

Diagnostic of Competitive Arrangements for Energy Transition (DCAT) Regional (Formerly: Energy Market Mechanism Accelerator)

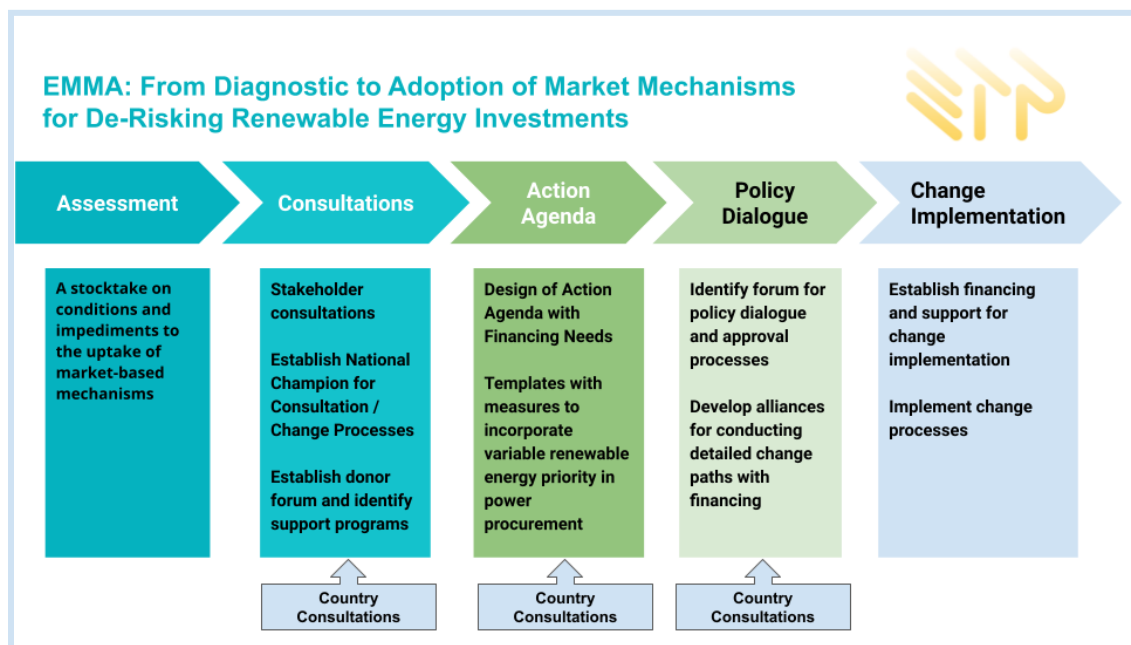


*Formerly titled as **Energy Market Mechanism Accelerator (EMMA)***

The project aims to de-risk renewable energy by developing an action agenda and templates for optimising market mechanisms to facilitate competitive renewable energy into the energy supply. DCAT will diagnose the current power purchasing systems in Indonesia, the Philippines and Vietnam, develop an understanding of the barriers, and through consultations draft an action agenda for adopting market mechanisms for the authorities to implement.

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I. Introduction

1. The Southeast Asia Energy Transition Partnership (ETP) brings together governments and philanthropies to work with partner countries in the region to accelerate energy transition. ETP supports a transition towards modern energy systems that can simultaneously ensure economic growth, energy security, and environmental sustainability. To contribute to the achievement of the UN's Sustainable Development Goals and the Paris Climate Agreement goals, ETP works in Southeast Asia, with a focus on three priority countries, namely Indonesia, the Philippines, and Vietnam. ETP's strategy is built around four inter-related pillars of strategic engagement that are squarely aligned to address the barriers to energy transition. These are (i) policy alignment with climate commitments, (ii) de-risking energy efficiency and renewable energy investments, (iii) extending smart grids, and (iv) expanding knowledge and awareness building.

II. Project Details

A. Rationale and Impact

2. Energy transition calls for significant investment in renewable energy (RE). These investments, in turn, require policy adjustments in the national frameworks to ensure a level playing field exists for the region to take advantage of the global trends in enhanced competitiveness of RE technologies, reflected in the reduced cost of RE supply. However, the Region has not yet fully capitalized on the globally-tested market-based concepts to rapidly facilitate RE deployment and integration of RE. The experience in South America, particularly in Argentina, shows that market auction mechanisms can generate far greater interest among the private sector in channeling significant resources to RE implementation.
3. The priority countries (Table 1) are contemplating use of market mechanisms to enable greater flexibility to address the static nature of the conditions created by the long term power purchase agreements and the consequent lack of flexibility and suboptimal exposure of the consumers to price developments through current lack of competition. Additional background information is in [Annex 1](#).

Table 1. Current Use of Competitive Market Mechanisms

Vietnam	Indonesia	The Philippines
In the process of transitioning from a vertically integrated monopoly structure to a market mechanism, step by step forming the electricity market according to a competitive power generation, wholesale, and retail market.	PLN is the single buyer of electricity produced by independent power producers (IPPs). The utility company acts as buyer's monopoly, controls the market with an ability to drive wholesale prices. The electricity market model has substantial implications for transactions between the IPPs and PLN as the only buyer in the electricity market.	The Philippine Government has created the Green Energy Auction Program (GEAP). Through the Department of Energy Circular No. DC2020-07-0017, the DOE adopted the GEA Policy, which shall govern the conduct of Green Energy Auctions in the Philippines.
Plans for implementation of MOIT 8266/QD-BCT 10 Aug 2015 decision to establish a competitive wholesale market mechanism	Plans to expand the current auctions by increased auctions vs. direct supply by PLN.	In addition to the 2 GEAP actions conducted to date, the Government plans to increase auctions and establish competitive mechanism for battery energy services with enhanced credibility through diversification of the awardees.

4. The DCAT aims to empower the priority countries of Indonesia, the Philippines and Vietnam to transition to an energy procurement systems that enable de-risking RE and increase RE in the primary energy supply, as defined under ETP's outcome area 2. To achieve this goal, competitive market mechanisms are required to enable these energy systems to foster rapid integration of renewable energy (RE) into the energy mix and integrate the energy systems with the innovation in the global and regional energy markets.

B. Project Objectives

5. The DCAT program will:
 - a. **diagnose the legal, economic, financial and political economic conditions** that relate to exploring a greater use of competitive and transparent market mechanisms in place of the conventional and more stagnant power purchasing systems;
 - b. **conduct consultations, policy dialogue to develop action agendas** for facilitating exposure, interest, and adoption of market mechanisms to integrate RE into the energy mix in the region; and
 - c. **develop country-specific pathways, capacity building measures and templates** for approval and implementation of optimal market-based competitive arrangements, improving flexibility in power procurement mechanisms for enabling smooth and expeditious access to variable renewable energy sources

C. Scope Of Work

6. Ensuring economies of scale in undertaking the diagnostic and, concurrently, deep specificity in the analysis of the respective country conditions in Indonesia, the Philippines, and Vietnam, these services include the following assignments and deliverables:
 - a. **Identify and deepen data, baseline and targets, current operations, challenges, needs and opportunities** as well as plans for maximizing the benefits of energy market mechanisms. This assignment will require
 - i. obtaining baseline data to ensure holistic and comprehensive as well as accurate assessment of the current conditions prevailing in the energy market,
 - ii. assessment of the readiness for integration of market-based mechanisms, and
 - iii. readiness of expansion of project finance instruments and other market mechanisms for market-based procurement systems. This will include a review of existing assessments and analysis and diagnostic of the impediments conducted by other funders on the current and opportunities for power purchase agreements conditions. The assessment will facilitate an engagement with the suppliers and the developers with the objective of bringing in greater RE into the energy mix and enable dynamic prices to reduce the cost of energy for the consumers. These data and diagnostic analysis include the following:
 - b. **Legal and regulatory** assessment of the current conditions, analysis of any existing policies, impediments and opportunities to maximizing benefits of market mechanisms; and formulation of step-wise pathways to execution of market mechanisms to enable rapid expansion of RE in the energy mix.
 - c. **Financial and fiscal** identification of available financing, assessment of the impediments and opportunities, including costs and revenues from expanding use of market mechanisms to enable rapid expansion of RE in the energy mix.
 - d. **Political economy** assessment that identifies key stakeholders, estimates the size of participants, develops an understanding of stakeholder concerns and efforts as well as impediments and opportunities, and charting pathways, including outlining the formal process for approving and implementing optimal use of market mechanisms to enable rapid expansion of RE in the energy mix.
 - e. **Preparation of clear and concise, but comprehensive and detailed consultation materials**, covering impediments and opportunities, conduct of consultation processes as agreed with the ETP Secretariat and Greenmap, to aim at sustainable advancement in the use of market mechanisms. This requires arranging a series of in-country, physical (to the extent possible) consultation and capacity development.

- f. **Reports and documentation on the above topics**, including project plan in the context of the inception report, progress reports on the consultations, and draft and final reports. All reports are submitted in publishable English and with catchy powerpoint presentations, translated to local language (Vietnamese and Bahasa) for learning and dialogue purposes. The reports will include separate chapters for each country (Philippines, Vietnam, Indonesia). The consultant will prepare reports on the seminars in a fashion that provides an easy access record of the proceedings, Questions and Answers, and the agreed follow-on actions.
- g. **Develop a roadmap for progressive dialogue** with the relevant personnel for policy dialogue and identify forums and arrangements for progressive dialogues in the three countries to reach phased and progressive decisions to attain greater use of market mechanisms and arrange for a series of consultations and policy dialogue with the relevant policymakers, their staffs, including at the highest-level decision-makers.
- h. **Development of PPA templates for application and expediting power procurement processes**, commencing with Indonesia, that include measures to increase variable renewable energy (VREs), such as wind and solar, to contribute to Indonesia's VRE deployment goals and accelerate the decarbonisation of the power sector and to enable smooth and timely negotiation between the independent power producers (IPPs) and the utility, commencing with PLN, including develop a standard set of applicable terms and conditions adjusted for VRE power generation, as part of a clear and transparent project development and procurement process that is understood and trusted by all parties.
- i. **Consultations with stakeholders and donors** through a conduct of in-country seminars and consultations. It will establish a stakeholder forum involving the country stakeholders in a constructive discussion on the current state of market mechanisms and opportunities for optimization. It will also establish a donors roundtable for exchanging of information and provision of guidance and exposure to learning from external experience. The specific activities encompass workshops and dialogue with the relevant stakeholder agencies at various levels, including the decision-making levels, private sector stakeholders, and civil society with the aim to integrate market mechanisms in the regular operations in the energy sector operations, including the offtakers in each country. Resources for this component are funded collaboratively between ETP, GREENMAP, CASE, and SEACEF, as agreed.
- j. **Develop a Monitoring and Evaluation framework for the initiative and report** results under the program in alignment with and reporting to the ETP's Results-based Monitoring Framework.

D. Outputs and Specific Activities

7. The outputs and specific activities include:

- a. **Conduct a stocktake on the prevailing conditions and impediments to the uptake of market-based mechanisms** to rapidly increase renewable power purchase in the priority countries, Indonesia, the Philippines and Vietnam. This component, supported by ETP, includes the following specific activities:
 - i. An in-depth assessment of the use of market mechanisms in RE integration covering the current procurement and market-based systems, options and possibilities. The analysis will focus on the barriers, legal, financial and political-economy considerations in adopting greater use of market mechanisms. This study will develop a clear, publicly available, assessment of the extent, to which finance is available for RE investors in the Region;
 - ii. An assessment of the status of market conditions and the capacity of the stakeholders on options and pathways for rapidly integrating market mechanisms to accelerate RE integration into their energy mix; and
 - iii. Identification of a prudent agenda of actions and support required to ensure systematic, feasible, realistic and secure implementation of forward-moving road maps with checklists for pathways to integrate market mechanisms to support acceleration of energy transition in Southeast Asia. Identify current and potential donors to support optimization of market mechanisms and develop a coordination plan to engage donors to communicate and promote the agenda.
 - iv. Development of efficient monitoring and evaluation tools will also be developed to measure progress under the program in alignment with, and feeding into, ETP's results-based management framework (RBMF) for a periodical monitoring and reporting on results DCAT, combining collaborative performance under the program.
- b. **Conduct in-country consultations and establish a donor forum:** In collaboration with CASE, SEACEF, and GREENMAP, the Project will conduct in-country seminars and consultations. It will establish a stakeholder forum involving the country stakeholders in a constructive discussion on the current state of market mechanisms and opportunities for optimization. It will also establish a donors roundtable for exchanging of information and provision of guidance and exposure to learning from external experience. Resources for this component are funded collaboratively between ETP, GREENMAP, CASE, and SEACEF, as agreed.

- c. **Identify a policy dialogue agenda.** A policy-dialogue agenda that will be driven by collaborative efforts between ETP, CASE, SEACEF, and GREENMAP. The specific activities will develop a broader donor alliance to support donor coordination and shared goals for expanding advocacy for utilization of market mechanisms. This component will be collaboratively resourced between the four participating programs, accounting also for other development partners and stakeholders’ inputs.
- d. **Development and consultations on the country-specific PPA templates for application to expedite renewable energy procurement processes,** commencing with Indonesia, with measures to enhance VREs, such as wind and solar, to contribute to the Indonesia’s VRE deployment goals and accelerate the decarbonisation of the power sector and enable smooth and timely negotiation between IPPs and PLN, including develop a standard set of applicable terms and conditions adjusted for VRE power generation, as part of a clear and transparent project development and procurement process that is understood and trusted by all parties.

E. Reporting Timeline

- 8. The program will require 15 months, consisting of an inception stage, data collection and baseline report preparation stage, consultation and dialogue stage, and final reporting stage. These steps are detailed in the terms of reference. The dates in this table 1 are tentative and subject to discussion at the Kick Off Meeting to account for the inception report and realities on the ground. The initial consultation and capacity assessment workshops will be conducted in the three countries by the end of the first quarter 2023 aligning and collaborating with the resources of the partnership (ETP, CASE, SEACEF, GREENMAP). Work in Indonesia, under the terms of reference, will be conducted first among the three priority countries.

Table 1. Tentative timeline for the Project

Task/Deliverables	Distribution	Delivery Dates
Deliverable 1: Inception Report , a work plan, containing how the work and activities are organized and staged, ensuring that work in Indonesia is staged first; providing specifies timelines for the delivery of the terms of reference, including all of their components; detailing data collection methodology; outlining timelines for the consultations, including the kick off consultations, analysis, and progressive consultation and a plant ro country-level dialogues; a monitoring and evaluation framework with target	20 % from the Lump sum component of the Contract Amount	14 days after mobilization

<p>indicators and baseline data for monitoring progress in alignment with ETP Results-based Monitoring Framework (RBMF).</p>		
<p>Deliverable 2: An Interim Report includes data collected, a status analysis and preliminary directions for the recommendations under each of the areas of the project and diagnostics; a draft forward consultation process plan and policy dialogue agenda with suggestions on implementation of the consultations and policy dialogue process including outlines of the proposed action agendas and templates under discussion; progress and meeting summaries for consultations under the project, and outline of views and contributions of the partner entities; and an updated works plan; and updated monitoring and evaluation frameworks aligned with the ETPR RBMF.</p>	<p>30% from the Lump sum component of the Contract Amount</p>	<p>Within 4 months from the mobilization</p>
<p>Deliverable 3: The draft final report provides a full report on the data and status of current conditions, directions and details for the recommendations under each area of the diagnostic including drafted materials such as proposed action agenda and templates; consultation processes, policy dialogue agenda with implementation suggestions; the proposed timelines and events for the consultations going forward, policy dialogue processes to build support for decision-making for adoption of enhanced market mechanisms for the energy sector operations, progress and meeting summaries for consultations under the project, summary of views and contributions of the partner entities; and an updated work plan and monitoring and evaluation framework in alignment with ETP's RBMF.</p>	<p>30% from the Lump sum component of the Contract Amount</p>	<p>provided within 8 months from mobilization</p>

<p>Deliverable 4: The Final Report incorporates comments received from the partnership on the Draft Final Report and provides a publishable report. The Report will include an updated and finalized RBMF, including a catchy powerpoint presentation on the recommendations and results.</p>	<p>20% from the Lump sum component of the Contract Amount</p>	<p>12 months from the mobilization</p>
<p>Deliverable 5: The consultations and capacity assessment workshops will be conducted during the projects at least on three occasions in the three countries by the end of the first quarter 2023 with the resources of the partnership (ETP, CASE, SEACEF, GREENMAP).</p>	<p>Reimbursable.</p>	<p>1st set of consultations by the end of the first quarter 2023 2nd set to conduct dialogue on the interim report 3rd set to conduct dialogue on the draft final report.</p>

9. All of the project deliverables will be submitted in English, (in addition reporting on Vietnam will be translated to Vietnamese), presented with catchy powerpoint presentations (translated to Vietnamese for Vietnam). All deliverables will receive comments from stakeholders and ETP and will be revised accordingly to reflect the comments and suggestions.

F. Implementation Arrangements

10. The project activities will be delivered by one implementing entity (the Consultant) with profound international knowledge and expertise in the energy sector market operations and power procurement operations as well as thorough understanding and experience in the priority countries of Indonesia, the Philippines and Vietnam.
11. Under the initiative, ETP will collaborate with its Aligned Programs¹ of the Clean, Affordable and Secure Energy Project (CASE) and the Southeast Asia Clean Energy Facility (SEACEF). ETP also engages with GREENMAP. Further details on the partnership with GREENMAP are in [Annex 2](#).
12. The Consultant will carry out the terms of reference (Annex 3) under the supervision of the ETP Secretariat, in collaboration and alignment with CASE, SEACEF and GREENMAP, and in collaboration with the relevant stakeholders and the development partner community.

¹ ETP Aligned Programmes are defined as technical assistance and capital assistance projects Donors finance and manage through their own mechanisms to mobilise investments in low carbon infrastructure, independent of the ETP Fund.

III. Stakeholders and Donor Activities

13. The stakeholders in the Energy Market Mechanism Accelerator include:

- a. Government agencies engaged in the power sector, ministries and regulators,
- b. Market management corporations and
- c. Market players, including the investors and developers.

14. The development partners with activities related to market mechanisms and increase RE in the total energy supply. However, specific support to improving RE purchasing systems is limited and currently lacks coordination, shared goals and action plans. In summary, current related assistance includes:

a. **Vietnam,**

- i. reviewing financing possibilities and formulation of the yet-to-be-approved Direct Power Purchase Agreement by GIZ and USAID, respectively; and
- ii. increasing financing for RE through green credit lines to the Vietnam Electricity Company (EVN) and development of hydro power, solar and wind power capacity, and the reinforcement of the electricity grid by GIZ, AFD and the Asian Development Bank.

b. **Indonesia,**

- i. The UK Mentari program and the United Nations Development Program through the Global Environmental Fund support market transformation for RE and energy efficiency, including regulations and de-risking tools.
- ii. OECD builds capacity for investment mobilization and blended finance.
- iii. The Clean, Affordable, and Sustainable Energy Project (CASE) aims to identify the gaps and proposed solutions for de-risking RE projects.
- iv. [The UK Rapid Response Facility request](#) on development of power purchase agreement templates to expedite renewable energy procurement (under discussion regarding source of funding, for which the present project has been proposed as a funding and implementation mechanism).

c. **the Philippines;**

- i. a review of the Green Auction Energy Program by the USAID, and
- ii. an analysis of technologies and volumes for the next auction rounds by CASE.

15. ETP collaborates and coordinates with these agencies in the following ways:

- a. **National Stakeholders:** All stakeholders will be included in the data gathering and dialogue events and processes. The roles of these agencies will be identified in the project documentation, capitalized and to the extent possible the recommendations will be normalized into their operations for streamlining and regularizing of their adoption.

- b. **Development Community:** DCAT will establish a technical working group to engage with all development partners to exchange information and identify pathways to reinforce the donor community's common goals of greater adoption of market mechanisms.

IV. Background to Market Mechanism in Southeast Asia

A. Results Based Monitoring Framework

16. The Results of the Project are monitored through the following Framework in Table 5. The Implementing Partner will provide input indicators to meet the output expectations of the Project and update the Morning Framework through each report.

Table 5. Monitoring and Evaluation Framework

Impact Level: Reduced GHG emissions in alignment with Paris Climate Agreement SDG indicator 7: Clean Energy				
Long-Term Outcome: Increased RE deployment to reach the regional target of 25% of RE in the total primary energy supply by 2030 with the adoption of dynamic efficient market mechanisms.				
ETP Outcome	Project Outputs	Indicator	Target	Data Source and Means of Verification
Strategic Outcome 1. Strengthened Enabling Policy Environment				
Adoption of an agenda for optimizing market mechanisms by each priority country	Output 1: Stakeholder and donor groups established; data collection methodology established	Indicator 1: # of stakeholder and donor groups	Indicator 1: 3 stakeholder groups 3 data collection methodologies	Inception report to be delivered as part of this project
	Output 2: Action agenda for optimizing market-mechanisms socialized among stakeholders and donors Templates as specifically appropriate to country case	Indicator 2: # of action agendas # templates	Indicator 2: 3 action agendas 1 set of templates (minimum)	Interim report developed as part of this project
	Output 3: Transparent assessment of opportunities and challenges	Indicator 3: # of assessments # of action agendas	Indicator 3: 3 assessments 3 action agendas	Draft Final report developed as part of this project

	for each country Action Agendas			
Strategic Outcome 4. Knowledge and Awareness Building				
Number of trainings, knowledge sharing events, and/or awareness workshops organized at national and regional levels building institutional capacity and knowledge networks	Output 4: Consultation workshops on the assessments and dialogue on the action agendas	Indicator 4: # of workshops (number of participants, gender disaggregated participation)	Indicator 4: 9 (3 per country) (50 participants each; 30% women)	Training and workshop Reports Project reports
Project Inputs				
	<ol style="list-style-type: none"> Baseline report: Diagnostic assessment to capture legal, economic, financial and political economic considerations related to the use of competitive, transparent market mechanisms in place of more conventional purchasing systems. Consultations and Dialogue: Consultations and workshops organized with stakeholders and donors to provide exposure to global experience and tested change processes in energy sector management, lessons from integrating market mechanisms to enable dynamic price developments filter into the energy supply in the region as a driver of RE integration. Establishment of a technical working group among stakeholders Establishment of a donor working group to engage, harmonize, coordinate and pursue results for optimizing the adoption of market mechanisms. Policy Dialogue Agenda: Design of a progressive pathway to an adoption of market mechanisms with clear steps to approval of adjustment. Draft Templates with Measures to improve flexibility, speed and renewable energy acquisition into consumption through competitive market mechanisms. 			

B. Risks and Mitigation Measures

17. Significant risks for the project to generate the intended results include a possible dis-interest by the stakeholders and inertia among government agencies to consider and adapt the intended change. These risks also make the effort bold and pioneering.

18. The initiative also includes an effort to build an alliance among the stakeholders and donors, and create a stronger coherency in policy advocacy and adoption. While each government is considering the use of market mechanisms for energy purchases, these are far from being optimized and from generating their potential in terms of unlocking RE energy. Without market mechanisms, the public sector is reliant on outdated modality of PPAs, which all three governments recognize as generating painful macroeconomic implications through their lock-in effect to outdated pricing considerations. Through the adoption of market mechanisms this risk, currently carried by the public sector and ultimately the consumers, is becoming an unbearable burden on the economy and a critical barrier to energy transition. In this light, the Project is the first step to build a structured and coherent policy agenda in favor of gradual transition to market-based energy purchasing to enable adoption of the latest RE technologies in power supply.