THE RISK OF INVESTOR-STATE ARBITRATION ARISING FROM RENEWABLE ENERGY SUBSIDY SCHEMES: A CAVEAT FOR ASIAN COUNTRIES

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ABSTRACT

To boost investments in power generation using renewable energy sources, many Asian governments adopt renewable energy subsidy (hereinafter "RES") schemes such as feed-in tariffs and renewable energy certificates. This article demonstrates that these schemes often involve a high degree of regulatory uncertainty, which may expose states to investor-state arbitration claims. Drawing on precedents from cases against European states and analysis of international investment agreements involving Asian countries, as well as the latest practice of selected Asian countries on RES, the article cautions that the region faces significant litigation risk. This article further explores pathways for Asian countries to reform investment treaties and improve domestic regulatory capacity to avoid future disputes.

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KEYWORDS: *investor-state dispute, energy transition, international investment law, renewable energy subsidy, sustainability, Asia*

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I. INTRODUCTION

Renewable energy transition policies cover a broad range of regulatory measures. Depending on the industrial sectors being regulated, energy transition policies can be categorised as power, heating and cooling, and transport regulations.[1] This research zooms into the first type of policies, that is, those aiming to foster the transition of power generation from traditional fossil-fuel-based sources to renewable energy sources. Particularly, it examines renewable energy subsidy (hereinafter "RES") schemes, that is, policy measures that provide financial incentives to electricity producers generating power from renewable sources such as solar, wind, hydro, and biomass.[2]

The reason for focusing on this particular type of energy transition policy is that it has been at the centre of numerous international economic disputes

[1] INT'L RENEWABLE ENERGY AGENCY, RENEWABLE ENERGY POLICIES IN A TIME OF TRANSITION 5 (2018).
[2] For example, see *Renewable Energy Electricity Subsidy for 2023*, INT'L ENERGY AGENCY (Aug. 19, 2025), https://www.iea.org/policies/17254-renewable-energy-electricity-subsidy-for-2023.

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in the Investor-State Dispute Settlement (hereinafter "ISDS") mechanism. As the following sections will illustrate, these disputes have exerted a profound negative influence on host states and triggered significant debate among commentators.[3] Yet, much of the international economic law literature has focused on interpreting treaty obligations and examining ISDS tribunals' interpretative approaches, without probing into the specific design and functioning of different types of renewable power subsidy schemes. This paper therefore seeks to bridge this gap by bringing insights from energy policy analyses into the discourse on how to reform international economic law for sustainability.

Particularly, this paper zooms in on RES policies in Asian countries. Across the region, the development of renewable energy is highly uneven, which is affected by various factors such as geographical locations, natural and financial resources, and technological developments.[4] Therefore, Asia provides a particularly rich context for examining how RES policies may challenge the design of international economic rules. Although few Asian countries have yet been the subject of RES-related ISDS claims, the regulatory volatility of their RES frameworks makes them particularly vulnerable to future disputes. This article therefore provides a timely warning for the negotiation and drafting of investment protection agreements involving Asian states. To clarify, this article does not aim to present detailed case studies of specific RES policies across selected Asian jurisdictions in the manner of a policy report. Rather, it uses examples of noteworthy RES policies adopted across Asia in order to highlight the dynamics and complexities of such schemes and their potential interactions with international investment agreements. Accordingly, it is unnecessary for the purposes of this article to adopt a precise definition of "Asian countries."

This article highlights that the design of RES policy is inherently polycentric; that is, it necessitates policy consideration of various complex interconnected social and economic factors. As such, it demands constant regulatory changes to accommodate changing social and economic factors,

[3] To give such examples: see generally Chen Yu, *Disentangling Legal Stability from Legitimate Expectations: Towards Greater Deference to Regulatory Changes in Renewable Energy Transition Policies in Investment Arbitration*, 24(1) WORLD TRADE REV. 101 (2025); Jack Biggs, *The Scope of Investors' Legitimate Expectations Under the FET Standard in the European Renewable Energy Cases*, 36(1) ICSID REV. 99 (2021); Anatole Boute, *Energy Justice in Times of Crisis: Protection of Consumers and Market-Based Renewable Energy Investments*, 26(4) J. INT'L ECON. L. 770 (2023); Hui Pang, *Investor-State Dispute Settlement in Renewable Energy: Friend or Foe to Climate Change?*, *in* CLIMATE CHANGE LITIGATION IN THE ASIA PACIFIC 144 (Douglas A. Kysar & Jolene Lin eds., 2020); Kyla Tienhaara & Christian Downie, *Risky Business? The Energy Charter Treaty, Renewable Energy, and Investor-State Disputes*, 24(3) GLOB. GOVERNANCE 451 (2018); Diego Zannoni, *The Legitimate Expectation of Regulatory Stability Under the Energy Charter Treaty*, 33(2) LEIDEN J. INT'L L. 451 (2020).

[4] Ayla Majid, *How to Finance the Energy Transition in Asia*, WORLD ECON. F. (May 19, 2023), https://www.weforum.org/stories/trade-and-investment/financing-the-energy-transition-in-asia/.

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which is particularly challenging for many Asian governments. It argues that this dynamic landscape significantly increases exposure to ISDS litigation risks and underscores the necessity for Asian countries to modernise their investment agreements and strengthen domestic regulatory frameworks. To be more specific, the analysis proceeds in four parts: Section II introduces the significant financial gap facing Asian countries in developing renewable energy projects; Section III examines the common features and challenges of RES polices adopted by Asian countries; Section IV explains the potential conflicts between domestic RES polices and international investment treaty obligations, and Section V discusses implications for the reform of relevant international and domestic regulatory frameworks.

II. BACKGROUND: THE DEMAND FOR ATTRACTING INVESTMENTS IN THE RENEWABLE ENERGY SECTOR IN ASIA

In Asia, there is a significant demand for investment in power generation and power grid modernisation.[5] For example, it is estimated that to implement sustainable development goals, South Asia will require social investments of around five trillion to close infrastructure gaps by 2030.[6] For solar and wind in particular, it is necessary to improve grid stability and resilience in order to integrate electricity generated in the power system, which requires massive investments.[7] To fill the financial gap, public funding alone is insufficient. As some scholars point out, "the cost of [renewable energy] infrastructures and the persisting constraints on public financing mean that the transition to a low-carbon energy system requires strong support from private investment, as well as innovative financing instruments."[8]

On the other hand, however, due to the high risk of the renewable energy industry, most investors are hesitating to invest in this sector, particularly in emerging markets.[9] According to the data provided in the United Nations Conference on Trade and Development (hereinafter "UNCTAD") World Investment Report, the value of international project finance deals in the renewable energy sector grew significantly from 2019 to 2021 (at a growth

[5] Randi Kristiansen, *Attracting Private Finance to Transmission in the Asia-Pacific Region* 5 (Econ. & Soc. Comm'n for Asia & Pac., Working Paper No. WP/2022/01, 2022), https://repository.unescap.org/bitstream/handle/20.500.12870/4560/ESCAP-2022-WP-Attracting-private-finance-transmission.pdf?sequence=1&isAllowed=y.

[6] U.N. ECON. & SOC. COMM'N FOR ASIA & PAC., ACHIEVING THE SUSTAINABLE DEVELOPMENT GOALS IN SOUTH ASIA: KEY POLICY PRIORITIES AND IMPLEMENTATION CHALLENGES, at vii, U.N. Doc. ST/ESCAP/2740, U.N. Sales No. E.17.II.F.12 (2017).

[7] ASEAN CENTRE FOR ENERGY, THE 7TH ASEAN ENERGY OUTLOOK 2020-2050 at 148 (2022).

[8] Miguel Vázquez-Vázquez et al., *The Key Role of Debt Financing in Developing Renewable Energy Projects*, 15(4) J. WORLD ENERGY L. & BUS. 266, 268 (2022).

[9] Shihong Zeng et al., *A Review of Renewable Energy Investment in the BRICS Countries: History, Models, Problems and Solutions*, 74 RENEWABLE & SUSTAINABLE ENERGY REV. 860, 869 (2017).

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rate of 126%), while the value of announced greenfield investments waned steadily (at a growth rate of -7%).[10] Banks, which play a dominant role in the Asian financial system,[11] are also hesitating to finance renewable energy projects for similar reasons. As a working paper by the Asian Development Bank Institute points out, bank loans are suitable for financing short-to-medium-term projects, while mega energy projects are long-term, which creates a maturity mismatch.[12]

To close the finance gap, governments have explored various avenues to attract and facilitate investments, especially through international cooperation, into the renewable energy sector. For example, they frequently collaborate with international project finance (known as Public-Private Partnerships), which has played a leading role in the establishment of solar and wind power plants given their capital-intensive and high-risk features.[13] Project financing focuses on cash flow rather than the balance sheet of the sponsor (i.e. the company that receives the capital); therefore, it is easier for renewable energy project developers to attract investment.[14] Another policy choice is to work with international institutions such as multilateral development banks (e.g. Asian Infrastructure Investment Bank), which could assume some of the risks by either providing credit support during the construction phase or lending directly to the project.[15] There are also specialised funding institutions like the Green Climate Fund (established by

[10] U.N. CONF. ON TRADE & DEV., WORLD INVESTMENT REPORT 2022: INTERNATIONAL TAX REFORMS AND SUSTAINABLE INVESTMENT, at 35, U.N. Doc. UNCTAD/WIR/2022, U.N. Sales No. E.22.II.D.20 (2022). A possible explanation, according to the report, is that international project finance makes it easier for domestic government or capitals to initiate risk-sharing arrangements for large-size renewable energy projects.

[11] Hooman Peimani, *Financial Barriers to Development of Renewable and Green Energy Projects in Asia* 5 (Asian Dev. Bank Inst., Working Paper No. 862, 2018), https://www.econstor.eu/handle/10419/190283.

[12] *Id.* at 6.

[13] Bjarne Steffen, *The Importance of Project Finance for Renewable Energy Projects*, 69 ENERGY ECON. 280, 280-81 (2018). According to the data provided in the UNCTAD World Investment Report, the value of international project finance deals in the renewable energy sector grew significantly from 2019 to 2021 (at a growth rate of 126%). U.N. CONF. ON TRADE & DEV., *supra* note 10, at 30. Dharish David & Anbumozhi Venkatachalam, *A Comparative Study on the Role of Public-Private Partnerships and Green Investment Banks in Boosting Low-Carbon Investments*, *in* HANDBOOK OF GREEN FINANCE: ENERGY SECURITY AND SUSTAINABLE DEVELOPMENT 261, 265 (Jeffrey D. Sachs et al. eds., 2019).

[14] Jose Barroco & Maria Herrera, *Clearing Barriers to Project Finance for Renewable Energy in Developing Countries: A Philippines Case Study*, 135 ENERGY POL'Y, no. 111008, 2019, at 1, 2.

[15] Tianze Ma, *Basel III and the Future of Project Finance Funding*, 6(1) MICH. BUS. & ENTREPRENEURIAL L. REV. 109, 121 (2016). The article discusses the successful experience of the European Investment Bank and its 2020 Project Bond Initiative. For example, in the Viet Nam – Quang Tri wind farm project, the Asian Development Bank participated in the deal structuring, due diligence, and loan syndications, thus providing significant assistance in financing the project. *See also* U.N. CONF. ON TRADE & DEV., WORLD INVESTMENT REPORT 2023: INVESTING IN SUSTAINABLE ENERGY FOR ALL, at 163, U.N. Doc. UNCTAD/WIR/2023, U.N. Sales No. E.23.II.D.17 (2023).

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the United Nations Framework Convention on Climate Change) and the Climate Investment Funds that aim to mobilise financing for renewable projects in less-developed countries.[16] Nevertheless, the contribution of these international collaborations to financing renewable projects is hardly sufficient compared to the vast demand. For example, a report by the International Energy Agency (IEA) shows that it is hard for Southeast Asia companies to have access to long-term loans—the average duration of the loan is just six years, which is insufficient to cover the lifespan of renewable electricity projects.[17]

Additionally, international investment agreements (hereinafter "IIAs"), albeit not specifically designed for renewable energy projects, may facilitate investment flows into the renewable energy sectors. International investment agreements aim to facilitate cross-border investments by setting standards of investment protection and dispute settlement mechanisms. They are mainly in bilateral and regional form—some are standalone investment treaties, and some are included as a chapter in bilateral or regional economic agreements. According to UNCTAD's statistics, there are around 2,800 IIAs worldwide.[18] As section IV below will discuss, Asian countries have also signed a large number of IIAs. Some highly influential regional agreements in Asia, for example, the Regional Comprehensive Economic Partnership (hereinafter "RCEP"),[19] and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (hereinafter "CPTPP"), also contain investment protection chapters.[20] On the other hand, there has long been scepticism over whether IIAs actually contribute to the increase of investments in host states.[21] The sections below will explain the controversial impact of IIAs on energy transition in greater detail.

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[16] GREEN CLIMATE FUND, https://www.greenclimate.fund/ (last visited Dec. 1, 2025); CLIMATE INVESTMENT FUND, https://www.cif.org/ (last visited Dec. 1, 2025).

[17] International Energy Agency [hereinafter IEA], *Southeast Asia Energy Outlook 2022* (May 17, 2022), https://iea.blob.core.windows.net/assets/e5d9b7ff-559b-4dc3-8faa-42381f80ce2e/SoutheastAsiaEnergyOutlook2022.pdf.

[18] *International Investment Agreements Navigator: China*, U.N. CONF. ON TRADE & DEV., https://investmentpolicy.unctad.org/international-investment-agreements/countries/42/china.

[19] Regional Comprehensive Economic Partnership Agreement, Nov. 15, 2020 (entered into force Jan. 1, 2022), https://investmentpolicy.unctad.org/international-investment-agreements/treaties/bilateralinvestment-treaties/4935/rcep-2020- [hereinafter RCEP], with members: Australia, Brunei, Cambodia, China, Indonesia, Japan, South Korea, Laos, Malaysia, Myanmar, New Zealand, the Philippines, Singapore, Thailand, and Vietnam.

[20] Comprehensive and Progressive Agreement for Trans-Pacific Partnership, Mar. 3, 2018 (entered into force Dec. 30, 2018), https://rtais.wto.org/UI/PublicShowRTAIDCard.aspx?rtaid=640 [hereinafter CPTPP], with members: Australia, Brunei, Canada, Chile, Japan, Malaysia, Mexico, New Zealand, Peru, Singapore, the United Kingdom and Vietnam.

[21] *See generally* Peter Egger et al., *International Investment Agreements and Foreign Direct Investment: A Survey*, 46(6) WORLD ECON. 1524 (2023); U.N. CONF. ON TRADE & DEV., THE ROLE OF INTERNATIONAL INVESTMENT AGREEMENTS IN ATTRACTING FOREIGN DIRECT INVESTMENT TO DEVELOPING COUNTRIES, U.N. Doc. UNCTAD/DIAE/IA/2009/5, U.N. Sales No. E.09.II.D.20 (2009).

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Compared to the various means of attracting investments, RES schemes appear to be a more viable, handy, and effective policy tool to close the financial gap for energy transition. Extensive research from various disciplines has shown that in the power sector, economic incentive schemes like feed-in tariffs and renewable portfolio standards are statistically effective in attracting investments.[22] On the other hand, the design and implementation of these schemes are fraught with uncertainties and challenges. The next Part will provide a detailed explanation of the policy's key features and related challenges in Asia.

III. RENEWABLE ENERGY SUBSIDY SCHEMES IN ASIA: CHANGES AND UNCERTAINTIES

Aligning with worldwide practice, many Asian economies adopt RES schemes to attract investments in renewable power generation projects. This section will discuss various measures adopted by the countries. It shows that the implementation of the incentive schemes is fraught with uncertainties and challenges. This is mainly due to the complex interactions of energy subsidy policies with various social and economic contexts that are constantly changing. At the same time, Asian countries are demonstrating increasing interest in transitioning to market-driven incentive schemes.

A. The Widespread Adoption of FiT Schemes in Asia

Overall, practices relating to RES schemes vary considerably among Asian countries. Feed-in-Tariff (hereinafter "FiT") is the most popular measure and also the first measure adopted by many countries to facilitate RET. The detailed design of FiT varies among countries but in essence, they aim to enable electricity producers to sell electricity produced through renewable sources at an above-market price.[23] As numerous empirical studies have confirmed, the implementation of FiT schemes is effective in boosting investments in power generation using renewable sources.[24] Thus,

[22] Toby Couture & Yves Gagnon, *An Analysis of Feed-In Tariff Remuneration Models: Implications for Renewable Energy Investment*, 38(2) ENERGY POL'Y 955, 955 (2010); Dewi Yuliani, *Is Feed-In-Tariff Policy Effective for Increasing Deployment of Renewable Energy in Indonesia?*, *in* THE POLITICAL ECONOMY OF CLEAN ENERGY TRANSITIONS 144, 147 (Douglas Arent et al. eds., 2017); Dong-xiao Yang et al., *Analysis of Renewable Energy Subsidy in China Under Uncertainty: Feed-In Tariff vs. Renewable Portfolio Standard*, 34 ENERGY STRATEGY REV., no. 100628, 2021, at 1; *Renewable Energy Feed-in Tariffs*, OECD, https://stats.oecd.org/Index.aspx?DataSetCode=RE_FIT.

[23] Will Kenton, *Feed-In Tariff (FIT): Explanation, History, and Uses*, INVESTOPEDIA (Feb. 5, 2025), https://www.investopedia.com/terms/f/feed-in-tariff.asp.

[24] Cengceng Liu et al., *On the Impact of FIT Policies on Renewable Energy Investment: Based on the Solar Power Support Policies in China's Power Market*, 94 RENEWABLE ENERGY 251, 251 (2016).

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it is unsurprising that FiT has, or had, gained significant popularity among Asian countries and worldwide. For example, in 2006, China implemented the *Renewable Energy Law*, which set force principles and measures to promote the use of renewable energy sources.[25] It specified that FiT would be determined according to the principles of "promoting the exploration and use of renewable energy" and "economically reasonableness," taking into account the level of development of relevant technologies.[26] In the following decade, China employed numerous policy documents to adjust FiT subsidies.[27] Other examples include Korea,[28] the Philippines,[29] Malaysia,[30] Japan,[31] and Indonesia,[32] which implemented FiT regimes through domestic legislation at certain stages of their renewable energy development.

To implement FiT, the relevant domestic laws generally designate specialised public entities to grant approval to qualified renewable energy electricity producers, and determine and adjust the price of electricity generated from renewable sources.[33] The measures to adjust FiT rates also vary across countries. In Japan, for example, the Minister of Economy, Trade and Industry was authorised to adjust FiT rates periodically according to

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[25] Zhonghua Renmin Gongheguo Kezaisheng Nengyuan Fa (中华人民共和国可再生能源法) [Renewable Energy Law of the People's Republic of China] (promulgated by the Standing Comm. Nat'l People's Cong., Feb. 28, 2005, effective Jan. 1, 2006), 2005 STANDING COMM. NAT'L PEOPLE'S CONG. GAZ. 246 (China).

[26] *Id.* art. 19.

[27] Qiang Tu et al., *The Evolution and Evaluation of China's Renewable Energy Policies and Their Implications for The Future*, 30(3) CHINA POPULATION, RESOURCE & ENV'T 29, 29 (2020). *See also* Fuquan Zhao et al., *A Review on Renewable Energy Transition Under China's Carbon Neutrality Target*, 14(22) SUSTAINABILITY, no. 15006, 2022, at 1.

[28] Korea implemented FiT from 2002 to 2011. *See generally* Tae-hyeong Kwon, *Policy Synergy or Conflict for Renewable Energy Support: Case of RPS and Auction in South Korea*, 123 ENERGY POL'Y 443 (2018).

[29] The 2008 Renewable Energy Law implemented various incentive schemes to boost RET, including FiT. *See* Renewable Energy Act of 2008, Rep. Act No. 9513, §§ 6-7 (Dec. 16, 2008) (Phil.), https://www.officialgazette.gov.ph/2008/12/16/republic-act-no-9513/. Nevertheless, the government discontinued FiT in 2019. Viktor Tachev, *Renewable Energy in the Philippines—Current State and Future Roadmap*, ENERGY TRACKER ASIA (June 9, 2024), https://energytracker.asia/renewable-energy-in-the-philippines-current-state-and-future-roadmap/.

[30] In 2011, Malaysia implemented the Renewable Energy Act which established the FiT mechanism. *See* Renewable Energy Act of 2011 (Act 725), § 3 (June 2, 2011) (Malay.).

[31] Japan implemented the FiT scheme in 2012. *See* Saisei kano denki no riyo no sokushin ni kansuru tokubetsu sochi ho [Saiene tokusoho] [Act on Special Measures Concerning Procurement of Electricity from Renewable Energy Sources], Act No. 108 of 2011 (Japan).

[32] Implemented FiT since 2012 via Regulation of Ministry of Energy and Mineral Resources [hereinafter MEMR Regulation], No. 22 of 2012 (Indon.); MEMR Regulation, No. 4 of 2012; MEMR Regulation, No. 17 of 2013. *See generally* Matthew Halstead et al., *Policy Brief Indonesian Feed-In Tariffs: Challenges & Options*, CLIMATE & DEV. KNOWLEDGE NETWORK (2014), https://cdkn.org/sites/default/files/files/ECN-Policy-Brief-Indonesian-Feed-in-tariff-140304.pdf; Yuliani, *supra* note 22.

[33] For example, in Japan, the price of electricity from renewable energy sources should be determined by Minister of Economy, Trade and Industry on a yearly basis. *See* Saisei kano denki no riyo no sokushin ni kansuru tokubetsu sochi ho [Saiene tokusoho] [Act on Special Measures Concerning Procurement of Electricity from Renewable Energy Sources], Act No. 108 of 2011, art. 3(1) (Japan).

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factors such as the supply of electricity from renewable energy sources in the market, expenses for generating electricity, and changes in commodity prices and other economic conditions.[34] In contrast, the Malaysia Renewable Energy Act specifies that the FiT rate for new contract holders shall be reduced each year progressively based on the degression rates submitted by the Sustainable Energy Development Authority.[35] This model is known as the "front-end loaded" tariff design model, which matches the financing circle of renewable projects given that the projects' demand for financial assistance is normally higher at the initial stages.[36]

B. Challenges Arising from the Implementation of FiT

A noteworthy challenge in the implementation of FiT is determining the appropriate rate of subsidy. An excessively high FiT rate may cause over-compensation to the renewable industry, resulting in market distortion and waste of financial and social resources.[37] By contrast, a low rate may fail to sufficiently incentivise investment in the industry. The problem is particularly salient for countries implementing fixed FiT, as the regulatory bodies need to fix the rate from the beginning, with little room for adjustments afterwards.

Another prominent problem arising from the implementation of FiT is securing financial resources for the subsidies. The generous FiT rates commonly attract a massive number of applications that far exceed the government's initial expectations. This leads to a heavy financial burden for governments.[38] For example, for China, it is estimated that by the end of 2021, the subsidy shortfall had exceeded CNY 400 billion.[39] For countries that secure funding from electricity bills paid by consumers, the subsidy costs will subsequently be passed on to consumers and cause a sharp increase in electricity prices. For example, in the Philippines, the FiT project was generally considered to have caused an increase in the cost of electricity paid by consumers, which consequently caused a decrease in public support and was eventually discontinued.[40] The effectiveness of FiT can also be influenced by macroeconomic factors. For example, in 2013, Indonesia

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[34] *Id.* art. 3(1).
[35] Renewable Energy Act of 2011 (Act 725), § 17 (June 2, 2011) (Malay.). For more information about the rates, see FIT RATES FOR SOLAR PV (COMMUNITY) (21 YEARS FROM FIT COMMENCEMENT DATE), http://www3.seda.gov.my/iframe/ (last visited Dec. 2, 2025).
[36] Couture & Gagnon, *supra* note 22, at 958.
[37] *Id.* at 955-65.
[38] Liu et al., *supra* note 24, at 252.
[39] Yanchao Yan et al., *Does the Change in Incentive Policies Promote Renewable Energy Power Generation in China?*, 21(9) INT'L J. GREEN ENERGY 2004, 2005 (2024).
[40] Barroco & Herrera, *supra* note 14, at 6; Antonio GM La Viña et al., *Navigating a Trilemma: Energy Security, Equity, and Sustainability in the Philippines' Low-Carbon Transition*, 35 ENERGY RSCH. & SOC. SCI. 37, 41 (2018).

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suffered from a rise in the inflation rate as well as a sharp depreciation of its currency, the Rupiah, relative to the U.S. dollar, leading to a decrease in revenues received by renewable energy investors.[41]

Vietnam's FiT policies also epitomise the aforementioned problems in designing and implementing FiT. In 2011, in light of the low number of wind projects in the country, the government issued a wind FiT of 7.8 cents/kWh; nevertheless, it was criticised as insufficient and failed to attract new projects in the following years.[42] Six years later, in 2017, it faced the same problem when it intended to implement FiT to boost solar power but failed to boost investments nationwide, notably due to the failure of FiT to offset the levelized cost of electricity in some areas.[43] Later, the government implemented new policies that offered more generous FiT, which successfully attracted massive amounts of investment.[44] Recently, nonetheless, the government has been considering reducing the tariffs due to increased losses for its state-owned power utility company, which is the only buyer of the generated electricity, as well as the increase in power prices for consumers.[45] Investors have raised extensive concerns over the potential policy changes.[46]

In light of the challenges brought by FiT, some countries have decided to water down the degree of subsidy or replace FiT with other incentive schemes. China, for example, adopted both strategies. Following the implementation of the Renewable Energy Law in 2006, the country introduced FiT schemes for grid-connected renewable energy projects. Several regulatory authorities jointly determine the "benchmark" FiTs according to factors such as the region's resource level and industry scale, and the amount of subsidy has gradually decreased since 2015.[47] In 2017, it introduced the renewable energy certificate trade mechanism, which operates in parallel with FiT;[48] in 2019, it "experimentally" cancelled FiT

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[41] Halstead et al., *supra* note 32, at 1, 5.

[42] PETER MEIER ET AL., THE DESIGN AND SUSTAINABILITY OF RENEWABLE ENERGY INCENTIVES: AN ECONOMIC ANALYSIS 50 (2014).

[43] Hang Thi-Thuy Le et al., *Critical Assessment of Feed-In Tariffs and Solar Photovoltaic Development in Vietnam*, 15(2) ENERGIES 1, 10 (2022).

[44] Mark Barnes, *Feed-In Tariffs for Solar and Wind Power Projects in Vietnam*, VIET. BRIEFING NEWS (Jan. 16, 2023), https://www.vietnam-briefing.com/news/feed-in-tariffs-solar-wind-vietnam.html/.

[45] Francesco Guarascio, *Over $13 Billion in Solar, Wind Investment at Risk in Vietnam, Industry Letter Says*, REUTERS (Mar. 10, 2025), https://www.reuters.com/business/energy/over-13-billion-solar-wind-investment-risk-vietnam-industry-letter-says-2025-03-10/.

[46] *Id.*

[47] Zhao et al., *supra* note 27, at 9.

[48] Guojia Fazhan Gaige Wei Caizheng Bu Guojia Nengyuan Ju Guanyu Shixing Kezaisheng Nengyuan Lüse Dianli Zhengshu Hefa Ji Ziyuan Rengou Jiaoyi Zhidu de Tongzhi (国家发展改革委 财政部国家能源局关于试行可再生能源绿色电力证书核发及自愿认购交易制度的通知) [Notice of the National Development and Reform Commission, Ministry of Finance, and National

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subsidy in areas that have better resources, lower construction costs, and better market and investment conditions, and replaced "benchmark tariffs" with "guiding tariffs" that are determined by market competition.[49] In 2021, the central government cancelled the provision of subsidies for newly registered photovoltaic and wind power projects and completely phased out renewable energy subsidies.[50] In 2025, the government further reinforced the market-determined pricing approach by establishing that, in principle, all on-grid electricity from new wind and solar power generation projects shall enter the power market, and the tariffs shall be formed through market trading.[51] Another example is Japan, which introduced the Feed-in-Premium (hereinafter "FiP") scheme—which aligns the degree of subsidy with the market price of electricity—in 2022 to gradually replace the FiT in some projects.[52] Nevertheless, in 2026, the government announced that, from 2027 onwards, ground-mounted commercial solar power generation would not be eligible for support under the FiT/FiP system.[53]

Energy Administration on the Trial Implementation of the Renewable Energy Green Power Certificate Issuance and Voluntary Trading System], Fa Gai Neng Yuan (发改能源) [2017] No. 132, NAT'L DEV. & REFORM COMM'N (Jan. 18, 2017), https://www.ndrc.gov.cn/xxgk/zcfb/tz/201702/t20170203_962895.html (China).

[49] Guojia Fazhan Gaige Wei Guojia Nengyuan Ju Guanyu Jiji Tuijin Fengdian, Guangfu Fadian Wu Butie Pingjia Shangwang Youguan Gongzuo de Tongzhi (国家发展改革委 国家能源局关于积极推进风电、光伏发电无补贴平价上网有关工作的通知) [Notice on Actively Promoting the Non-Subsidized Generation of Wind and Photovoltaic Power], Fa Gai Neng Yuan (发改能源) [2019] No. 19, NAT'L DEV. & REFORM COMM'N (Jan. 7, 2019), https://www.ndrc.gov.cn/xxgk/zcfb/tz/201901/t20190109_962365.html (China); Zhao et al., *supra* note 27, at 9-10.

[50] Guojia Fazhan Gaige Wei Guanyu 2021 Nian Xinnengyuan Shangwang Dianjia Zhengce Youguan Shixiang de Tongzhi (国家发展改革委关于 2021 年新能源上网电价政策有关事项的通知) [Notice on Matters Related to the Renewable Electricity Feed-In Tariff Policy in 2021], Fa Gai Jiage (发改价格) [2021] No. 833, NAT'L DEV. & REFORM COMM'N (June 7, 2021), https://www.ndrc.gov.cn/xxgk/zcfb/tz/202106/t20210611_1283088_ext.html (China).

[51] Guojia Fazhan Gaige Wei Guojia Nengyuan Ju Guanyu Shenhua Xinnengyuan Shangwang Dianjia Shichanghua Gaige Cujin Xinnengyuan Gao Zhiliang Fazhan de Tongzhi (国家发展改革委 国家能源局关于深化新能源上网电价市场化改革 促进新能源高质量发展的通知) [Notice of the National Development and Reform Commission and the National Energy Administration on Deepening the Market-Oriented Reform of New Energy On-Grid Tariffs to Promote the High-Quality Development of New Energy], Fa Gai Jia Ge (发改价格) [2025] No. 136, NAT'L DEV. & REFORM COMM'N (Jan. 27, 2025), https://www.ndrc.gov.cn/xxgk/zcfb/tz/202502/t20250209_1396066.html (China).

[52] Amends to the Act on Special Measures Concerning Promotion of Utilization of Electricity from Renewable Energy Sources, see Kyojin katsu jizoku kano na denki kyokyu taisei no kakuritsu o hakaru tame no denki jigyo-ho to no ichibu o kaisei suru horitsu [Act on Partial Amendment of the Electricity Business Act and Other Acts for Establishing a Resilient and Sustainable Electricity Supply System], Law No. 49 of 2020, art. 29, https://www.japaneselawtranslation.go.jp/en/laws/view/3235/en (Japan).

[53] *Saisei kanou enerugii no FIT seido・FIP seido ni okeru 2026 nendo ikou no kaitori kakaku tou to 2026 nendo no fukakin tanka o settei shimasu* (*再生可能エネルギーの FIT 制度・FIP 制度における 2026 年度以降の買取価格等と 2026 年度の賦課金単価を設定します*) [*Setting the Purchase Prices and Surcharge Rates for Renewable Energy Under the FIT and FIP Systems from*

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C. Towards Market-Based Approaches

The shortcomings of FiT compel some Asian countries to explore more alternatives. Particularly, given the rapid development of the renewable energy market, more market-based incentive schemes appear desirable to avoid the problem of over-/under-compensation. This includes Renewable Energy Certificate (hereinafter "REC"), bidding, net metering, direct power purchase agreements, etc.

The most prevalent market-based incentive scheme is REC. REC is a transferable document certifying that one megawatt-hour of electricity was generated from renewable sources.[54] Companies can trade the certificates voluntarily in the market. It is implemented together with mandatory governmental requirements on the quota of electricity generated from renewable sources (i.e. "renewable portfolio standard").[55] Therefore, when a company generates excessive electricity using renewable sources, it can sell the REC in the market and gain additional revenue; vice versa, if a company fails to meet the quota, it has to buy REC from the market. As such, the price of REC reflects the productivity of clean electricity in the market, which allows governments to adjust the mandatory quota accordingly.

REC has emerged as a popular market-based policy tool among Asian countries. Some countries allow FiT and REC to co-exist for a certain period. For example, Japan introduced the REC scheme as early as 2000.[56] Another example is the Philippines—the 2008 Renewable Energy Law implemented various incentive schemes, including FiT, RPS and net-metering.[57] Nevertheless, in 2019, FiT was eventually discontinued.[58] The government subsequently introduced the Green Energy Auction Program in 2021.[59] Statistics show that the auction program has resulted in a notable reduction in the electricity price paid by consumers in the Philippines.[60]

Fiscal Year 2026 Onward], MINISTRY ECON., TRADE & INDUST. (Mar. 19, 2026), https://www.meti.go.jp/press/2025/03/20260319004/20260319004. html. Rooftop solar power generation is still eligible.

[54] James Chen, *Understanding Renewable Energy Certificates (RECs): Definition and Example*, INVESTOPEDIA (June 26, 2026), https://www.investopedia.com/terms/r/rec.asp; David John Frenkil & David P. Yaffe, *Renewable Energy Certificates: A Patchwork Approach to Deploying Clean Technologies*, 5(1) J. WORLD ENERGY L. & BUS. 1, 2 (2012).

[55] Frenkil & Yaffe, *supra* note 54, at 2-3.

[56] MASAYA ISHIDA, ELECTRICITY CERTIFICATE FOR RENEWABLES: COMPARISON OF JAPANESE AND INTERNATIONAL SYSTEMS 11 (2022).

[57] Renewable Energy Act of 2008, Rep. Act No. 9513, §§ 6-7, 10 (Dec. 16, 2008) (Phil.), https://www.officialgazette.gov.ph/2008/12/16/republic-act-no-9513/.

[58] Tachev, *supra* note 29.

[59] Jayson O. Ranara et al., *Feed-In Tariff (FIT) System to Green Energy Auction Program (GEAP): The Philippines' Strategic Move Toward Competitive Renewable Energy Market*, *in* 2025 25TH CONFERENCE OF THE ELECTRIC POWER SUPPLY INDUSTRY (CEPSI) 1,043, 1,044 (2025), https://ieeexplore.ieee.org/document/11403792.

[60] *Id.* at 1,045.

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At the same time, some countries directly replaced FiT with REC. For example, in 2012, Korea replaced the FiT scheme with the RPS through the amendment to the Renewable Energy Act.[61] It specifies that the Minister of Trade, Industry and Energy determines the quota and may impose, on entities failing to comply with the quota, a penalty surcharge of up to 1.5 times the amount of the average REC transaction price multiplied by the shortage.[62] Nevertheless, the government plans to replace RPS and REC with a government-led long-term contract auction system.[63] At the same time, countries like Singapore introduced REC but are reluctant to implement FiT.[64]

The implementation of REC can be challenging. It requires a sound REC trading market with effective certificate tracking mechanisms, which causes notable problems for many economies. For example, at the early stage of its implementation, China's green certificate trading market was far from efficient: the transaction volume was low, and the average transaction price was much higher than that of the other markets (e.g., the European Union (hereinafter "EU")).[65] In 2025, the government issued a new guideline stating that it aims to complete the improvement of the REC market by 2027.[66] In Korea, the REC price has been falling rapidly since the implementation of the RPS scheme, which caused under-remuneration for power generators.[67] The Japanese market faces the problem of a lack of attribute information and information on electricity generation methods for consumers to evaluate the environmental impacts of the REC.[68] Scholars suggest that Japan needs to establish certificate management and a highly transparent and fair certificate trading system.[69]

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[61] Act on the Promotion of the Development, Use and Diffusion of New and Renewable Energy, art. 12-8 (S. Kor.), *translated in* Korea Legislation Research Institute's online database, http://elaw.klri.re.kr/eng_service/main.do (search required).
[62] *Id.* art. 12-6.
[63] Shin Yoogeoung, *Starting Next Year, Renewable Energy Supply Methods Such as Solar Power Will Be Completely Reorganized*, MAEIL BUS. (May 21, 2026), https://www.mk.co.kr/en/economy/12054556.
[64] *Rooftop Solar in Singapore*, DENTONS (Nov. 15, 2021), https://dentons.rodyk.com/en/insights/alerts/2021/november/15/rooftop-solar-in-singapore.
[65] Hengwu Fan et al., *Shuang Tan Mubiao Xia Woguo Lüse Dianli Zhengshu Jiaoyi Jizhi Yanjiu* (“双碳”目标下我国绿色电力证书交易机制研究) [*Research on China's Green Electricity Certificate Trading Mechanism Under the "Dual Carbon" Goals*], 2022(2) ZHONGGUO NENGYUAN (中国能源) [ENERGY OF CHINA] 29, 30 (2022) (China); Yan et al., *supra* note 39, at 2,005.
[66] Guanyu Cujin Kezaisheng Nengyuan Lüse Dianli Zhengshu Shichang Gao Zhiliang Fazhan de Yijian (国家发展改革委等部门关于促进可再生能源绿色电力证书市场高质量发展的意见) [Opinions on Promoting High-Quality Development of the Renewable Energy Green Electricity Certificate Market], Fa Gai Neng Yuan (发改能源) [2025] No. 262, NAT'L DEV. & REFORM COMM'N (Mar. 6, 2025), https://www.ndrc.gov.cn/xxgk/zcfb/tz/202503/t20250318_1396627.html.
[67] IEA, KOREA 2020 ENERGY POLICY REVIEW 86 (2020), https://www.oecd-ilibrary.org/energy/korea-2020-energy-policy-review_2f15bd8f-en.
[68] ISHIDA, *supra* note 56, at 16.
[69] *Id.* at 18-19.

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Overall, REC is a promising market-based incentive tool, but it has high requirements for the soundness of the compliance mechanism.[70] In comparison, FiT has lower administrative costs but also brings high financial burdens to governments. It is hard to decide which mechanism is better. In Asia, particularly, due to the vast difference in countries' levels of development, legal and economic regimes, and energy transition goals, the practice relating to energy incentive schemes has showcased considerable diversity.

Notably, countries frequently employ a combination of energy incentive policies to supplement each other. For example, apart from FiT, Malaysia also employed the Net Energy Metering policy[71] to encourage distributed solar energy generation as well as the Large Scale Solar program, which is a competitive bidding mechanism to drive down the cost of energy.[72] Another important market-driven policy is to promote the use of Direct Power Purchase Agreements (hereinafter "DPPA"), which is typically a long-term contract allowing renewable power producers to directly sell electricity to corporates without having to go through an intermediary like a state utility.[73] It thus leaves more flexibility for renewable energy power generators in terms of structuring power delivery and pricing, and mitigates risks arising from the fluctuation of consumer demand.[74] Vietnam formally launched the DPPA framework in 2024,[75] and Thailand is preparing to launch a similar framework.[76] Under such a highly market-driven framework, the role of the governments is mainly supporting the conclusion and implementation of DPPAs rather than offering direct financial support.

Overall, this section shows that while renewable energy incentive frameworks in Asian jurisdictions exhibit diversity and regulatory flux, a

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[70] Salvador Pineda & Andreas Bock, *Renewable-Based Generation Expansion Under a Green Certificate Market*, 91 RENEWABLE ENERGY 53, 61-62 (2016).

[71] Net metering allows solar system owners to offset their electricity bills with the power generated from their solar panels. If they produce more solar power than they use, they will gain credits. *See generally Net Metering*, SOLAR ENERGY INDUS. ASS'N (SEIA), https://seia.org/net-metering/ (last visited Dec. 11, 2024).

[72] For more information, *see National Renewable Energy Policy,* SUSTAINABLE ENERGY DEV. AUTH. (SEDA), https://www.seda.gov.my/policies/national-renewable-energy-policy-and-action-plan-2009/ (last visited Nov. 30, 2025). *See also* INT'L RENEWABLE ENERGY AGENCY, MALAYSIA ENERGY TRANSITION OUTLOOK 41-42 (2023).

[73] Christian Mittler et al., *Review and Morphological Analysis of Renewable Power Purchasing Agreement Types*, 211 RENEWABLE & SUSTAINABLE ENERGY REV., no. 115293, 2025, at 2.

[74] *Id.* at 15.

[75] Co Che Mua Ban Dien Truc Tiep Giua Don Vi Phat Dien Nang Luong Tai Tao Va Khach Hang Su Dung Dien Lon (Cơ chế mua bán điện trực tiếp giữa đơn vị phát điện năng lượng tái tạo và khách hàng sử dụng điện lớn) [Mechanisms for Direct Electricity Trading Between Renewable Energy Generation Units and Clients Who Are Large Electricity Consumers], Decree No. 80/2024/ND-CP (July 3, 2024) (Viet.).

[76] Ramon Jeerachitwanich, *Thailand's Direct PPA Framework: A New Chapter in Energy Liberalization*, LEXOLOGY (Oct. 18, 2025), https://www.lexology.com/library/detail.aspx?g=c651800d-ca18-4f45-8067-19b1ffda330d.

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macro-regional trajectory is emerging: states are increasingly prioritising market-driven incentive approaches and reducing reliance on government-led subsidy schemes like Feed-in Tariffs. Decentralised electricity supply and distribution regimes through DPPAs are also being increasingly used.[77] Accordingly, the role of the governments is shifting from a direct financial sponsor to that of an institutional supporter and market enabler. Such a transition is reasonable considering the fact that the overall levelised cost of electricity is falling in many Asian countries,[78] meaning that a high degree of subsidies might no longer be desirable in the future.

That said, as can be seen from the discussion in this section, the transition to market-driven schemes entails two critical problems for the purpose of attracting foreign investments into the sector: first, the risk of insufficient incentives; second, regulatory volatility arising from policy changes and the regulation of the electricity market, given the preliminary stage of implementation in many Asian countries. The first problem arises from the chrematistics of market-driven RES schemes *per se*; while the second problem can be mitigated through better coordination between IIAs and domestic RES policies.

IV. THE POTENTIAL CONFLICTS WITH INTERNATIONAL INVESTMENT AGREEMENTS

This section will provide an overview of the features of international investment law and how the legal regime, particularly its dispute settlement mechanism, has interfered with states' domestic RES policies.

A. The Potential Influence of Investment Treaties on Energy Transition

As explained in Section II above, since IIAs protect foreign investments, they have the potential to facilitate investment in renewable energy sectors and the related infrastructures, which is particularly beneficial in the Asia region, as many countries need a significant amount of investments in technology innovation and power grid modernisation.[79] Additionally, IIAs often include clauses that aim to improve the transparency and predictability of investment regulation, streamline administrative procedures, establish

[77] AGORA ENERGIEWENDE ET AL., ELECTRICITY MARKET DESIGNS IN SOUTHEAST ASIA: HARNESSING OPPORTUNITIES FOR RENEWABLE ENERGY GROWTH IN INDONESIA, THAILAND, VIET NAM AND THE PHILIPPINES 9 (2024), https://www.agora-energiewende.org/publications/electricity-market-design-in-southeast-asia.

[78] IEA, *supra* note 17, at 96.

[79] *Southeast Asia Can Harness Vast Renewable Resources to Meet Fast-Growing Electricity Demand*, INT'L ENERGY AGENCY (Sep. 22, 2025), https://www.iea.org/news/southeast-asia-can-harness-vast-renewable-resources-to-meet-fast-growing-electricity-demand.

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mechanisms to tackle investors' complaints and reinforce cooperation between states.[80] Furthermore, IIAs normally include the ISDS mechanism, which allows investors to sue host states for violation of treaty obligations, thus mitigating political risks facing foreign investors.[81]

At the same time, there have long been challenges as to whether the existing IIAs align with energy transition goals.[82] To start with, since the vast majority of the treaties provide equal protection to clean energy investors and fossil fuel investors, it may allow the latter to use the investor-state dispute settlement against host states' fossil fuel phase-out policies.[83] As a result, they may impede host states' endeavours to cancel the exploration and production of fossil fuels.[84] More importantly, clean energy investors may also use the mechanism to sue states if the states make modifications to their renewable energy subsidy policies, claiming that the changes have violated the obligation of stability as well as their legitimate expectations.[85] This is particularly relevant to Asian countries, which, as discussed above, constantly change renewable energy subsidy schemes. The next section will elaborate on this issue.

B. Renewable Energy Subsidy Schemes in ISDS

In the past years, dozens of ISDS cases have been brought against states for their modifications to renewable energy subsidy schemes. Most of them were brought against European countries, including Spain, Romania, the

[80] N. JANSEN CALAMITA & STEFANIE SCHACHERER, INVESTMENT FACILITATION FOR SUSTAINABLE DEVELOPMENT WITHIN THE CONTEXT OF THE REGIONAL COMPREHENSIVE ECONOMIC PARTNERSHIP, THE ASEAN INVESTMENT FACILITATION FRAMEWORK AND THE WTO DRAFT INVESTMENT FACILITATION FRAMEWORK FOR DEVELOPMENT 48-50 (U.N. ESCAP, Studies in Trade, Investment and Innovation No. 96, 2022), https://repository.unescap.org/handle/20.500.12870/5188.

[81] Anatole Boute, *The Potential Contribution of International Investment Protection Law to Combat Climate Change*, 27(3) J. ENERGY & NAT. RESOURCES L. 333, 335 (2009).

[82] For more about the relevant scholarly debates on the issues, see generally Kyla Tienhaara et al., *Investor-State Dispute Settlement: Obstructing a Just Energy Transition*, 23(9) CLIMATE POL'Y 1197 (2023); Lorenzo Cotula, *International Investment Law and Climate Change: Reframing the ISDS Reform Agenda*, 24(4-5) J. WORLD INV. & TRADE 766 (2023); Gloria M. Alvarez & Jorge E. Viñuales, *International Investment Law in the Energy Transition*, 40(2) ICSID REV. 211 (2025).

[83] A typical example is the Energy Charter Treaty, which is a multilateral treaty broadly used by fossil fuel investors and renewable energy investors to sue host states. Energy Charter Treaty, Dec. 17, 1994, 2080 U.N.T.S. 95 [hereinafter ECT]. For more discussions of the controversies of the ECT, see generally Zannoni, *supra* note 3; Johannes Tropper & Kilian Wagner, *The European Union Proposal for the Modernisation of the Energy Charter Treaty—A Model for Climate-Friendly Investment Treaties?*, 23(5-6) J. WORLD INV. & TRADE 813 (2022).

[84] LUKAS SCHAUGG ET AL., A LEGALLY SOUND OIL AND GAS PHASE-OUT: HOW TO DESIGN POLICIES TO MITIGATE INVESTOR-STATE ARBITRATION RISKS 5 (2025), https://www.iisd.org/publications/report/legally-sound-oil-gas-phase-out; Chen Yu, *Taking Stock of Investor-State Disputes Involving Energy Transition*, 35(2) MINN. J. INT'L L. 101, 109 (2026).

[85] *See generally,* Yu, *supra* note 3; Biggs, *supra* note 3.

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Czech Republic, Ukraine, Bulgaria, and Italy.[86] These countries initially offered subsidies to boost investment in power generation using renewable energy sources, but subsequently faced various problems in the implementation of the schemes. For example, Spain, by Electricity Law No. 54/1997 and several subsequent regulations, created a special regime that offers FiT for renewable energy power generators.[87] Nevertheless, the country faced the problem of electricity tariff deficits, and eventually decided to replace the special regime with a new incentive scheme that offers a lower amount of subsidies.[88] As a result of such changes, Spain has been sued in over fifty ISDS cases, and in the vast majority of cases, investment tribunals found the countries to have violated investment protection obligations.

Another example is Romania, which employed the market-based Green Certificate scheme but still faced ISDS cases. In 2004, the country introduced the Green Certificate scheme with a compulsory quota system to allow certain electricity generators to gain additional revenues by selling their certificates in the market.[89] Particularly, to boost photovoltaic (hereinafter "PV") electricity generation, in subsequent regulations, the government increased the number of Green Certificates granted to PV generators to six per MWh.[90] Nonetheless, in light of the concerns about overcompensation and increased price paid by consumers, the government took several measures in later years to reduce the degree of subsidy, including, among others, deferring the issuance of two out of the six Green Certificates per MWh to certain investors, modifying the measures to calculate quotas, and limiting the trade of the certificates.[91]

In these disputes, the fair and equitable treatment (hereinafter "FET") standard emerges as the key basis for investors to challenge host states' adjustments to the incentive schemes. Particularly, they argue that the FET requires host states to provide a relatively stable regulatory framework and to protect investors' legitimate expectations based on the incentive scheme offered at the time of the investment.[92] Most of these disputes arose under the Energy Charter Treaty and the main basis for investors to raise such claims is Article 10(1), which states that:

> Each Contracting Party shall, in accordance with the provisions of this Treaty, encourage and create stable, equitable, favourable and

[86] For more discussion, see Yu, *supra* note 3. Spain alone has attracted around fifty ISDS cases.
[87] PV Investors v. Kingdom of Spain, PCA Case No. 2012-14, Final Award, ¶¶ 54-58 (Feb. 28, 2020).
[88] *Id.*
[89] LSG Building Solutions GmbH and others v. Romania, ICSID Case No. ARB/18/19, Decision on Jurisdiction, Liability and Principles of Reparation, ¶ 187 (July 11, 2022).
[90] *Id.* ¶ 188.
[91] *Id.* ¶¶ 199-204.
[92] Yu, *supra* note 3, at 111.

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> transparent conditions for Investors of other Contracting Parties to make Investments in its Area. Such conditions shall include a commitment to accord at all times to Investments of Investors of other Contracting Parties fair and equitable treatment.

Investment tribunals' approaches to the claims based on stability and legitimate expectations are far from consistent. Some adopt a broader interpretation, that is, investors are entitled to expect a relatively stable regulatory framework, albeit emphasising that this does not equate to requiring the "freezing" of regulatory frameworks.[93] Some tribunals, by contrast, adopt a narrower approach that emphasises that legitimate expectations can only arise from the government's specific representations rather than a general legislation or policy statement.[94] Even for tribunals adopting the narrow approach and recognising host states' right to implement policy changes, they may still highlight that the changes should not exert unreasonable and disproportionate influence on investors.[95] As a result, in the vast majority of cases against Spain's changes to renewable subsidy schemes, the tribunals found a violation of the FET.[96]

Therefore, the ISDS mechanism may pose significant constraints on states in adjusting their renewable energy subsidy schemes. The overall requirement of stability directly contradicts the polycentricity and flux nature of the design of the schemes. Some scholars further argue that the risk of being sued in ISDS may discourage host states from implementing new policies to advance sustainability goals.[97] An empirical study of relevant ISDS cases further points out two notable problems in the design of investment treaties that exacerbate the problem: firstly, there do not exist sufficient grounds for host states to defend their policy changes (e.g., exception clauses and carve-outs); secondly, the broad design of the FET clause opens the door for tribunals' expansive interpretation of the term as requiring stability when assessing regulatory changes.[98] The next section will examine the content of selected IIAs involving Asian countries to see if the same problems are prevalent.

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[93] *E.g.*, InfraRed Environmental Infrastructure GP Limited v. Kingdom of Spain, ICSID Case No. ARB/14/12, Award, ¶ 532 (Aug. 2, 2019).
[94] PV Investors v. Kingdom of Spain, PCA Case No. 2012-14, Final Award, ¶¶ 516-611 (Feb. 28, 2020).
[95] *Id.*
[96] Yu, *supra* note 3, at 111.
[97] *See generally* Kyla Tienhaara, *Regulatory Chill in a Warming World: The Threat to Climate Policy Posed by Investor-State Dispute Settlement*, 7(2) TRANSNAT'L ENV'T L. 229 (2018); Tarald Laudal Berge & Axel Berger, *Do Investor-State Dispute Settlement Cases Influence Domestic Environmental Regulation? The Role of Respondent State Bureaucratic Capacity*, 12(1) J. INT'L DISP. SETTLEMENT 1 (2021).
[98] Yu, *supra* note 84, at 124-26.

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V. IMPLICATIONS FOR THE DESIGN OF IIAS IN ASIA

So far, Asian countries have not been sued extensively in ISDS for their modification of renewable energy subsidy schemes. The only reported case is *Shift Energy v. Japan*, which arose from the Japanese government's reduction of FiT rates and the introduction of retroactive deadlines for relevant power plants to start operating.[99] The tribunals eventually decided in favour of Japan, but the award was not published.[100] Notably, Vietnam is currently facing a large number of complaints from foreign investors in the wind and solar projects due to the relevant authorities' withholding of payments of FiT.[101] It remains to be seen if these complaints will escalate to ISDS disputes.

In general, the challenges facing Asian nations share considerable commonalities with the above-reviewed EU cases to the extent that the modifications to the RES schemes, especially abrupt and fundamental changes such as repealing the whole scheme or retroactively reducing the amount of subsidies, may give rise to ISDS claims based on the fair and equitable standard. At the same time, nevertheless, Asian countries are also facing new RES-related regulatory issues that remain untested in ISDS jurisprudence before: unlike the well-documented EU arbitrations, which mainly arise from the government's reduction of subsidies, Asian jurisdictions are shifting toward more complicated market-driven schemes. This restructures the sources of investment risks as the revenues received by investors are determined to a higher degree by the market rather than by the government. Such a transition necessitates precautionary and *ex-ante* regulatory design in the reform IIAs, which has not been highlighted in the prevailing discussion of IIA reform relating to RES. In a word, Asian countries should both learn from the EU's ISDS experience and adopt distinct reform strategies tailored to their own regulatory demands. The following sections will elaborate on these two points further.

A. Leaving Flexibility for Changing RES Schemes in IIA Designs

Despite the low number of ISDS cases arising from renewable energy subsidies, Asian countries are highly susceptible to similar types of ISDS

[99] Leo Lewis, *Hong Kong Energy Fund Sues Japan in Groundbreaking Case*, FIN. TIMES (Mar. 3, 2021), https://www.ft.com/content/155da1d7-075e-4122-adec-1e4fec51f582.

[100] Tom Jones, *Japan Defeats First Treaty Claim*, GLOB. ARB. REV. (Feb. 14, 2023), https://globalarbitrationreview.com/article/japan-defeats-first-treaty-claim.

[101] Khanh Vu, *Foreign Investors Threaten Legal Action Against Vietnam over Renewables, Document Says*, REUTERS (Mar. 12, 2026), https://www.reuters.com/sustainability/boards-policy-regulation/foreign-investors-threaten-legal-action-against-vietnam-over-renewables-document-2026-03-12/.

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disputes.[102] As explained in Section III above, renewable energy subsidy schemes in Asia have demonstrated high levels of instability. Governments are frequently adjusting and switching between different subsidy schemes to meet their regulatory demands at different stages. Consequently, there is a high risk for Asian countries to be sued in ISDS tribunals for violating the obligation of stability and legitimate expectations.

Another important reason is that the vast majority of IIAs involving Asian countries, especially those concluded in earlier years, adopt broad FET clauses and do not provide sufficient grounds for states to defend their adjustments to subsidy schemes. A search on UNCTAD's International Investment Agreements Navigator database shows that, at the time of writing, ASEAN countries alone have 249 IIAs that contain "unqualified FET clauses", that is, the broadest FET formulation that simply requires the host state to accord "fair and equitable treatment", without any explanations or constraints on its content.[103] Similarly, China signed 99 IIAs with unqualified FET clauses.[104] For example, Article 2.2 of the China-Korea BIT states that "Each Contracting Party shall accord to investments in its territory of investors of the other Contracting Party fair and equitable treatment and full and constant protection and security."[105] There are also some earlier IIAs involving Asian countries that add qualifications but do not explicitly exclude the protection of legitimate expectations from the scope of FET. For example, article 51.4 of the ASEAN–Japan Free Trade Agreement requires treaty parties to accord "fair and equitable treatment and full protection and security, in accordance with customary international law."[106]

Moreover, the older generation of IIAs typically does not contain exception clauses that potentially exempt host states' changes to renewable energy subsidy schemes from potential treaty violations. For example, a search of the UNCTAD database shows that only 7 of the 114 IIAs signed

[102] Indeed, overall, Asian countries have not been sued extensively in ISDS compared to other regions. Nevertheless, some scholars consider that there might be more ISDS disputes in the region in the future. MAHDEV MOHAN & CHESTER BROWN, *Introduction: The Asian Turn in Foreign Investment*, *in* THE ASIAN TURN IN FOREIGN INVESTMENT 3, 5 (Chester Brown & Mahdev Mohan eds., 2021).

[103] *IIA Content Mapping*, UNCTAD INV. POL'Y HUB, https://investmentpolicy.unctad.org/international-investment-agreements/iia-mapping (last visited Aug. 14, 2026).

[104] *Id.*

[105] Agreement Between the Government of the Republic of Korea and the Government of the People's Republic of China on the Promotion and Protection of Investments, China-S. Kor., art. 2(2), Sep. 7, 2007, 3152 U.N.T.S. 185.

[106] Agreement on Comprehensive Economic Partnership Among Japan and Member States of the Association of Southeast Asian Nations, art. 51.4, Apr. 14, 2008, as amended by First Protocol to Amend the Agreement on Comprehensive Economic Partnership Among Japan and Member States of the Association of Southeast Asian Nations, Feb. 27-Apr. 24, 2019. Arguably, by referring to "customary international law", the parties are narrowing the scope of fair and equitable treatment (FET). Nevertheless, tribunals may still adopt an expansionary interpretation of customary international law to include the protection of legitimate expectations.

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by China include general exception clauses relating to public health and environment. Nor are there carve-out clauses that exclude the matter of renewable energy subsidies from the jurisdiction of investment tribunals.

By contrast, the newer generations of IIAs have adopted several notable changes that potentially reduce the risk of host states losing ISDS disputes due to changes to renewable energy subsidy policies. First, some of them explicitly exclude the protection of legitimate expectations from the scope of FET. An example is CPTPP, which states that "the mere fact that a Party takes or fails to take an action that may be inconsistent with an investor's expectations does not constitute a breach of this Article, even if there is loss or damage to the covered investment as a result."[107]

Secondly, some treaties explicitly exclude issues of subsidies, partially or wholly, from the scope of treaty protection. For example, the Investment Chapter of the RCEP contains a standalone carve-out clause which specifies that the investment protection chapter does not apply to, among others, "subsidies or grants provided by a Party."[108] The approach of CPTPP is slightly different: it includes in the FET and expropriation clauses that a government's decision not to issue, renew, or maintain a subsidy or grant, or to modify or reduce the subsidy or grant, does not constitute a breach of the two obligations.[109] As such, compared to RCEP, CPTPP still allows certain degrees of protection (e.g., non-discrimination) on renewable energy subsidy issues.

Thirdly, the newer generation of treaties is increasingly incorporating the right-to-regulate clauses in IIAs. These clauses reaffirm the host state's right to carry out regulatory measures in pursuit of legitimate public purposes. For example, Article 2.2.1 of the EU–Vietnam Investment Protection Agreement states, "[t]he Parties reaffirm their right to regulate within their territories to achieve legitimate policy objectives, such as the protection of public health, safety, environment or public morals, social or consumer protection, or promotion and protection of cultural diversity."[110] The doctrine of the right to regulate has long been recognised by investment

[107] CPTPP, *supra* note 20, art. 9.6.4.

[108] RCEP, *supra* note 19, art. 10.2.2(b). Notably, the current version of the RCEP does not include the ISDS mechanism. For more discussion of the reason for the omission, see, e.g., Andrew Lugg et al., *Why Is There No Investor-State Dispute Settlement in RCEP? Bargaining and Contestation in the Investment Regime*, 26(4) BUS. & POL. 449 (2024). Similarly, art. 3.4(c) of the ASEAN–China Investment Protection Agreement excludes the applicability of the agreement to "subsidies or grants provided by a Party or to any conditions attached to the receipt or the continued receipt of such subsidies or grants…". Agreement on Investment of the Framework Agreement on Comprehensive Economic Co-operation Between the Association of Southeast Asian Nations and the People's Republic of China, art. 3.4(c), Aug. 15, 2009, https://investmentpolicy.unctad.org/international-investment-agreements/treaties/bit/3272/asean---china-investment-agreement-2009-.

[109] CPTPP, *supra* note 20, art. 9.6.5. *See also* Free Trade Agreement Between the Democratic Socialist Republic of Sri Lanka and the Kingdom of Thailand, Sri Lanka-Thai., art. 9.2, Feb. 3, 2024.

[110] EU–Vietnam Investment Protection Agreement, art. 2.2(1), June 30, 2019. https://edit.wti.org/document/show/66f74a5f-5c00-455d-97f5-709f837d2bb4 (not yet in force).

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tribunals and is commonly incorporated in their analytical framework to balance against investment protection obligations.[111] Nevertheless, investment tribunals have been criticised for assigning insufficient weight to the right to regulate in their reasoning, especially in cases involving significant public interests such as environmental protection, health regulation and electricity subsidy schemes.[112] Codifying the doctrine in IIAs may strengthen host states' ability to invoke it as a legal defence and compel investment tribunals to grant more weight to public interest objectives when evaluating potential treaty violations.

Overall, many Asian countries remain exposed to significant litigation risks arising from modifications to renewable energy subsidy schemes due to the continued application of older-generation IIAs, which often contain broad FET clauses and lack effective carve-out provisions that shield regulatory measures from investment claims. Given that most Asian countries are developing economies that are at the receiving end of the global investment flow, it is advisable for them to attribute more weight to safeguarding regulatory rights when designing investment treaties. To this end, they should avoid making investment treaty commitments that would significantly constrain their domestic regulatory space.

The innovations in the newer generation of IIAs as discussed above, including narrowing down the scope of FET and the protection of legitimate expectations as well as the different ways of adding carve-out and right-to-regulate clauses, can serve as valuable models for Asian countries to modernise their IIAs. Asian countries may selectively carve out different regulatory issues from the scope of the treaty according to their regulatory demands. Such strategies have also been adopted by many other countries globally to align IIAs with climate change goals.[113]

Notably, as can be seen from the review above, the existing carve-out clauses only exclude "subsidy or grants" from treaty protection, which undoubtedly covers RES schemes that involve direct or indirect financial contribution from the government (e.g. FiT or FiP). Disputes may arise as to whether market-driven incentive schemes such as REC constitute a subsidy, given that the revenues derive from trading in the market. As such, such a type of subsidy carve-out may fail to exclude certain market-driven incentive schemes from the jurisdiction of ISDS tribunals. Given that Asian countries are increasingly adopting REC, they may consider the desirability of carving out the entire renewable energy power sector, rather than just subsidies, from

[111] Vera Korzun, *The Right to Regulate in Investor-State Arbitration: Slicing and Dicing Regulatory Carve-Outs*, 50(2) VAND. J. TRANSNAT'L L. 355, 374 (2017); *see generally* CATHARINE TITI, THE RIGHT TO REGULATE IN INTERNATIONAL INVESTMENT LAW (2014).
[112] *See contra* Korzun, *supra* note 111, at 377; Yu, *supra* note 3.
[113] *The International Investment Treaty Regime and Climate Action,* UNCTAD INV. POL'Y HUB (Sep. 5, 2022), https://investmentpolicy.unctad.org/publications/1269/the-international-investment-treaty-regime-and-climate-action.

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certain investment protection standards. Or they may clarify whether "subsidy or grants" cover market-driven incentive schemes. The latter option might be more viable as it is still desirable to offer a necessary level of protection (e.g., the procedural fairness requirements enshrined in the FET standard and the protections against expropriation) for the purpose of facilitating foreign investments into the sectors.

B. Mitigating Litigation Risks Under the Market-Driven Schemes

As explained above, Asian countries are increasingly adopting market-driven incentive schemes to replace the traditional government-led incentive schemes. The change of regimes might give rise to ISDS claims based on the violation of the obligation of stability and legitimate expectations as discussed above. As for the design, application, and operation of market-driven schemes like RES and DPPA *per se*, whether they may violate IIAs depends on the specific role played by the governments. In general, governments' role shifts from guaranteeing a specific subsidy rate to supporting and supervising renewable energy power trade, and the benefits received by the investors are determined by market conditions. As such, it is less likely that the relevant regulatory measures will give rise to ISDS claims based on legitimate expectations as in the European cases, since investors should reasonably expect unstable revenues.

For the implementation of market-driven RES schemes, the key issues under contest will likely revolve around the procedural propriety of administrative actions, for example, whether there are delays in the issue of permits,[114] whether there is discrimination in the treatment of investors in bidding, the issue of licenses and certificates and power grid access,[115] and whether the government's decision-making is transparent and engaged with sufficient consultation with the affected stakeholders.

For Asian countries transitioning to market-driven schemes, it is advisable to continue offering these procedural protections in IIAs through non-discrimination clauses and a narrow fair and equitable treatment clause (that excludes legal stability). Due process and transparency in domestic administrative and legislative activities are widely considered good practices for the purpose of investment facilitation.[116] These requirements are particularly important for the implementation and operation of RES schemes. As can be seen from the discussion in the sections above, overall, electricity incentive schemes involve coordination among different government

[114] Claims on delays in issuing permits were raised in Festorino Invest Limited v. Republic of Poland, SCC Case No. V2018/098, Award, ¶ 714 (June 30, 2021).
[115] Claims on discrimination in the bidding process were raised in Mesa Power Group, LLC v. Government of Canada, PCA Case No. 2012-17, Award, ¶ 484 (Mar. 24, 2016).
[116] CALAMITA & SCHACHERER, *supra* note 80, at 75.

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departments;[117] particularly, market-based schemes like REC necessitate effective administrative supervision. The high volatility and uncertainty of payback from market-driven schemes may deter foreign investors from entering the market. A high level of administrative due process and the possibility of suing host states for noncompliance may mitigate such concerns.

C. Reinforcing Dispute Prevention and Inter-Government Coordination

Given that many Asian countries are still at an early stage of transitioning to market-driven RES schemes, best practice studies can be highly valuable, especially for those with limited research capacity. Currently, international organisations like the International Energy Agency, the International Renewable Energy Agency and the World Bank have already engaged in the study of relevant practices and provide policy suggestions to governments. It is desirable to establish expert groups for Asian countries that closely monitor policy changes and offer assistance on policy design.[118] For example, in 2024, the World Bank approved a two billion U.S. dollar, ten-year, multi-phased initiative which includes three pillars of activities, namely "enabling policies and institutional frameworks, investments to develop flexible electricity networks, and financing and risk mitigation instruments for clean energy investments."[119] More initiatives of similar types should be launched to support Asian countries. There should also be more regulatory impact assessment schemes relating to RES to advise policy-makers with more information on how to regulate the power sector to avoid drastic changes in the future.[120]

Moreover, at the early stage of the development of market-driven schemes, it is clearly beneficial for governments to actively communicate

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[117] For example, a study on Indonesia's FiT shows that, although the scheme attracted investment in renewable energy significantly, a large percentage of the projects suffered from delayed deployment due to "difficulties in obtaining a location permit or a building permit from local (regency) government, hard negotiations of land price, and the demands of local communities." Yuliani, *supra* note 22, at 154.

[118] For example, the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) has conducted relevant studies and organized events. *See Asian and Pacific Energy Forum*, UNESCAP, https://www.unescap.org/intergovernmental-meetings/apef (last visited Dec. 1, 2025).

[119] *World Bank Group Launches Renewable Energy Initiative to Enhance Energy Security and Affordability in Europe and Central Asia*, WORLD BANK (Mar. 28, 2024), https://www.worldbank.org/en/news/press-release/2024/03/28/world-bank-group-launches-renewable-energy-initiative-to-enhance-energy-security-and-affordability-in-europe-and-central.

[120] *See generally* OECD, OECD BEST PRACTICE PRINCIPLES FOR REGULATORY POLICY: REGULATORY IMPACT ASSESSMENT (2020), https://www.oecd.org/en/publications/regulatory-impact-assessment_7a9638cb-en.html; Michael Grubb et al., *Regulatory Impact Assessment in the Energy Transition Era: Insights from the UK Experience*, 96 UTIL. POL'Y no. 101943, 2025.

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with investors. This not only helps governments to avoid and prevent potential ISDS disputes but also to be better informed about the demands and concerns of renewable energy investors and improve regulatory approaches accordingly. For such a purpose, Asian countries can establish specialised ombuds institutions (or focal points) to provide assistance and information on the establishment of investment, monitor the government's implementation of relevant laws and policies, and tackle investors' queries and complaints.[121] They may also serve as liaison institutions to reinforce cooperation between different governmental departments. Asian countries may further reinforce the functions of the ombuds institutions by establishing mechanisms in international economic agreements to facilitate communication between domestic ombuds institutions, share best practices and report on potential complaints from the investors of the treaty parties.[122]

VI. CONCLUSION

The transition to renewable energy in Asia demands not only significant financial investment but also careful legal and regulatory calibration. This article has demonstrated that renewable energy subsidy schemes in many Asian countries are marked by complexity, diversity, and regulatory flux. These features are inherent in the polycentricity of energy transition policies and are natural in the context of evolving energy markets; nevertheless, they expose states to substantial risks under the investor-state dispute settlement mechanism. Given the widespread adoption of older-generation international investment agreements that contain broad investment protection obligations and limited policy space for regulatory change, the potential for legal conflict is high. To address this, Asian countries must take measures to modernise investment agreements and, at the same time, strengthen domestic regulatory environments and dispute avoidance mechanisms. Ultimately, aligning international legal commitments with the realities of energy transition governance is essential to ensure both regulatory autonomy and investor confidence across the region.

[121] CALAMITA & SCHACHERER, *supra* note 80, at 44; *see generally* Chen Yu, *Towards a Three-Tiered Ombuds System for Investment Dispute Prevention: Principles and Challenges*, 30(2) ASIA PAC. L. REV. 401 (2022).
[122] Yu, *supra* note 121, at 413.

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