



The Energy Transition Partnership (ETP)

Diagnostic Study on Net-Zero for The Energy Sector in Vietnam

Terms of Reference | 15 June 2022

TERMS OF REFERENCE

Diagnostic Study on Net-Zero for the Energy Sector in Vietnam

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1 BACKGROUND

I. Southeast Asian Energy Transition Partnership

1. The Southeast Asia Energy Transition Partnership (ETP) brings together governments and philanthropies to work with partner countries in the region. We support the transition towards modern energy systems that can simultaneously ensure economic growth, energy security, and environmental sustainability. Enabling the transition toward greener energy systems will greatly contribute to the achievement of the UN's Sustainable Development Goals (SDGs) and the Paris Climate Agreement objectives.
2. ETP is initially focusing on Indonesia, the Philippines and Vietnam, which are the countries in the region with the highest energy demand, a substantial pipeline for fossil fuel-based projects, and a significant and cost-effective potential for renewable energy and energy efficiency. ETP provides High Level Technical Advisory Support, Holistic Support to Governments on financing and technical needs, capacity and skill development and facilitation of dialogues in all related areas.
3. A Secretariat, incorporated into UNOPS will support the Steering Committee (SC) and facilitate the implementation of SC's decisions. The Secretariat will operate as per defined Terms of Reference approved by the SC. The Secretariat will undertake day-to-day management and operation of the ETP Fund: (1) it launches Calls for Proposal and carries out proposals assessments; (2) it provides assistance and support to implementing partners; (3) facilitates the design, development and implementation of an overall M&E strategy; (4) monitors progress made by each project during the implementation phase.
4. ETP Secretariat hosted at UNOPS Thailand Hub Offices will support the SC and facilitate the implementation of SC's decisions. The Secretariat will operate as per defined Terms of Reference approved by the SC. ETP Secretariat will undertake day-to-day management and operation of the ETP Fund: (1) it launches Calls for Proposal and carries out proposals assessments; (2) it provides assistance and support to projects; (3) facilitates the design, development and implementation of an overall M&E strategy; (4) monitors progress made by each project during the implementation phase.
5. ETP Secretariat will work in close cooperation with the SC, the Advisory Panel and UNOPS Services. The members of the secretariat will be selected following the UNOPS rules and regulations. Within the framework of the delegated authority, the incumbent is assigned all or part of the following duties which are performed according to organizational needs and structure.

II. Project background

6. On November 2021, at COP26, Prime Minister Pham Minh Chinh announced strong commitments to tackle climate change, emphasizing with its own resources, along with the co-operation and support from the international community, especially developed countries,

both in terms of finance and technology transfer, including implementing mechanisms under the Paris Agreement, Vietnam will develop and implement strong emissions reduction measures to achieve net-zero emissions by 2050. Vietnam also agreed to support a number of important statements and initiatives on protecting forests, shifting to clean energy, supporting adaptation for local communities, and methane reduction. The commitment of net-zero emissions and joining the methane commitment sent a strong signal to the international community, unleashing global finance for low-emission development, which is also an opportunity for Vietnam's development. Finding the optimal investments and combinations of resources to ensure energy security, decarbonization, and improved economic outcomes while ensuring a fair and just energy transition requires a dedicated and diverse analytical process.

7. The established framework of Power Development Planning, including the recent PDP8 provides valuable insights and an appropriate starting point for assessing the pathways to net-zero. The Rapid Response Facility (RRF) was established at the second meeting of the COP26 Energy Ministerial and helps support country partners with a variety of assistance including strategic planning, capacity building, and technical expertise.
8. In Vietnam, ETP completed a review and gap analysis of existing coal abatement scenarios for Vietnam which assesses the potential emission reduction in the power sector in Vietnam. The study was conducted under the Rapid Response Facility of COP26 and broadly presented to the representatives of MOIT, development partners and relevant stakeholders in the 4th high-level meeting of Vietnam Energy Partnership Group. ETP is planning to take the study further to the net-zero emission scenario for the energy sector in Vietnam, which is expected to identify overall and specific packages of solutions for the Government of Vietnam to achieve its COP26 commitment by 2050.

2 PROJECT DETAILS

III. Rationale

10. Given the new political commitment of the Government of Vietnam to a higher level climate commitment to net zero target by 2050, the study can be extended to examine a more ambitious coal abatement scenario that leads Vietnam to net zero emissions from the energy sector by 2050. This undertaking was strongly supported by peer and development partner comments on the synthesis report. Further broadening of the study will also enhance its credibility and gravitas, as in the coming years increasing attention will be allocated to the integration of transportation and battery energy storage, ancillary services and the transmission and distribution grid, as well as possible inclusion of additional

offshore and ocean energy renewable resources among other emerging technologies, essential for choosing optimal pathways for long-term power development. Meanwhile, growing industries in Vietnam that aim to capture the value from leading in new energy technologies benefit greatly from participating in domestic markets and receiving policy clarity. These outcomes require intentional and sequential investments across the energy sector in Vietnam.

11. ETP conducted the initial coal abatement synthesis scenario analysis to support preparation of the Power Development Plan 8 and support deliberations in Vietnam and at international dialogues. Results from the economic analysis indicated that more significant decarbonization scenarios lower emissions, create more jobs, reduce deficit on the national balance of payments, and lead to cost savings of a total of USD176 billion (net present value of USD68 billion). This work demonstrates the potential economic benefits that can be realized from low-carbon planning and development. Thus, this creates strong impetus to further explore the implications of net zero scenarios for Vietnam, particularly in the energy industry.

IV. Objectives

12. The proposed extension study will take the scenario planning to a new level of ambition to assess energy sector net zero scenarios by 2050, with the objective to support the Government of Vietnam to realize their National Energy Master Plan for 2021-2030 period, vision to 2050 and further international negotiations and national deliberations. This study will incorporate prior analyses and integrate closely with planning performed by the Government of Vietnam, the Government's agencies including (i) MOIT in charge of power planning and energy master plan; (ii) MONRE in charge of NDC, emission inventory and reduction measures; (iii) MOF and MPI for financial issues; (iv) CEC for political and national security in term of energy and (v) CMSC as the owner of major coal-fired power plants. The study will also benefit the engaged bilateral and multilateral partners.

V. Methodology

13. The methodology to identify and select scenarios is based on several criteria and should be prioritized on energy security, reducing the dependency of international trade, providing an affordable price while applying the emission reduction technologies toward net zero ambition. The base data has been provided in the earlier abatement review as a starting point. The analysis requires use of a power system cum macroeconomic model. The Project will conclude in a deep desktop study to fully (i) account for the existing scenario planning data and analysis; (ii) analysis and reviews conducted by all other donors; and (ii) establishing a compelling and peer reviewed structured framework for assessing the scenarios with

respect to their comprehensiveness and any gaps, their technical viability and requirements, financial feasibility and costs and benefits, funding considerations, and technical and socio-economic implications and jobs, and outcomes with respect to the objectives of energy transition, reduction in the risk of funding for future stranded assets, and the Paris Agreement and Net Zero Emission Goals of the Government. The Project will draw all these data together and develop an inception report to give feedback to the Government and the development community information on the potential additional data needs and those available for the Government's consideration. The inception report will be reviewed and comments requested from all partners and participating government agencies to ensure its comprehensive conversation. The report will be translated into Vietnamese and accompanied by a catchy powerpoint presentation in English and in Vietnamese.

14. The Project will progress from the inception report to consider all the factors highlighted and collate additional data as identified in the inception report, guided by the energy system and macroeconomic models that will complement reviews of the technical, financial, economic, social, and environmental and governance implications on the energy system from the next zero objectives by 2050 in the sector. Within these requirements, the study will review the current tariff, subsidies and costs that relate to the current energy system and that would experience change as a result of an adoption of the proposed scenarios. These processes will be iterative and all reports providing gradually more comprehensive synthesis will be circulated to ETP Secretariat, the Government parties and development partners in line with the agreements reached with the Government and ETP. All reports will include a non-technical summary and catchy powerpoint presentations for easy dissemination, comprehension and use in the policy making context and be translated to Vietnamese from publishable English. The synthesis report will be circulated to selected patterns for in-depth peer review and comments will be incorporated into the final drafts. The project will identify specific Government stakeholders and other stakeholders and also tap into the civil society, private sector, think tank and academic stakeholders to benefit from all available analysis, diagnostic and data, and to ensure wide understanding of the abatement options and scenarios.
15. The methodology assumes cost-free (to the extent possible), easy, and unobstructed access to data and scenario planning conducted todate by the development partners as well as the availability of the pertinent staff among these organizations to conduct discussion on the data and the scenarios in these analysis and scenario plans. The project will provide concrete policy options for the Government's consideration and particularly support the development of early coal phase-down plans in the context of the energy sector planning and the National Energy Master Plan.

V. Expected Outputs and Outcomes

Table 1. Expected Outputs and Outcomes

#	Outputs/project	Outcomes ¹
1	A deep-dive study on net-zero emission scenarios for the energy sector with a comprehensive analysis of technical, financial and institutional implications of the transition from fossil fuel to renewable energy generation in Vietnam. The study should not only take into account the development of the PDP VIII and the final decision of the Government on the PDP VIII (expected in June 2022), but also other aligning plannings such as National Energy Master Plan, to be drafted by the MOIT after the PDP VIII is officially adopted by the National Assembly, other cross-sectorial plannings as well as highlighting other potential pathways	<p>The study provides the government of Vietnam with a clear view on net-zero emission scenarios in the energy sector as well as the impediments to the transition agenda.</p> <p>The study also contributes to the realization of the PDP VIII, once it is approved, and the country's commitment of net-zero by 2050.</p>
2	A list of recommended further technical assistance that ETP can provide to the Government Agencies to address the technical, financial and institutional impediments to realize the net-zero emission targets.	<p>The ETP, based on the analysis, can offer further interventions to the Government of Vietnam to address the identified impediments.</p>
3	Communication strategy with regular and frequent engagement with the country authorities and development partners, ensuring access to and consideration of all relevant viewpoints and data, with the aim to develop a shared understanding of an optimal scenario and related implications.	

VI. Scope

13. The focus of the extension study is to explore the net-zero scenarios of the energy sector by 2050 in the interrelation with major energy-consuming sectors such as transportation, manufacturing and lighting.
14. The extension study should examine multiple scenarios, including diverse electricity generation and balancing options such as storage and demand response, and required infrastructure investments, and interactions with transportation and industry to fully assess the energy sector. The study will particularly consider grid reliability, ancillary service provision, battery energy storage, advanced CO₂ abatement technologies and optimizing competitive arrangements for the energy sector, as well as economic, financial and social implications of a variety of pathways toward a net zero future.

¹ The expected outcomes are in line with the ETP's Result-Based Management Framework and its short-term outcomes 1.1 and 4.1

15. In addition to key results, much of the planned work can pull data and key insights on the feasibility, costs, and technical needs associated with low-carbon scenarios and generation mixes.
16. The Consultant is also responsible for proposing a comprehensive and multi-pronged communication strategy for engaging and disseminating the study results to the relevant government agencies, development partners and stakeholders of Vietnam and for implementing the strategy and organizing the consultation events

VII. Other External Assistance

17. The World Bank is developing a “flagship” [Country Climate Development Report](#), which describes the current conditions of Vietnam and the visions for development of the country until 2050. The Country Climate Development Report in Vietnam will touch on the energy sector with respect to the ambition of net-zero emissions by 2040. ETP and the project and its consultants will monitor and coordinate with the report, which is expected to be released in April 2022. The World Bank report is expected to identify power sector and economy-wide emission reduction scenarios, pathways, and related energy mix options against business-as-usual, which in the case of Vietnam also align with the COP26 commitments made by the Prime Minister in November 2021 to reach net zero emissions by 2050. The scenarios have been conducted with the World Bank’s in-house Electricity Planning Model (EPM) tool. The analysis also identifies investment requirements for each emission abatement scenario, expected coal and emissions peak and provides recommendations for the establishment of an enabling investment climate to syndicate the financing required for the clean energy transition.

18. The ETP’s study on net-zero emissions in the energy sector will provide an in-depth view and pre-feasibility analysis to the identified investment scenarios, enabling these to migrate to bankable and investable plans and proposals to contribute to the net-zero emission targets. ETP’s study will support dialogue with the Government and development partners in the effort to provide outputs by the COP27.

VIII. Description of Specific Activities

19. The selected consultant will produce the following products. All reports will be prepared in publishable English and translated to Vietnamese and be accompanied by a catchy powerpoint presentations in the two languages: :

- a. **Inception Report**, of publishable quality, providing the methodology for technical delivery and timeline, data collection, and implementation framework for accomplishing the assignment, including results based monitoring and evaluation (M&E) framework

with gender-disaggregated data in coordination with ETP's Results-based Monitoring Framework (RBFM)

- b. **Interim Report**, of publishable quality, with a catchy powerpoint presentation, identifies the data sources, scenarios, issues for the deep-dive in the analysis, and provides guidance to the government policy makers and development partners on the key issue areas that will require analysis and warrant change, in terms of the adoptions of the proposed scenarios. This report will provide sufficient information for a dialogue on the pathways forward in the context of the Government's interest to chart strategies to attain the net zero emissions target in the energy sector by 2050.
- c. **Report "Assessment of the Energy Sector in Vietnam"**, of publishable quality, consisting of the results of assessment of the energy sector in Vietnam, International review of emission reduction technologies, demand assessment, supply-side assessment and scenarios, and an update of the M&E framework.
- d. **Final Report - "Net-zero for the Energy Sector in Vietnam"**, of publishable quality, describing the policy and technical recommendations including the number/type of actions that needs to be taken to support the net-zero emission of the energy sector in the interrelation with major energy consuming sectors, providing a structured, realistic, technologically and financially viable net-zero strategy for Vietnam that will lead to a comprehensive roadmap of net-zero for energy sector by 2050. The final report will be consulted with relevant government agencies, development partners and stakeholders of Vietnam and finalized based on their comments and peer review and an updated M&E framework.
- e. **Workshops**: The consultant will organize a kick-off and a final workshop to present the report. The consultant will provide a minimum of 5 presentations for the workshops, list of the invitees and coordinate with key participants from relevant ministries and development partners in Vietnam to encourage them to participate in the final workshop.

IX. Beneficiaries & Impact

- 20. The key beneficiaries of the study will be the government of Vietnam (CEC, MOIT, MONRE, MOF, MPI) as it provides the policy makers of the energy sector a clear view of the technical, financial and institutional impediments to their net-zero ambition and how ETP's efforts can support them to address the impediments.

3 IMPLEMENTATION & TIMELINE

X. Implementation Modality & Arrangements

Grant/Procurement Administration Timeline

21. The TA shall be implemented by a consultant team who is selected through a competitive bidding process. The Consultant must consist of experienced consultants with deep international experience and knowledge of energy sector finance and governance, change management, asset management and disengagement processes, combined with a strong background in Vietnam’s energy sector development, opportunities and challenges to accelerate energy transition. The consultant team is expected to be able to analyze different aspects of the existing and planned coal fired power plants in Vietnam and incorporate international experience in the package of recommended actions for the policy makers of the energy sector to achieve net-zero emission by 2050. The synthesis report on Coal Abatement Scenarios in Vietnam conducted earlier by the joint consultant team of Rocky Mountain Institute and Vietnam Initiative for Energy Transition shall be provided by the ETP as reference for the consultant.

Table 1 . Deliverables and timelines

Task	Timelines
<p>Inception Report of publishable quality, providing the methodology for technical delivery and timeline, data collection, and implementation framework for accomplishing the assignment, including results based monitoring and evaluation (M&E) framework with gender-disaggregated data in coordination with ETP’s Results-based Monitoring Framework (RBFM).</p> <p>Kick off and final workshops The consultant will organize a kick-off and a final workshop. Presentations for the workshops, list of the invitees, who are from relevant ministries and development partners in Vietnam, should be provided. The Consultant is responsible for engaging relevant stakeholders and government agencies to participate in the final workshop.</p>	<p>3 weeks after contract start date</p>

<p>Report “Assessment of the Energy Sector in Vietnam”</p> <p>of publishable quality consisting of the results of assessment of the energy sector in Vietnam, International review of emission reduction technologies, demand assessment, supply-side assessment and scenarios.</p> <p>Identifying the data sources, scenarios, issues for the deep-dive in the analysis, and providing guidance to the government policy makers and development partners on the key issue areas that will require analysis and warrant change, in terms of the adoptions of the proposed scenarios.</p> <p>Providing sufficient information for a dialogue on the pathways forward in the context of the Government’s interest to chart strategies to attain the net zero emissions target in the energy sector by 2050.</p> <ul style="list-style-type: none"> • Including summarizing and analyzing work completed up to this point as well as outline the next steps and work plan (interim report) • Including updates on results generated using the ETP’s Result-Based Monitoring Framework with gender-disaggregated data in coordination. • Including a non-technical summary and catchy powerpoint presentations for easy dissemination, comprehension and use in the policy making context and be translated to Vietnamese from publishable English. 	<p>24 weeks after contract start date</p>
<p>Final Report - Net-zero for Energy Sector of Vietnam</p> <p>of publishable quality, describing the policy and technical recommendations including the number/type of actions that needs to be taken to support the net-zero emission of the energy sector in the interrelation with major energy consuming sectors, providing a structured, realistic, technologically and financially viable net-zero strategy for Vietnam that will lead to a comprehensive roadmap of net-zero for energy sector by 2050.</p> <p>The final report will be consulted with relevant government agencies, development partners and stakeholders of Vietnam and finalized based on their comments and peer review and an update on results generated using</p>	<p>28 weeks after contract start date</p>

<p>the ETP’s Result-Based Monitoring Framework with gender-disaggregated data in coordination.</p> <ul style="list-style-type: none"> • Including the final results generated using the ETP’s Result-Based Monitoring Framework with gender-disaggregated data in coordination. • Including a non-technical summary and catchy powerpoint presentations for easy dissemination, comprehension and use in the policy making context and be translated to Vietnamese from publishable English. 	
<p>Final Workshop and Stakeholder Engagement</p> <p>The consultant will organize a final workshop to present the report. The consultant will provide a minimum of 5 presentations for the workshops.</p>	<p>38 weeks after contract start date</p>

XI. Assumptions

22. The proposal will be delivered by an implementing entity that has current experience with modeling and forecasting, and carrying out financial implication scenarios for the retirement of coal fired power generation plants or similar power assets at both SOEs’ and private sector’s management.
23. The proposal will include resources for suitable powerpoint presentation, graphical and infographic skills to present the resultant information in a way that is easily accessible to all levels of understanding and eye-catching.
24. The implementing organization will incorporate global best practices and latest technological inputs and concepts based on a highly developed, detailed and analytical assessment of the current data.
25. The Project assumes cost-free, easy and unobstructed access to existing roadmaps and data sets from MOIT and relevant government agencies in the energy sector, availability of the pertinent staff for discussion on the data and analysis to the Project purposes, and where possible, availability of the Government and its agencies involved in energy sector scenario planning. Where this is not possible, the analysis aims to identify the underlying assumptions based on the publicly available results. The Project will make use of ETP’s convening capacity and partnerships with its aligned programs and engage with the stakeholders economy-wide, particularly in the local context and based on the specific factors.

26. ETP Secretariat manages the selection of the experts and implementation of the Project. ETP Secretariat will help coordinate engagement with the Government parties and country authorities on the implementation of and process of this study.
27. The Project will capitalize on the latest information of the recent technological and energy related developments available globally and developments in fossil fuels abatement policy, as well as reflect their impact on prices and tariffs, among others efficiency improvements. The Project works in the context of Vietnam but will draw on global trends and examples
28. The Project will work under the overall guidance of the ETP Steering Committee, its Secretariat and Advisory Committee. The implementing entity will prepare the reports with the relevant materials in publishable quality, through the ETP Secretariat, Interim Report, and Final Reports. All reports will be reviewed and accepted by the ETP Secretariat upon the incorporation of its comments with the objective to improve the comprehensiveness and quality of the final Review. The implementing organization will develop effective methods for collecting comments and suggestions in a speedy fashion and incorporate these into the proposal, as deemed quality improving.
29. The Project will ensure that it accounts for environmental and social impacts in the context of the terms of reference and identifies environmental and social costs and benefits within the Project. Furthermore, the Project shall provide a response that demonstrates its commitment to support gender equality and women's empowerment through its operations.

XII. Mitigation Measures

30. The ETP team had discussions with development partners on the proposed study and confirmed that there is no risk of overlapping with activities implemented by other donors in the energy sector in Vietnam. On the other hand, during the project design and development stage, ETP and the consultant team will consult closely with the government agencies and the development partners to ensure that the project addresses the needs of the government of Vietnam and in line with the Government's regulations. The ETP and the consultant team will provide proper justifications to any questions coming from the relevant authorities, which secure the timely approval of the project.

XIII. Communication and Dissemination Plan

31. Before the project implementation, the Consultant will provide a communication and dissemination plan for the study, which identifies the Vietnamese government agencies, organizations, development partners and the private sector entities that shall be consulted and communicated during the project implementation and takes into account two presentations to be delivered to the ETP Steering Committee and ETP partners. The plan

shall also describe how the study results would be disseminated to the different stakeholders in the energy sector, particularly the high-level government agencies.

32. The deliverables of the project, including a recording of the presentation, will be published on ETP's website and other communication channels. The project will interact with the Government's coordination mechanisms as well as the Vietnam Energy Partners Group (VEPG) to ensure coordination and transparency.

XIV. Sustainability & Gender Diversity

33. The Project is committed to the promotion, enhancement and development of gender sensitivity of its implementation activities. For cause-oriented groups, the Project shall be inclusive of the invited stakeholders during the consultation, more particularly women's groups. The Project shall also ensure gender balance among the officials designated into the inter-departmental committee. Emphasis shall be given to policy measures that shall not discriminate or marginalize any personalities and groups based on gender.
34. The Project will adopt sustainability measures and mechanisms to extend the Project's objectives beyond the present administration. The study results shall be disseminated to the high-level stakeholders and development partners to encourage the realization of the country's targets on net-zero emissions, particularly in the energy sector.