

Accelerating Clean Energy Scenario in the Philippines



Terms of Reference | 23 November 2023

The Philippines is aggressively working towards a clean energy scenario (CES) target of 50% share of renewables in the power generation mix by 2040. The project will focus on understanding how the CES will displace fossil-based plants, and analyze the impact on energy supply, tariffs, and grid reliability through strategic integrated power generation and transmission planning. It will build capabilities in simulating medium- and long-term power and transmission scenarios using modeling software where results will be used for policy making, target setting, and investment promotions. It fosters an integrated planning approach by aligning long-term power generation development plans with transmission planning.

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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. ETP supports the transition towards modern energy systems that can simultaneously ensure economic growth, energy security, and environmental sustainability. Contributing to the achievement of the UN's Sustainable Development Goals (SDGs) and the Paris Climate Agreement objectives, ETP works in Southeast Asia, with a focus on three priority countries, namely Indonesia, the Philippines, and Vietnam. ETP works through four interrelated Strategic Objectives. These are (i) policy alignment with climate commitments, (ii) de-risking energy efficiency and renewable energy investments, (iii) extending smart grids, and (iv) knowledge, awareness, and capacity building.

II. Summary

- 2 The project will build the capability of the Department of Energy (DOE), National Transmission Corporation (TransCo), and the Energy Regulatory Commission (ERC) on power generation and transmission modeling and simulation to aid in policy-making and investment promotions. It will revisit the Philippines Clean Energy Scenario (CES) and investigate the most likely coal phase-out pathway within the context of increasing renewable energy (RE) to the grid. Modeling and simulation will take into consideration grid readiness and identify the necessary upgrades to the transmission network to make the CES happen. The difficulty in connecting to the grid had been a persistent energy transition challenge. The Philippines' transmission infrastructure cannot integrate large-scale RE projects. Ensuring that the grid is ready requires both strategic planning and investments.
- 3 This project builds on the findings and recommendations of *ETP's Grid Diagnostics: Smart Grid Development* project. It fosters an integrated planning approach by aligning long-term power generation development plans with transmission planning. The project will be implemented under a capacity-building framework to strengthen evidence-based power sector planning as the country's power structures evolve throughout its energy transition.

III. Project Details

A. Rationale

- 4 The Philippines Energy Plan 2020-2040 works toward a CES by 2040, characterized by a 50% share of renewables in the power generation mix. This can be achieved by accelerating the development of renewable energy plants and displacing fossil fuel-based generation.
- 5 The Philippine government is committed to making the CES happen. The Department of Energy (DOE) will steer the direction with policies that open markets for more renewables and a strong push for integrating new clean technologies into the power system, such as offshore wind, floating solar, and energy storage systems. The government is addressing market risks through its Green Energy Auction Program. Moreover, the government has also lifted the limitations of foreign direct investments (FDIs) to renewable energy projects, allowing 100% foreign ownership of RE plants, to encourage more

investments into the sector. While there is a strong push for renewable energy development, challenges in grid interconnection still persist. The Philippines' transmission infrastructure cannot integrate large-scale renewable energy projects. Ensuring that the grid is ready requires both strategic planning and investments.

- 6 Alongside the strong push for renewables is a prudent approach to displacing fossil fuel generation. The DOE intends to ensure that the energy supply is sufficient to support socio-economic development and maintain investors' confidence while transitioning into the CES. In 2020, the DOE released a coal moratorium advisory for greenfield coal-fired power plants (CFPPs). The current administration sustains the advisory. The impacts of the diversification of power generation, the coal moratorium, and the displacement of fossil fuel plants need to be well understood by policymakers and power sector planners to ensure that the power supply can support the growing economy. This requires robust power sector planning and forecasting capabilities to be able to steer the evolving power sector.
- 7 This Project aims to support the Department of Energy (DOE), the National Transmission Commission (TransCo), and the Energy Regulatory Commission (ERC) to enhance their power sector planning capabilities. Specifically, the project will enhance capabilities on power and transmission modeling and simulations, using PLEXOS and Power System Simulator for Engineering (PSSE); and be able to use these as inputs to policy- and rules-making, target setting, and investment promotions.
- 8 The DOE is the main policy-making and planning agency of the Philippines' energy sector. It develops the Philippine Energy Plan that defines the energy sector's direction. TransCo is mandated to protect the nation's interests by ensuring compliance by the private transmission operator to the terms of its Concession Agreement and to the government's policies. ERC is the country's regulatory body tasked to promote competition, encourage market development, ensure customer choice and penalize abuse of market power in the electricity industry. It promulgates and enforces necessary rules and regulations to accomplish these goals. Strengthening the capabilities of these core energy agencies will support in creating a more enabling landscape for more investments into the renewable energy sector and facilitate the realization of the CES by 2040, if not earlier.

B. Impact

- 9 This project supports the attainment of the Philippines CES characterized by 50% share of renewables in the power generation mix by 2040. Enhancing power sector planning will contribute to increasing the share of renewables in the total primary energy supply and total final energy consumption. It can lead to displacement of fossil-based power generation leading to significant reduction and avoidance of Greenhouse Gases.

C. Outcomes and Output

- 10 ETP has four strategic outcomes (SO):
 - SO1. Policy alignment with climate commitments
 - SO2. De-risking energy efficiency and renewable energy investments

- SO3. Extending smart grids
 - SO4. Knowledge, awareness and capacity building
- 11 This project contributes to SO4 and SO1 leading to enhanced capability of policymakers and energy planners, supporting in increasing ambition in achieving the country's climate targets. The expected long-term outcomes from this project are:
- Increase in renewables and readiness for impacts of fossil fuel displacement
 - Enhanced capability in generation expansion and transmission expansion planning by the government to support policy-making, clean energy target setting, and investment promotions
 - Coordinated upgrading of the transmission network with the development of power generation plants, ensuring that renewable energy plants can readily connect to the grid.
 - Increased renewable energy ambition while promoting energy security, reliability, and affordability.
- 12 The specific project objectives are:
- To support policymakers in understanding the impacts of the coal moratorium policy, clean energy scenarios, and displacement of fossil fuels to energy supply and costs
 - To enhance evidence-based policy and decision-making by building policymakers' capability in PLEXOS and PSSE modeling and simulations for low-carbon power sector planning, including transmission planning; and
 - To provide technical options for repurposing, replacing, or disposing of decommissioned fossil fuel plants for both on-grid and off-grid areas.
- 13 To achieve the intended outcomes, the primary outputs of this project will include:
- Training for the DOE, ERC, and the TransCo on power generation and transmission PLEXOS and PSSE modeling and simulations
 - Coal moratorium scenario analysis and other clean energy scenarios, including a coal phase-out scenario, that may be used as input to various power sector or energy plans.
 - A compendium of technical options for repurposing or replacement of fossil fuel power plants to support asset owners
 - Ad hoc support totaling 30 days over a six-month period after the completion of the main tasks.
- 14 More specific details of this project's intended deliverables are discussed in Section IV.

D. Sustainability, Gender Equality and Social Inclusion Mainstreaming

- 15 ETP is committed to promoting and supporting gender equality and social inclusion (GESI) through its project implementation. Groups that will be impacted by the project activities shall be identified. The Project shall be inclusive of the invited stakeholders during the consultation and seek a balanced representation of women and other identified groups in project activities. The implementing partner should identify the implications, its outputs, and contributions to gender equality and social inclusion in the project activities. This task shall be accomplished through a clear methodology and approach which must be identified as part of the inception report.

IV. Project Activities and Expected Deliverables

- 16 In line with the outputs and outcomes expected from this project (see Project Background), this section provides additional information on specific deliverables that will be required to accomplish the above project outputs.
- 17 This project will have four main components:
- Component A: Inception and Set-up
 - Component B: Capacity Building and Clean Energy Scenario Analysis
 - Component C: Sustainable Options for Decommissioned Fossil Fuel Power Plants
 - Component D: Results Dissemination and Advisory Support
- 18 Each component will have one or more deliverables. Bidders may propose other activities to strengthen the delivery of the intended outcomes.

Component A: Inception and Set-up

- 19 **Component A includes the following activities and is linked to two deliverables:**

- Deliverable 1: Inception Report
- Deliverable 2: ACES Technical Working Group (TWG) established

- 20 **Deliverable 1: Inception Report:** The consultant must develop and submit a detailed inception report detailing the implementation plan, ensuring the expectations of ETP are aligned with the understanding of the project from the consultant.

- a. The inception report should contain, as a minimum:
- i. Introduction and project background
 - ii. Scope of Services

- iii. Methodology and Workplan, including approach, methodology, and Gantt chart for project implementation
 - iv. A detailed approach as to how each deliverable will be met and what each submission will contain
 - v. Audience mapping and analysis and communication/ outreach plans
 - vi. Identification of suitable media channels to be used for communicating the project and rationale for choosing them
 - vii. A donor coordination strategy
 - viii. Project management section inclusive of organisational chart detailing key personnel, their roles, and responsibilities, as well as their locations (strong in-country team and project management is expected)
 - ix. Risks, mitigations, and assumptions
 - x. Monitoring and Evaluation Framework, presented in the form of the ETP Results Based Monitoring Framework (RBMF)
 - xi. Communication plan as described in Table 1 below.
- b. The consultant is responsible for drafting a detailed communications plan* which will be embedded in the Inception Report. The minimum requirements for the communications materials are as follows:

Table 1: The Minimum Requirements of the Communications Plan

Item	Communications materials	Quantity (minimum)
1	Social Media Posts (liaising with ETP)	5, spread throughout the duration of the project linked to various key milestone events
2	Press releases	1 per public workshop/ event published in at least 5 publications
3	Feature article/blog post/opinion editorial on the project to be uploaded in ETP's website	1
4	Online presentations of project progress and highlights (target audience: ETP Secretariat and/or ETP Funders).	2 (30 minutes maximum/ each presentation)
5	Maintain/develop a database of photographs/ videos/ vox pops from events/ activities	4 high-quality images per workshop/event

*Bidder should include in their financial proposal the cost for developing the materials above, as well as the cost for publication of the press releases

- 21 **Deliverable 2: ACES Technical Working Group:** The consultants will serve as the secretariat for the ACES TWG. In consultation with the Department of Energy (DOE), identify the stakeholders that will be part of the TWG. The consultants will regularly convene the ACES TWG to keep them updated on the project and to seek guidance on the project's implementation. Consultants should prepare minutes of meetings, facilitate meetings, and act as the liaison among TWG members, DOE, and ETP. Bidders must organize a minimum of two (2) in-person ACES TWG meetings¹ (15 estimated participants per meeting). Additional meetings may be convened as needed and could be done virtually.

Component B. Capacity Building and Clean Energy Scenario Analysis

- 22 **The component B includes the following activities and are linked to deliverables 3-6:**
- Deliverable 3: Design of Capacity Building Program on PLEXOS and PSSE
 - Deliverable 4: Report on BAU and Clean energy scenarios
 - Deliverable 5: Clean Energy Scenario Investment Plan
 - Deliverable 6: Guidelines on generation and transmission expansion planning using PLEXOS and PSSE
- 23 The component B will enhance policy-makers' capability in PLEXOS and PSSE modeling and simulations for an integrated low-carbon power sector development, including generation and transmission planning. The consultants must conduct the necessary consultation and data collection to deliver this work. They must have access/subscriptions to PLEXOS and PSSE, and the necessary tools or methodologies that will be used in the training. The team must be prepared to sign a Non-Disclosure Agreement (NDA) with the DOE, ERC, and TransCo to cover data-sharing concerns, if found necessary.
- 24 **Deliverable 3: Mentoring on PLEXOS and PSSE Modeling and Simulations.** Develop and deliver a mentoring program for a core group (~15 members) of relevant personnel from the DOE Electric Power Industry Management Bureau (EPIMB), other relevant DOE bureaus, ERC, and TransCo on PLEXOS and PSSE for medium-term (2024 - 2035) and long-term (2024 -2050) power and transmission planning to support policy-making, target setting, and investments promotion.
- 25 The mentoring program may include workshops, small group hand-holding sessions, in-person technical advice, and other strategies that will build the core group's capabilities. Bidders should propose the mentoring strategies they will adopt. The provision of PLEXOS and PSSE are not included in this Project. DOE, ERC, and TransCo have subscriptions to PLEXOS and PSSE. The consultants must guide the core group in running various energy scenarios, analyzing the path of the displacement of

¹ Under Deliverable 2, the ACES Technical Working Group meetings will be paid on a reimbursable basis against the actual expenses. The financial proposal must include non-personnel costs expected to be incurred to execute these meetings, separate from the personnel lumpsum costs required to deliver the deliverable. The Consultant should include in the non-personnel costs all associated costs for the workshop including, venue, organization, and other travel and logistics expected.

fossil fuel power plants from the generation mix while identifying the necessary low-carbon capacity additions to ensure an affordable and reliable energy supply. Experts must conduct the necessary consultations and data collection to deliver this work.

- 26 The task aims to revisit existing energy scenarios and update them with a wider set of technologies, in consideration of various power sector parameters including transmission network readiness, investment costs, and impacts on tariffs. Bidders are encouraged to recommend other parameters. The task must build DOE, ERC, and TransCO's capabilities to analyze simulation results, understand their implications and impact to the broader power and energy sector.
- 27 The delivery of the mentoring program should be captured in the monthly progress reports of this project. Bidders are expected to include all costs related to the delivery of the mentoring program, which may include workshop costs. The consultants are expected to handle all necessary logistics arrangements to deliver the PLEXOS and PSSE mentoring program.
- 28 **Deliverable 4: Report on BAU and Clean energy scenarios:** Within the capacity building program, the project must produce the following energy scenarios.
 - Business as Usual Scenario. Guide the core group in running simulations that analyzes the impact of the coal moratorium advisory on power supply given the current pipeline of indicative and committed power plants², and the Green Energy Auction Program. Impacts of energy efficiency, electric vehicles, and other demand-side elements should be factored in. This scenario will assume that existing coal and other fossil fuel plants will operate as usual. Shortfalls in capacities to ensure reliable power supply should be determined. An analysis of the necessary transmission infrastructure to support the connection of committed and indicative projects should be undertaken. The total investments required for power generation and transmission upgrade should be estimated.
 - Clean Energy Scenarios. Guide the core group in creating and optimizing conservative and accelerated clean energy scenarios that consider the retirement of fossil fuel power plants (coal and oil-based) according to their economic lifespan. Establish assumptions and analyze power generation mixes that will ensure sufficient supply to forecasted demand. Consider a wide array of low-carbon technologies, especially those identified as priorities of the government, including offshore wind and energy storage systems. Identify the necessary grid infrastructure to support the incoming renewable energy capacities. Consider the impacts of energy efficiency and electric vehicles and other demand-side elements. Analyze the necessary changes to the targets of the Renewable Portfolio Standard (RPS), Green Energy Auction, and other market mechanisms. Calculate the Levelized Cost of Energy (LCOE) per technology. Estimate the investments required for these scenarios and analyze their impact on tariffs. Perform other analyses to better

² Committed projects have secured financing, while indicative projects that have the intention to put up power plants but have not secured funding for it yet.

understand the impact of the scenarios. Revisit the current renewable energy targets³ and analyze if an accelerated scenario⁴ is plausible.

- 29 **Deliverable 5: Clean Energy Scenario Investment Planning.** Support the DOE in creating an investment plan or roadmap for the most reasonable clean energy scenario that supports ambition, energy security and affordability. The investment plan will be based on the simulations and analyses generated by the PLEXOS and PSSE mentoring program. It must include an estimate of the needed investments for developing the required renewable energy capacities and other clean energy technologies (e.g. energy storage systems), including the necessary investments to the transmission network.
- 30 Stakeholders' input may need to be gathered to strengthen the plan. Bidders must also include the cost of conducting at least one consultation⁵ (45-50 participants) to be conducted in Manila, Philippines.
- 31 The output must be of publishable quality, copyedited, and include relevant graphs, charts, images and other visualizations to enhance readability and appreciation of a broad audience.
- 32 **Deliverable 6: Guidelines on generation and transmission expansion planning using PLEXOS and PSSE.** A manual or a set of guidelines on generation and transmission expansion planning must be developed that can be used as a reference or guide by the core groups in performing future simulations. This document could also be used to cascade learning to other government officers or personnel.

Component C: Sustainable Options for Decommissioned Fossil Fuel Power Plants

- 33 **The component C includes the following activities and are linked to deliverables 7-8:**
 - Deliverable 7: Report on the international review of fossil fuel phase out
 - Deliverable 8: Compendium of technical options for a decommissioned fossil fuel plant
- 34 It is expected that renewables will displace fossil fuels in time, given a coal moratorium in place, and government's strong commitment on renewables. This component aims to support a pragmatic approach for managing decommissioned fossil fuel assets.
- 35 **Deliverable 7: Report on the international review of fossil fuel phase-out: International Review of fossil fuel phase out.** Review international experience in phasing out fossil fuel power generation.

³ 35% renewable energy in the power generation mix by 2030, and more than 50% by 2040

⁴ In principle, there is room for the Philippines to have more ambitious renewable energy targets because policies are in place, challenges are being addressed by the government, and restrictions on foreign direct investments have been lifted.

⁵ Under deliverable 5, the organization of the consultations will be paid on a reimbursable basis against the actual expenses. The financial proposal must include non-personnel costs expected to be incurred to execute these consultations, separate from the personnel lumpsum costs required to deliver the deliverable. The Consultant should include in the non-personnel costs all associated costs for the workshop including, venue, organization, and other travel and logistics expected.

Identify challenges and lessons learned. Consultants will document phasing out the experience of six countries in case studies. Bidders must propose and justify which countries to feature. The final output must be a standalone, copyedited, publishable report.

- 36 **Deliverable 8: Compendium of technical options for a decommissioned fossil fuel plant: Technical options for decommissioned plants.** In time, fossil fuel plants will organically be decommissioned and replaced by renewable energy. The task aims to present options for replacing, repurposing, or disposing of decommissioned fossil-based plants. Options to replace or repurpose with renewable energy facilities must be included. International experience may be referenced and emerging solutions can be considered. The final output must be a standalone, copyedited, publishable report.

Component D: Results Dissemination and Advisory Support

- 37 **The component D includes the following activities and are linked to deliverables 9-10**

- Deliverable 9: Results dissemination forum report
- Deliverable 10: Report on the advice provided to the core group members

- 38 **Deliverable 9: Results dissemination forum report:** The consultants will organize and facilitate a stakeholders' forum presenting the key outputs of the project including the clean energy scenarios developed, the clean energy scenario investment plant, the international review of fossil fuel phaseout, and the technical options for a decommissioned fossil fuel plant.

- 39 The consultant is expected to organize one stakeholders' forum with 100 participants⁶. The consultants will be responsible for logistics and necessary preparations for the stakeholders' forum. The consultant should include the cost for arranging this workshop including its logistics in their financial proposal.

- 40 **Deliverable 10: Report on the advice provided to the core group members:** Provide additional ad hoc (beyond the scope of the above activities) consultancy, advice, and guidance to the core group to strengthen their capabilities in PLEXOS and PSSE modeling, including in analyzing and interpreting simulation results. The estimated number of support days is 30 days spread over 6 months, starting from Month 13 of the project.

- 41 **Monthly Progress Report:** In addition to the listed deliverables, the consultant will need to provide **monthly** progress reports (concise narrative of activities completed with next steps) as per the **provided template with updates on the mentoring activities, if applicable**. Failure to submit this report will result in the payments being withheld.

⁶ Under deliverable 9, the logistic organization of the stakeholder forum will be paid on a reimbursable basis against the actual expenses. The financial proposal must include non-personnel costs expected to be incurred to execute the forum, separate from the personnel lumpsum costs required to deliver the deliverable. The Consultant should include in the non-personnel costs all associated costs for the workshop including, venue, organization, and other travel and logistics expected.

42 The monthly progress report serves as the mentoring report and is an internal facing between the consultant and the ETP team. The monthly progress report must also include the following standard items:

- Updated Gantt Chart
- Risks and mitigations
- Minutes of ACES TWG meetings, where applicable
- Minutes of Interviews, Consultations, Workshops, FGDs, etc., where applicable
- On a quarterly basis, this report should include an update on results achieved as per the Results Based Monitoring Framework (RBMF) and provided template. Where applicable, must be gender disaggregated

43 The final monthly progress report will include the above items and the following:

- Summary of lessons learned from the project
- Recommendations on the project's next steps

V. Project Timeline

44 The expected timeline for the project is 12 months. Bidders must submit a Gantt chart with their proposed timeline to implement this project. The expected outputs are in Table 2.

Table 2: Deliverables and Expected Delivery Time

Milestone	Deliverables	Audience for the Deliverables	Estimated Delivery	% Payment
Payment 1	Deliverable 1: Inception Report	External	Month 1	15%
Payment 2	Deliverable 2: ACES Technical Working Group* Deliverable 3: Design of capacity building program on power and transmission planning	External	Month 3	15%
Payment 3	Deliverable 4: Report on BAU and Clean energy scenarios	External	Month 7	30%
Payment 4	Deliverable 5: Clean Energy Investment Plan* Deliverable 6: Guidelines on strategic planning for power generation and transmission expansion	External	Month 10	20%
Payment 5	Deliverable 7: Report on the International Review of Fossil Fuel Phaseout Deliverable 8: Compendium of technical options for a decommissioned fossil fuel plant Deliverable 9: Report on Results Dissemination' Forum* Deliverable 10: Concise report on the advice provided to the core group members	External	Month 12	20%

Continuous - Contract Monitoring Reporting Schedules	Monthly Progress Report: In addition to the listed deliverables, the consultant will need to provide monthly progress reports as per the provided template. Failure to submit this report will result in the payments being withheld.	Internal (ETP)	Monthly Submission	N/A
Non-personnel reimbursable costs	Some of the above deliverables (*) contain logistic organizations of workshops/discussion groups and meetings. The consultant is required to propose in their financial proposal a ceiling cost to organize and execute all aspects of the workshops, including organization and logistics ⁷ .	N/A	As per the deliverable s' milestone deadlines.	N/A

Other key information on the deliverables:

- Deliverables 4-5, 7-9 are public-facing documents. As such, after the content has been approved, the reports should undergo a process of copy editing and desktop publishing to produce professional, international standard, public-facing reports.
- A public-facing, publishable Executive Summary (approximately 2 pages) in professional English must be submitted with each deliverable.
- A public-facing, catchy PowerPoint presentation highlighting key information must be submitted with each deliverable.
- All project deliverables and presentations must be submitted in English.
- All deliverables are subject to review by ETP, and beneficiary entity(ies) where applicable, before approval. If there are comments and suggestions, the deliverables need to be revised accordingly before payment is released.
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- The consultant is required to organize and execute all aspects of the workshops, including organization and logistics.
- The consultant must consider and highlight specific gender considerations in their proposal.
- The consultant must be available to attend 1 in-person workshop with the ETP secretariat in the region. The costs for this will be covered outside the financial scope of this proposal.
- The consultant, or an active organization within the applying consortium, must have in in-country presence.
- All outputs must reflect ETP's, its funders', and relevant partners' logos. Visibility guidelines will be provided.

⁷ See detailed minimum requirements on the logistic organizations in the section IV. Project Activities and Expected Deliverables.

VI. Key Beneficiaries

45 The key beneficiaries of this project are provided in Table 3.

Table 3. List of beneficiaries of this project

Beneficiary	Benefit	Explanation
Department of Energy (DOE)	Direct	The DOE is the primary policymaker and planner of the energy sector in the Philippines. It sets the direction for the power sector and creates policies to create an enabling environment to reach its targets.
Energy Regulatory Commission (ERC)	Direct	The ERC is the primary regulatory body of the electric industry of the country. It facilitates the approval of investments for upgrades in the transmission infrastructure and ensures fairness in the market.
National Transmission Corporation (TransCo)	Direct	TransCo is mandated to protect the nation's interests by ensuring compliance by the private transmission operator to the government's policies. It can also take the role of a strategic transmission network planner, guiding the long-term enhancement of the grid.

46 A donor mapping was conducted to prevent duplication of efforts between ETP and other development partners in the same areas, as well as to identify areas where ETP could provide support for energy transition that had not yet been addressed.

47 The consultant is expected to identify and engage with other relevant stakeholders as part of this project.

VII. Donor Project Mapping

Name of Organization	Topic and Summary Activity
GIZ CASE	Long Term Energy Scenarios <ul style="list-style-type: none"> Develop a long-term vision and assess the role of various technologies and fuels (coal, renewables, natural gas, etc) in the future energy mix Capacity Building on Python PyPSA, LEAP - Advanced, Advanced Python, Simplified Planning Tool

	<ul style="list-style-type: none"> • Train policymakers on the above open source tools that simulate conventional and variable generation, • Analyzing co-benefit impacts
USAID Energy Secure Philippines	Competitive Renewable Energy Zones (CREZ) Phase 2 <ul style="list-style-type: none"> • Identify new CREZ areas for transmission development
ADB - Energy Transition Mechanism (ETM)	Early shutdown of coal-fired power plants in Southeast Asia region <ul style="list-style-type: none"> • Finance retirement of coal power assets on an earlier schedule in pilot countries (first case: Cirebon Electric Power in Indonesia)
2050 Calculator	Mackay Carbon Calculator 2050 <ul style="list-style-type: none"> • Pathways on reducing UK's greenhouse gas emissions to net-zero by 2050 and beyond

VIII. Results-Based Monitoring Framework

- 48 The results of the project are monitored through the following framework in Table 4. All milestone progress reports must update the achievements of the indicators.
- 49 The results are reported with additional supporting information and evidence where applicable and necessary.

Table 4. Project RBMF

Accelerating Clean Energy Scenario in the Philippines (ACES)

IMPACT

- GHG emissions avoided or reduced - fossil fuel replaced by renewable energy
- Share of renewable in the total final energy consumption (TFEC) and total primary energy supply (TPEC) increased

OUTCOME

SO1. Policy Alignment with Climate Commitments

SO4. Knowledge and Awareness Building

OUTPUT

SO1.1. National RE and EE policies, regulations, standards, and energy plans reflect a clear commitment to Energy Transition agenda and integrated into sectoral plans to contribute to the achievement of Paris Agreement

SO4.1 Stakeholders (relevant Government entities, public sector companies, financial institutions, private entities, academia, and consumers) involved in the RE/EE value chain, are knowledgeable and better informed to advance the energy transition agenda.

INDICATORS	TARGETS
IN 1.1-02 National energy plans reflect an ambition towards increasing the share of RE/VRE, improving EE, and phasing-out fossil fuels	Revised energy plans reflect an increased ambition towards RE in line with the transformation scenario and targets sooner
IN 4.1-01 No of studies, research, new evidence gathered and published, for raising awareness, improving knowledge base, driving decisions, and dissemination	1 compendium on options for repurposing and replacement of fossil fuel-fired power plant
IN 4.1-02 - No. of training, knowledge sharing events, and/or awareness workshops organised at national and regional levels building institutional capacity and knowledge networks	<p>2 sets of training:</p> <ul style="list-style-type: none"> • 1 training program on PLEXOS • 1 training program on Power System Simulator for Engineering (PSSE) <p>The training will be consolidated to build policymakers' capability in integrated power sector planning that includes power generation and transmission.</p> <p>1 Stakeholders' Forum disseminating the outputs of the project</p>

IX. Qualification and experience of the service provider and evaluation criteria

A. Qualification and Experience of the Service Provider

1. The consultant's project team should demonstrate the capacity to execute the work and should include all essential roles filled with personnel with relevant experience. CVs of the personnel proposed should be used to verify this information.
2. The following are the **minimum positions** that should be included on the team. Bidders should assess the additional positions needed (if any) to complete the assignment as per the Terms of Reference:
 - i. Energy Transition Expert/Team Lead
 - ii. Power System Simulation Expert
 - iii. Transmission Modeling Expert
 - iv. Coal Phaseout Expert
 - v. Philippines Power Sector Expert
3. Considering the importance of close coordination with stakeholders in the Philippines, it is expected that the team proposed consists of consultant(s) who understand the local context in the Philippines.
4. The bidder should also assign a Contract Manager who would liaise on the non-technical part of the contract implementation, including coordination, liaising with key counterparts, and liaising with UNOPS on the submission of invoice and payment-related documents.

B. Evaluation Criteria

Eligibility and Formal Criteria

5. The *criteria contained in the table below will be evaluated on a **Pass/Fail** basis and checked during the Preliminary Examination of the proposals.*

Criteria	Documents to establish compliance with the criteria
1. Offeror is eligible as defined in Instructions to Offerors, Article 4. In case of JV, all JV members should fulfill this requirement	<ul style="list-style-type: none"> Form A: Joint Venture Partner Information Form, all documents as required in the Form, in the event that the Proposal is submitted by a Joint Venture. Form B: Proposal Submission Form
2. Completeness of the Proposal. All required Questionnaires (if any), Returnable Bidding Forms, and other documentation requested under the Document Checklist section have been provided and are complete	<ul style="list-style-type: none"> All documentation as requested under Instructions to Offerors Article 10, Documents Comprising the Proposals
3. Offeror accepts UNOPS General Conditions of Contract as specified in Section IV: Contract Forms	<ul style="list-style-type: none"> Form B: Proposal Submission Form

Qualification Criteria

6. The criteria contained in the table below will be evaluated on a Pass/Fail basis and checked during the Qualification Evaluation of the proposals.

Criteria	Documents to establish compliance with the criteria
1. The company should have a minimum of 5 years of continuous experience in delivering similar projects in the past with a track-record of success. In case of JV, at least one of the JV members should fulfil this criteria	<ul style="list-style-type: none"> Certification of incorporation of the Offeror Form F: Performance Statement Form
2. Offeror must provide a minimum of two (2) customer references from which similar services have been successfully provided, within any of the last 5 years. In case of JV, the customer references of JV members can be combined	<ul style="list-style-type: none"> Form F: Performance Statement Form

Technical Criteria

7. Technical evaluation will be carried out on bids that pass the eligibility, formal, and qualification criteria, with requirements as follows:
 - i. The maximum number of points that a bidder may obtain for the Technical proposal is 80. To be technically compliant, Bidders must obtain a minimum of 56 points
 - ii. Minimum pass score: 70% of maximum 80 points = 56 points
8. Technical proposal points allocation

Section number/description		Points Obtainable
1.	Offeror's qualification, capacity and expertise	20
2.	Proposed Methodology, Approach and Implementation Plan	35
3.	Key Personnel proposed and Sustainability Criteria	25
Total Technical Proposal Points		80

Section 1: Offeror's qualification, capacity and expertise

Section 1: Offeror's qualification, capacity and expertise		Points	Sub-points
1.1	Brief description of the organization, including the year and country of incorporation, and types of activities undertaken, including relevance of specialized knowledge and experience on similar engagements done in the past.	15	
	Bidders partnering up with a local entity to provide strategic consultation and translations; as well as communications expertise is considered a valuable asset.		
	1. Experience in projects of comparable size, type, complexity and technical specialty		5
	2. Experience in providing similar services in the region, especially in the Philippines		5
	3. Understanding of local context, and partnering up with a Philippines-based entity		5

Section 1: Offeror's qualification, capacity and expertise		Points	Sub-points
	to provide for the strategic consultation, as well as the communications expertise		
1.2	General organizational capability which is likely to affect implementation: management structure, and project management controls. (Max 4 pages written text)	5	
	1. Management structure, management controls, and extent to which any part would be subcontracted		3
	2. Financial Capacity/financial stability: Bidder should have a minimum annual turnover of 300,000 USD in any of the past 2 years. In case of a joint venture, annual turnover is calculated based on the total annual turnover of the JV members.		2
Total points for section		20	

Section 2: Proposed Methodology, Approach and Implementation Plan

Section 2: Proposed Methodology, Approach and Implementation Plan		Points	Sub-points
2.1	Description of the Offeror's approach including risk(s) and mitigation measure(s), and methodology for meeting or exceeding the requirements of the Terms of Reference.	27	
	1. Description of the offeror's approach to mentoring on sustainable power sector development and transmission expansion modeling and simulations, identification of data sources, and providing guidance to the government policymakers/ core group of trainees.		10
	2. Description of the offeror's approach to develop the clean energy scenarios, and the clean energy investment plan.		10
	3. Description of the offeror's approach to conduct the study on international coal phaseout		7

Section 2: Proposed Methodology, Approach and Implementation Plan		Points	Sub-points
	experience and technical options for decommissioned coal power plants.		
2.2	Quality Assurance Plan	5	
	1. A plan outlining how the bidder intends to ensure oversight and quality assurance throughout the assignment. Quality Assurance plan should include discussion on risk-assessment and its mitigation plan		5
2.3	Implementation Timeline	3	
	1. Bidder submits a detailed implementation timeline which includes detailed activities to be undertaken during this assignment, and is completed with gantt chart		3
Total points for section		35	

Section 3: Key personnel proposed and Sustainability Criteria

Section 3: Key personnel proposed and Sustainability Criteria		Points	sub-points
	Qualifications of key personnel proposed aligned with the Terms of Reference	22	
3.1	<p><u>Team Lead/Energy Transition Expert</u></p> <p>Education: A Master's Degree in Electrical Engineering, Energy, Engineering, Economics, Climate Change, Social Sciences, Political Sciences, Development or related fields is required. Bachelors degree with additional 2 years of relevant experience is considered equivalent.</p> <p>Experience:</p> <ul style="list-style-type: none"> A minimum of 10 years of relevant experience in similar role, with minimum 2 years of leadership experience Professional experience in power system and transmission expansion planning, power sector modeling and simulations, energy transition, coal phaseout in Southeast Asia is preferred 		8

	<ul style="list-style-type: none"> • Knowledge of the smart grid, energy policies, monitoring system, IT system, renewable energy, smart grid index, electricity market, financial market, energy system modelling 		
	<p><u>Power System Simulation Expert</u></p> <p>Education: Masters degree in Electrical engineer / Renewable Energy / Economics / relevant similar fields. Bachelors degree with additional 2 years experience is considered equivalent.</p> <p>Experience:</p> <ul style="list-style-type: none"> • At least 5 years of working experience in power system simulations, and power sector planning. • Experience in using PLEXOS software for power system analysis, modeling, and optimization is required. • Experience in delivering mentoring or training on PLEXOS is required. • Completed PLEXOS certification course is desired. • Knowledge of power system theory, capacity expansion using different power generating technologies, optimum dispatch, and other relevant disciplines is desired. • Have access/subscription to PLEXOS is required • Experience in Asia or ASEAN region or the Philippines would be an asset <p>Other requirements</p> <ul style="list-style-type: none"> • Ability to build and maintain relationships, work in a team, particularly interacting productively, proactively, and comfortably with various stakeholders such as local consultants, government officials, state companies, private sector • Knowledge and/or familiarity with the Philippines and willing to travel to the project sites located in any part of the country • Strong and demonstrated capacity for organisation, management with excellent reporting and coordination skills • Strong technical competence and professional skills for timely implementation, coordination and management of activities • Strong interpersonal and communications skills, resourcefulness, initiative, tact and ability to cope with any situation especially Asian culture • Openness to change and ability to receive/integrate feedback 		5

	<p><u>Transmission Modeling Expert</u></p> <p>Education: Masters degree in Electrical engineer / Renewable Energy / Economics / relevant similar fields. Bachelors degree with additional 2 years experience is considered equivalent.</p> <p>Experience:</p> <ul style="list-style-type: none"> • At least 5 years of working experience in transmission expansion modeling and simulations, transmission planning, • Experience in using PSSE software for transmission expansion planning, modeling and optimization is required. • Experience in delivering mentoring or training on PSSE is required. • Completed PSSE certification course is desired. • Knowledge of power system theory, transmission expansion, and other relevant disciplines is desired. • Have access/subscription to PSSE is required • Experience in Asia or ASEAN region or the Philippines would be an asset <p>Other requirements</p> <ul style="list-style-type: none"> • Ability to build and maintain relationships, work in a team, particularly interacting productively, proactively, and comfortably with various stakeholders such as local consultants, government officials, state companies, private sector • Knowledge and/or familiarity with Philippines and willing to travel to the project sites located in any part of the country • Strong and demonstrated capacity for organisation, management with excellent reporting and coordination skills • Strong technical competence and professional skills for timely implementation, coordination and management of activities • Strong interpersonal and communications skills, resourcefulness, initiative, tact and ability to cope with any situation especially Asian culture • Openness to change and ability to receive/integrate feedback 		5
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	<p><u>Coal Phaseout Expert</u></p> <p>Education: A Master's Degree in Electrical Engineering, Energy, Engineering, Economics, Climate Change, Social Sciences, Political Sciences, Development, or related fields is required. Bachelors degree with additional 2 years experience is considered equivalent.</p> <p>Experience:</p> <ul style="list-style-type: none"> • A minimum of 2 years of relevant experience in a similar role • Professional experience in coal plants, coal phaseout, or power plant decommissioning projects is desired • Experience in Southeast Asia is preferred, with strong research and publication background is an asset • Knowledge of coal plants, coal phaseout, energy policies, transmission expansion, renewable energy, energy system modeling are desired 		2
	<p><u>Philippines Power Sector Expert</u></p> <p>Education: A Master's Degree in Electrical Engineering, Energy, Engineering, Economics, Climate Change, Social Sciences, Political Sciences, Development or related fields is required. Bachelors degree with additional 2 years experience is considered equivalent.</p> <p>Experience:</p> <ul style="list-style-type: none"> • A minimum of 5 years of relevant experience in a similar role, • Professional experience in the Philippines power sector is required • Understanding of the Philippines power sector landscape, policies, regulations, and plans is required • Knowledge of power system theory, transmission expansion, modeling and simulations, and other relevant disciplines is desired. • Existing network with Philippine power sector stakeholders, particularly with the Department of Energy, National Transmission Corporation, and Energy Regulatory Commission is desired 		2
3.2	The bidder shall provide a clear statement, approach, and methodology that demonstrates its commitment to support and mainstream gender equality and social	3	

	inclusion through its operations and project implementation activities.		
Total points for section		25	