, countermeasures defence, developing country status defence under the WTO's special and differential treatment provisions, as well as the police powers doctrine and WTO-style exception clauses justifying measures 'necessary to protect human, animal or plant life or health', or 'relating to the conservation of exhaustible natural resources'.[246]

In sum, this article asserted that JETPs and international economic law do not necessarily collide, and that disputes under WTO mechanisms or investment treaties can be prevented, as long as LCRs are carefully designed and implemented in a non-discriminatory manner. In doing so, this article provides a significant contribution to legal scholarship examining the tensions between energy transition and international economic law, and represents a useful resource for academics, policymakers, and practitioners from private and public sectors dealing with energy transition and LCR-related legal reforms in Southeast Asia and beyond.

FUNDING

This work was supported by the Hong Kong General Research Fund under Grant Project No. 14609122 on 'Phasing Out Coal Along the Belt and Road: Traditional Regulation and Market-based Approaches'.

Conflicts of interest: The author has no conflicts of interest to declare that are relevant to the content of this article.

[245] Olawuyi (n 73) 396, 417.
[246] GATT (n 115), arts XX(b) and (g); see also eg, RCEP (n 141), arts 17.12.1–2; ASEAN Comprehensive Investment Agreement (n 144), arts 17.1(b), (c), and (f); EU-Vietnam FTA (n 195), arts 8.53(b)–(c).

Journal of World Energy Law and Business, 2025, 18, 1–23
https://doi.org/10.1093/jwelb/jwaf003
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