

Electricity Market Designs for Renewables in Southeast Asia

Regional Stakeholder Workshop

Host	Clean Affordable and Secure Energy for Southeast Asia (CASE); and the Southeast Asia Energy Transition Partnership (ETP)
Date	23-25 April (1 st day arrival, 2 nd , and 3 rd day full workshop days)
Venue	VIE Hotel, Bangkok
Language	The sessions will be held in English

Context and Workshop Objective

The annual deployment of renewable energy, especially wind and solar, needs to increase fivefold towards 2030 for Southeast Asian economies to be on track for net-zero emissions by mid-century.¹ Today, the share of variable renewables stands at less than 5% in most of ASEAN, despite strong resource potential and liquid capital markets. With notable exceptions, existing market regulations and policies have inhibited a fast rollout of renewable energy technologies as observed in other regions. New instruments and market reforms are needed for countries to benefit from the large-scale entry of low-cost renewables.

This two-day workshop convenes power sector stakeholders (ministries, regulators, utilities, and producers) from Vietnam, Thailand, Indonesia, and the Philippines, as well as international experts. The workshop takes stock of recent successes and bottlenecks in renewable energy deployment in the four countries. It aims to discuss how existing electricity market designs, predominantly variants of the single buyer model, can be adjusted to mobilize investment in renewables and clear the way for their cost-effective integration into transitioning power systems. The discussions will be held under Chatham House rules.

Workshop objectives

- Cross-country information sharing about the trends, challenges, and prospects for renewables-based transitions in VN, IDN, PH, and TH
- Identification of policy opportunities for mobilizing greater RE investment, cost-effective system integration, and resource adequacy with increasing intermittent supply
- Introduction to the ASEAN Power Grid (APG), the benefits and opportunities for regional interconnected power systems
- Providing a safe space for discussion among prominent sectoral stakeholders from different countries in an informal setting

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Workshop Agenda 23 to 25 April

April 23

Arrival in Bangkok
Welcome and Networking dinner at 19:00 (VIE Hotel)

Day 1 (April 24)

Time	Agenda	Note
08:30 – 09:00	Registration	
09:00 – 09:25	Opening remarks <ul style="list-style-type: none"> Sascha Oppowa, CASE Project Director (GIZ) Philip Timothy Rose, Fund Director (ETP) Sarat Prakobchat, Deputy Director General (EPPO) Markus Steigenberger, Managing Director (Agora Energiewende) 	
09:25 – 09:40	Photo session	
09:40 – 11:00	Session 1 – State of Play: Renewable Energy Development in Southeast Asia <ul style="list-style-type: none"> Ernst Kuneman (Agora Energiewende) – <i>Key insights from CASE MD study</i> <p>Updates from</p> <ul style="list-style-type: none"> Kanyawee Jantaradach, DEDE – Thailand Russel Castronuevo, DOE – Philippines Taufiq Hidayat/Yusuf Suryanto, BAPPENAS – Indonesia Nguyen Quang Minh, ERAV/MOIT – Vietnam <p><i>Roundtable discussion</i></p> <p>Moderator: Adritha Subbiah (ETP)</p> <ul style="list-style-type: none"> Where do countries stand in deploying renewable energy technologies, esp. VREs? What are their anticipated growth trajectories for the coming 10-20 years? What policy instruments have supported renewables deployment and what changes to the policy framework are under consideration? 	
11:00 – 11:20	Coffee Break	
11:20 – 12:45	Session 2 – Market and Commercial Arrangements to Boost Renewable Energy Investments <ul style="list-style-type: none"> Prof. Iain Macgill (UNSW Sydney) – <i>Australian experience with renewable energy investment policies</i> Panom Parinya (ERC) – <i>The introduction of TPA in Thailand</i> <p><i>Roundtable discussion</i></p> <ul style="list-style-type: none"> Stephen Nash (Kuongana) – <i>Competitive procurement and PPA design</i> Russel Castronuevo (DOE) – <i>The Philippines' Green Energy Auction Program</i> Faizatul Hasana (MEMR) – <i>Reforms to Indonesia's renewable energy PPAs</i> <p><i>Roundtable discussion</i></p>	

	<p>Moderator: Fabby Tumiwa (IESR)</p> <p>---</p> <ul style="list-style-type: none"> • What changes to policy/investment instruments should be considered for VIPT to accelerate VRES deployment? • How can auctions support least-cost renewables procurement? • What parameters are critical to bankable PPAs? • How can third-party access regimes support nascent renewable energy markets?
<p>12:45 – 13:45</p>	<p>Lunch Break</p>
<p>13:45 – 14:30</p>	<p>Session 3 – Interactive session ETP Moderator: Stephen Nash (Kuongana)</p> <p>---</p> <ul style="list-style-type: none"> • What key ingredients are required to dispatch a changing power system? • How do we serve baseload demands with intermittent generators? Do we need baseload generators?
<p>14:30 – 14:45</p>	<p>Coffee break</p>
<p>14:45 – 16:15</p>	<p>Session 4 – System Integration of Variable Renewable Energy in Regulated Markets</p> <ul style="list-style-type: none"> • Prof. Iain Macgill (UNSW Sydney) • Xavier García Casals (IRENA consultant) • Pimchanok Fungwithaya (EGAT) • Nguyen Thai Minh (EVN NLDC) <p>• <i>Roundtable discussion</i></p> <p>Moderator: Arne van Stiphout (Agora Energiewende)</p> <p>---</p> <ul style="list-style-type: none"> • What is needed to increase system flexibility in regulated systems? (contract structures, ancillary services, dispatch operations) • How can system operations be adjusted to accommodate intermittent supply? (forecasting, congestion management, balancing requirements) • How can electricity trading support the integration of VREs?
<p>16:15 – 16:30</p>	<p>Wrap-up Day 1 CASE</p>
<p>18:30</p>	<p>Meeting at VIE Hotel lobby to walk to the evening venue</p>
<p>19:00 – 21:00</p>	<p>Dinner (@Jim Thompson, A Thai Restaurant) 6, 1 Kasem San 2 Alley, Wang Mai, Pathum Wan, Bangkok 10330</p>

Day 2 (April 25)

Time	Agenda	Note
08:30 – 09:00	Registration	
09:00 – 10:30	<p>Session 5 – Ensuring resource adequacy with increasing shares of VRE</p> <ul style="list-style-type: none"> Peerapat Vithaya (DNV) Daud Farel (PLN) Nguyen Thai Minh (EVN NLDC) Xavier García Casals (IRENA consultant) <p>Moderator: Dimitri Pescia (Agora Energiewende)</p> <ul style="list-style-type: none"> What can we learn from international practices to ensure resource adequacy while reducing system costs? What regulatory and technical adjustments ought to be considered to achieve a cost-effective power mix that meets reserve margins, while avoiding overcapacity? How can resource adequacy metrics and assessments be adjusted for CAPEX-dominated systems and increasing shares of intermittent supply, both utility-scale and DER? How to integrate and properly value Demand-Side-Response contributions to resource adequacy 	<ul style="list-style-type: none"> Planning, forecasts, reliability metrics Long-term procurement for peak demand in CAPEX-dominated systems (incl ESS) – baseload versus flexibility Utility revenue models and regulations
10:30 – 10:45	Coffee Break	
10:45 – 12:15	<p>Session 6 – Priorities for transitioning power systems in Southeast Asia</p> <p>Moderation: NewClimate Institute</p>	<ul style="list-style-type: none"> Breakout room discussions on priorities for RE investment, system flex, and resource adequacy <p>Feedback for CASE and ETP</p>
12:15 – 13:15	Lunch	
13:15 – 14:30	<p>Session 7 – Evolving national market designs for facilitating cross-border power trading: The ASEAN Power Grid and opportunities for shared utilization of RE</p> <p>Speaker:</p> <ul style="list-style-type: none"> Nadhilah Shani, ASEAN Centre of Energy: <i>The ASEAN Power Grid – how a regional power grid could facilitate higher shared RE utilization.</i> Patcha Poochonk, EGAT – <i>Country insights, how Thailand is designing bilateral power trade with its neighbouring countries.</i> Nguyễn Thái Minh, NLDC: <i>Vietnam’s potential of exporting RE to the region.</i> 	<ul style="list-style-type: none"> Introduction of the APG, presenting the key findings of AIMS III, focusing on how RE can be fostered in the region Sharing experiences regarding the evolution and alignment of market designs at the national level to

- Madonna Naling, EPIMB: The Brunei-Indonesia-Malaysia-Philippines Power Integration Project (BIMP PIP) interconnecting four countries via overland and subsea cables.
- Roundtable discussion

- facilitate cross-border trading.
- Interventions from panelist Q&A

Moderator: Sascha Oppowa, Project Director CASE (GIZ)

- What are the benefits and opportunities for having regional integrated power systems?
- How can enhanced regional connectivity and cross-border collaboration be achieved through efforts at the national level?
- What kind of national policy/market alignment is needed to facilitate wider cross-border trading (bilateral /multilateral)?
- What are the needed frameworks/ market designs established to increase RE utilization for cross-border trading (i.e. REC, investment mechanism, etc) ?

14:30 – 14:45

Coffee Break

14:45 – 15:30

Continuation of session 7 – Moderated Discussion

The following questions aim to stimulate a comprehensive discussion on the evolution of national market designs to foster cross-border power trading within the ASEAN region, particularly focusing on the ASEAN Power Grid and opportunities for shared utilization of renewable energy resources.

- Discussion on the evolution of national market designs to foster cross-border power trading

- What are the primary advantages and opportunities associated with the development of regional integrated power systems, particularly within the ASEAN context?
- How can national stakeholders from Vietnam, Thailand, the Philippines, and Indonesia contribute to enhanced regional connectivity and cross-border collaboration within the power sector, considering their respective roles as policymakers, regulators, and utilities?
- In terms of national policy and market alignment, what specific measures are essential to facilitate broader cross-border trading, both bilaterally and multilaterally?
- What frameworks and market designs need to be established at the national level to support increased utilization of renewable energy for cross-border trading? This could include mechanisms such as Renewable Energy Certificates (RECs) and investment mechanisms.
- Considering the diverse regulatory frameworks and energy policies across ASEAN countries, how can

harmonization efforts be strengthened to ensure smooth cross-border power trading operations?

- What are the key challenges faced by national stakeholders in integrating renewable energy sources into cross-border power trading arrangements, and how can these challenges be effectively addressed?

15:30-15:45

Closing remarks

- Sascha Oppowa, Project Director CASE (GIZ)