

# Development of Vietnam Smart Grid Roadmap for period up to year 2030, with a vision to 2050 (Vietnam)



## Terms of Reference | 21 June 2023

The swift growth of solar and wind energy in Vietnam is putting excessive pressure on the country's electricity grid. Although the Smart Grid Development Roadmap of Vietnam has been implemented since 2012 and attained certain achievements, it needs to be updated to address the current shortcomings preventing smart grid development and constraining the greater penetration of renewable energy in the national grid.

This project, a collaboration between ETP and the Electricity Regulatory Authority of Vietnam (ERAV), aims to address this gap by developing a Smart Grid Development Roadmap for the period up to 2030, with a vision for 2050. This roadmap will provide a strategic plan for the efficient and effective integration of renewable energy sources, energy storage, and demand response management into the grid, enabling the grid to operate in a more resilient, secure, and sustainable manner. This project will contribute to a common goal of smart grid development, thus ensuring a smooth transition towards a smarter and more efficient energy system.

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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. To contribute 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'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. Summary

2. This Technical Assistance program is an initiative of ETP in collaboration with the Electricity Regulatory Authority of Vietnam (ERAV). The existing Smart Grid Development Roadmap of Vietnam has been implemented since 2012 under Decision 1670/QD-TTg-2012. However, it has not been updated to reflect Viet Nam's policy changes and significant increase in renewable energy. Therefore, this project aims to support ERAV in creating a new roadmap that could best address current and future challenges facing the Vietnamese grid system to ensure a reliable and sustainable energy system, thus contributing to the Power Development Plan VIII and achieving Vietnam's net-zero commitment and JETP targets. It aims to propose a new Smart Grid Development Roadmap for the period up to year 2030, with a vision towards 2050, which outlines a strategic plan for the efficient and effective integration of renewable energy sources into the grid, enabling it to operate in a more resilient, secure, and sustainable manner.

## III. Project Background

### A. Rationale

3. In Vietnam, there has been a focus on allocating funds towards power generation to keep pace with the swiftly increasing demand. As of 2021, Vietnam had 16.5 GW of solar power and 11.8 GW of wind power<sup>1</sup>. However, insufficient funding and planning for transmission infrastructure have resulted in the wasteful curtailment of renewable energy projects. According to a study conducted by the World Bank, the current transmission infrastructure in southern Vietnam has the capacity to incorporate as much as 3.2 GW of variable renewable energy. However, if more power is to be added, it will be necessary to upgrade the transmission lines<sup>2</sup>. The Viet Nam's National Load Dispatch Centre (NLDC) also decided not to endorse any solar or wind energy

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<sup>1</sup> Viktor. T. 2022. Renewable Energy Investment in Vietnam in 2022 - Asia's Next Clean Energy Powerhouse. Energy Tracker Asia.

<sup>2</sup> The World Bank. 2018. *Vietnam: Achieving 12 GW of Solar PV Development by 2030; An Action Plan*. Washington, DC: World Bank.

projects for the year 2022 to prevent any adverse impacts on the transmission, grid infrastructure, and overall security of the national power system<sup>3</sup>.

4. The Smart Grid Development Roadmap of Vietnam, which was issued under Decision 1670/QD-TTg-2012 on November 8, 2012, aims to improve the dependability of the system through demand-side management and energy efficiency measures. Vietnam has completed Phases 1 and 2 of the roadmap, covering 2012-2016 and 2017-2022, respectively, and Phase 3 is scheduled to commence in 2023. However, an update to the existing Smart Grid Development Roadmap is necessary, particularly to improve the transmission and distribution system's quality, as outlined in Vietnam's National Action Plan on Green Growth for 2021 to 2030, with a vision for 2050. The requirement for an update is due to significant growth in renewable energy, policy changes over the past decade, and persistent grid management problems resulting in supply-demand risks. It is critical to update the smart grid as Vietnam is committed to expediting the adoption of renewable energy and achieving a minimum of 47% electricity generation by 2030.
5. Under Decision 3019/QD-BCT by the Ministry of Industry and Trade, the Electricity Regulatory Authority of Vietnam (ERAV) is assigned to lead and collaborate with a development partner to develop a Smart Grid Development Roadmap for period up to year 2030, with a vision towards 2050, and submit it to the Prime Minister for consideration and issuance of a decision.

## **B. Impact**

6. This project will benefit key beneficiaries including ERAV, Vietnam Electricity (EVN), power generation companies, transmission and distribution units, and customers. It will produce a Smart Grid Development Roadmap for the period up to year 2030, with a vision to 2050 that aims to increase the quality and reliability of power supply and to improve the effective use of electricity. In addition, the project will offer suggestions to tackle policy, legal, economic, and technical challenges, along with proposed solutions for execution. It will aid Vietnam in its transition towards a more dependable, eco-friendly, and efficient energy system, and assist in fulfilling ETP's strategic outcome 3 focussing on expanding smart grids.
7. 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 alienate any personalities and groups based on gender.

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<sup>3</sup> Vietnamnews. 2022. No more wind and solar power sources to be added this year.

### C. Objectives, Outcomes, and Outputs

8. The objective of this project is to submit a Smart Grid Development Roadmap to the Prime Minister for consideration and issuance of a decision. This roadmap must be for the period up to 2030, with a vision to 2050.
9. The outcome of this project is to improve the efficiency of the power system's operation, enhance power quality, ensure a reliable electricity supply, and facilitate the deployment of renewable energy sources in Vietnam, as stipulated in the National Action Plan on Green Growth and Power Development Plan VIII (PDP8). By doing so, it will contribute to the country's net-zero commitment.
10. The primary outputs of this project are:
  - i. Research and Study reports
  - ii. Consultative Workshops
  - iii. Smart Grid Development Roadmap

### IV. Project Deliverables

11. In line with the outputs and outcomes expected from this project (see Project Background), this section provides additional information on specific deliverables and activities required.
12. Table 1 outlines the key deliverables and associated activities which are expected in this project. Additional details about each deliverable follow Table 1.

**Table 1.** Key activities and deliverables

#	Deliverables	Activities	Target delivery and payment date
1	Inception Report including a communications plan	Mobilisation and Inception report, including a project specific communications plan.	Month 1
2	A study report on the current status of smart grid development in Vietnam	Review and assess the current status of smart grid development in Vietnam, including policies and legal frameworks related to smart grid, current national power system and market, results, opportunities, and drawbacks of Phase 1 and Phase 2 under Decision 1670/QD-TTg, and needs of Vietnam.	Month 2
3	A study on international experience	Conduct research on the international experiences of implementing smart grids, with a focus on level of maturity and trends in smart grid technologies and	Month 3

#	Deliverables	Activities	Target delivery and payment date
		development, research directions, deployment roadmaps, policies, and legal regulations related to smart grids in various countries, best practices, recommendations and lesson learned for Vietnam	
4	Consultation workshop and post-workshop report	<p>Organize a hybrid, half-day consultation workshop with all key stakeholders to gather feedback on smart grid development in Vietnam and areas to take into consideration when developing a smart grid roadmap. The detailed agenda needs to be discussed with ETP. Gender consideration has to be taken into consideration in organising the consultation workshop. A minimum of 50 participants is required.</p> <p>One week after the workshop, the consultant is required to submit a workshop proceeding/ report that details background information (e.g., purpose), number and list of participants, points of discussion and answers, outcomes, etc.</p>	Month 3
5	<p>A draft of the Smart Grid Development Roadmap for period up to 2030, with a vision to 2050</p> <p><i>This draft should be submitted by 31 December 2023 per ERAV's requests.</i></p>	<p>Draft a detailed roadmap for smart grid development in Vietnam for the period up to 2030, with a vision for 2050, including specific adjustments to phase 3 of the smart grid roadmap outlined in the Decision No. 1670/QD-TTg-2012, and considering policy, legal, economic, technical feasibility, and solutions for implementation.</p> <p>The draft roadmap should include at least the following details:</p> <ul style="list-style-type: none"> <li>• An analysis of the power system</li> <li>• Analysis of additional power generation plants to be connected within the planning period</li> <li>• Quantification of peak demand</li> <li>• Assessment of the readiness of the grid</li> <li>• Identification of suitable grid technology options and provision of rationale for the selection (this needs to take into consideration issues such as costs, intermittency, variability, system congestion, lack of inertia, flexibility, reliability, power quality, communication/ ICT, cybersecurity, sustainability of system [e.g., upgrades of obsolete system or software], and so on)</li> <li>• Scenarios for the deployment of smart grid</li> </ul>	Month 5

#	Deliverables	Activities	Target delivery and payment date
		<ul style="list-style-type: none"> <li>• Assessment of potential greenhouse gas emission reduction resulted from the scenarios</li> <li>• Using suitable methodologies to rationalise for the scenarios and major potential items (e.g., cost and benefit analysis, quantitative analysis)</li> <li>• Identification of the implementation phases and suggesting areas of focus/ projects for each phase</li> <li>• Recommendations for the development of smart grid in diverse aspects, including regulatory framework and policies, financing schemes, real time pricing schemes, capacity building for energy utilities and regulators on smart-grid deployment and operation, and so on</li> </ul>	
6	Final stakeholder workshop and post-workshop report	<p>Organize a hybrid, half-day workshop with all key stakeholders to discuss the roadmap and to publicise the results of the project.</p> <p>The detailed agenda needs to be discussed with ETP. Gender consideration has to be taken into consideration in organising the consultation workshop. A minimum number of 75 participants is required.</p> <p>One week after the workshop, the consultant is required to submit a workshop proceeding/ report with details required as described in the below section.</p>	Month 6
7	Final completion report with the Final version of the Smart Grid Development Roadmap for period up to 2030, with a vision to 2050	Grand final report with the Final version of the Smart Grid Development Roadmap taken into consideration stakeholder inputs	Month 6

**Deliverable 1: Inception Report including a communications plan**

13. The consultant must prepare a detailed work plan and mobilise the necessary resources. As a deliverable, the consultant must develop and submit a detailed inception report detailing the plan, ensuring the expectations of ETP are aligned with the understanding of the project from the consultant.
14. The inception report should contain, as a minimum:
  - a. Introduction and project background
  - b. Scope of Services
  - c. Methodology and Workplan, including approach, methodology and project gantt chart
  - d. A detailed approach as to how each deliverable will be met and what each submission will contain
  - e. Results of the audience mapping and analysis and communication/ outreach plans
  - f. Identification of suitable media channels to be used for communicating the project and rationale for choosing them
  - g. A donor coordination strategy
  - h. Project management 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)
  - i. Risks, mitigations and assumptions
  - j. Monitoring and Evaluation Framework, presented in the form of the ETP Results Based Monitoring Framework (RBMF)
  - k. Communications Plan as described in the below table.

**Table 2: The Minimum Requirements of the Communications Plan**

15. 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:

Item	Communications materials	Number
1	Social media posts (liaising with ETP)	5
2	Press releases	1 per public workshop/ event
3	Newspaper articles The Consultant is required to connect with at least five relevant news agencies. The news will be based on the press release prepared (item 2)	5 per public workshop/ event
4	Online presentations of project progress and highlights to the ETP Secretariat and/or ETP Funders	2 (1 hour maximum/ each)

### **Deliverable 2: A study report on the current status of smart grid development in Vietnam**

16. This task involves conducting a comprehensive review and assessment of the current status of smart grid development in Vietnam. This will include an evaluation of the policies and legal frameworks that are in place to support smart grid development, costs and financing schemes, as well as an assessment of the current national power system and market. In addition, the results, opportunities, and drawbacks of phases 1 and 2 of the smart grid development roadmap under Decision 1670/QD-TTg will be reviewed and assessed. The goal is to gain a clear understanding of the progress that has been made to date, as well as the challenges and opportunities that lie ahead. Finally, the needs of Vietnam with respect to smart grid development will be identified, with the aim of developing a roadmap for future development that is tailored to the country's specific circumstances and requirements.

### **Deliverable 3: A study on international experience**

17. This task involves conducting research on the international experiences of implementing smart grids, with a focus on several key areas, including:
  - The level of maturity and trends in smart grid technologies and development, including research directions, rate of deployment, demonstration results
  - Deployment roadmaps
  - Policies, and legal regulations related to smart grids
  - Costs and financing schemes
18. Best practices and recommendations for smart grid development will be identified, along with any lessons learned from the experiences of other countries for Vietnam. The aim of this research is to gain a comprehensive understanding of the global landscape of smart grid development, and to identify best practices and lessons learned that can be applied to the specific circumstances of Vietnam.

### **Deliverable 4: Consultation workshop and post-workshop report**

19. The purpose of the hybrid, half-day consultation workshop is to engage with a wide range of stakeholders, including industry representatives, researchers, government officials, and other relevant parties to solicit their opinions, suggestions, and feedback on the findings of the previous tasks and the roadmap for smart grid development in Vietnam. The feedback and contributions collected should be documented and analyzed to identify key issues, concerns, and areas for improvement in the current smart grid development in Vietnam. The results of the consultation process should be used to refine the recommendations for Vietnam and to support the development of the roadmap.
20. The detailed agenda needs to be discussed with ETP. Gender consideration has to be taken into consideration in organising the consultation workshop. Minimum % of women participants is 35%. All key stakeholders related to the topic, particularly governmental entities, should be engaged. Journalists should be invited also to promulgate the findings of the workshop. The consultant needs to secure at least 50 participants for the consultation workshop. The workshop will be held in Hanoi. Consultant to prepare the logistics of the workshop, eg.: meeting venue for 1 half-day workshop, and conference call support. Bidders should assume all participants are already in Hanoi, hence no transportation cost is handled by the bidders.
21. One week after the workshop, the consultant is required to submit a workshop report that includes the following components:

- Description of the workshop (e.g., background, objective, organisation)
- Workshop agenda and participant components
- Workshop proceedings (e.g., summary of presentations, key points raised, important insights, significant outcomes or decisions)
- Gender considerations
- Stakeholder engagement
- Monitoring and implementation
- Media and communication
- Conclusion and next steps
- Annexes (supporting materials such as slides of the presentations, workshop handouts, participant list, list of comments, etc.)

**Deliverable 5: A draft of the Smart Grid Development Roadmap for period up to 2030, with a vision to 2050**  
**Draft a detailed roadmap for smart grid development in Vietnam for the period up to 2030, with a vision for 2050,**

22. This task involves the development of a Smart Grid Roadmap for a period up to year 2030, with a vision to 2050, including specific adjustments to phase 3 of the smart grid roadmap outlined in the Decision No. 1670/QD-TTg-2012, and considering policy, legal, economic, technical feasibility, and solutions for implementation. The goal of this task is to provide a comprehensive and detailed plan that outlines the steps and activities necessary for the successful deployment of a Smart Grid in Vietnam. The components of the roadmap should include at a minimum the following:

- An analysis of the power system
- Analysis of additional power generation plants to be connected within the planning period
- Quantification of peak demand
- Assessment of the readiness of the grid
- Identification of suitable grid technology options and provision of rationale for the selection (this needs to take into consideration issues such as costs, intermittency, variability, system congestion, lack of inertia, flexibility, reliability, power quality, communication/ ICT, cybersecurity, sustainability of system [e.g., upgrades of obsolete system or software], and so on)
- Scenarios for the deployment of smart grid
- Assessment of potential greenhouse gas emission reduction resulted from the scenarios
- Using suitable methodologies to rationalise for the scenarios and major potential items (e.g., cost and benefit analysis, quantitative analysis)
- Identification of the implementation phases and suggesting areas of focus/ projects for each phase
- Recommendations for the development of smart grid in diverse aspects, including regulatory framework and policies, financing schemes, real time pricing schemes, capacity building for energy utilities and regulators on smart-grid deployment and operation, and so on

23. The end result will be a comprehensive and strategic plan for the development of a Smart Grid in Vietnam that is both effective and sustainable, enabling Vietnam to meet its energy needs while reducing greenhouse gas emissions and promoting economic growth.

**Deliverable 6: Final stakeholder workshop and post-workshop report**

24. The goal of the final stakeholder workshop is to discuss the roadmap and to publicise the results of the project. The workshop will be in hybrid mode and located in Hanoi, with a duration of half the day. The minimum number of participants should be 75. Gender consideration needs to be taken into consideration in the workshop. Minimum % of women participants is 35%. All key stakeholders related to the topic, particularly governmental entities, should be engaged. Journalists should be invited also to promulgate the findings of the workshop. Consultant to prepare the logistics of the workshop, eg.: meeting venue for 1 half-day workshop, and conference call support. Bidders should assume all participants are already in Hanoi, hence no transportation cost is handled by the bidders.
25. After the stakeholder workshop, the consultant is required to submit a post-workshop report that should contain the following components:
- i. Description of the workshop (e.g., background, objective, organisation)
  - ii. Workshop agenda and participant components
  - iii. Workshop proceedings (e.g., summary of presentations, key points raised, important insights, significant outcomes or decisions)
  - iv. Gender considerations
  - v. Stakeholder engagement
  - vi. Monitoring and implementation
  - vii. Media and communication
  - viii. Conclusion and next steps
  - ix. Annexes (supporting materials such as slides of the presentations, workshop handouts, participant list, list of comments, etc.)

**Deliverable 7: Final completion report with the Final version of the Smart Grid Development**

**Roadmap for period up to 2030, with a vision to 2050**

26. The consultant is required to provide a grand final report that incorporates all findings from the previous tasks and includes and addresses the feedback of stakeholders from task 6. The report should provide an executive summary together with the main content. The main report should summarise the key findings from the previous tasks and reports, and should also provide further analysis, strategies, and recommendations for the successful implementation of the Roadmap, suggestions for solving any potential issues, and potential next steps.

**Other key information:**

- 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 and the local language.
- 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.
- The consultant is required to update the results and achievements of the project in accordance with the agreed project level Results-Based Monitoring Framework, as per the approved template. All results, where applicable, must be gender disaggregated
- 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 country presence.

## V. Timeline for the Project

27. The project will require 6 months. The actual project timeline will be presented by the consultant and agreed upon in the Inception Report.

**Table 3.** Proposed timeline of the project’s deliverables

DELIVERABLES	1	2	3	4	5	6
1. Inception Report including a communications plan						
2. A study report on the current status of smart grid development in Vietnam						
3. A study on international experience						
4. Consultation workshop and post-workshop report						
5. A draft of the Smart Grid Development Roadmap for period up to 2030, with a vision to 2050  This draft should be submitted by 31 December 2023 per ERAV’s requests.						
6. Final stakeholder workshop and post-workshop report						

7. Final completion report with the Final version of the Smart Grid Development Roadmap for period up to 2030, with a vision to 2050						
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## VI. Key Beneficiaries

28. The key beneficiaries of this project are provided in table 1.

**Table 4.** List of beneficiaries of this project

Beneficiary	Benefit	Explanation
ERAV	Direct	As ERAV is responsible for establishment of a Smart Grid Development Roadmap for period up to 2030, with a vision towards 2050, it shall receive a comprehensive analysis related to developing a smart grid development roadmap and a proposal that will be submitted to the Prime Minister for consideration.
EVN, Southern Power Corporation (EVNSPC), NLDC, power generation companies	Direct	A smart grid development roadmap can help EVN and power generation companies to improve their operations, optimise the use of existing power generation resources, reduce costs, and meet their renewable energy targets.
Transmission and distribution units	Direct	A smart grid development roadmap can help transmission and distribution units to operate more efficiently, reliably, and flexibly, while providing better customer service.
Electricity users	Direct	The project is expected to enhance the reliability and quality of power supply, enable participation in demand response programmes, and encourage the adoption of distributed energy sources. All of these will enhance the experience of electricity users.
Government of Vietnam	Indirect	ETP's support to the ministries and power generation companies shall contribute to the Government's efforts to increase the deployment of renewable energy sources, achieve climate change targets in the Paris Agreement, and realise the net-zero emission by 2050 commitment.

29. 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. See Annex 1.

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

## VII. Results Based Monitoring Framework and Risks

### A. Results Based Monitoring Framework

31. The Results of the Project are monitored through the following Framework in Table 2. All reports will update the achievement of the indicators.

**Table 5. Results Based Monitoring Framework Outline**

**Project Name:** Developing Vietnam Smart Grid Roadmap for Period up to 2030, With a Vision up to 2050

### IMPACTS

- Share of RE in the total primary energy supply (TPES)

### OUTCOMES

Strategic Outcome 1. Policy Alignment with Climate Commitments

Strategic Outcome 3. Sustainable Resilient Infrastructure - Smart Grids

### OUTPUTS

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

3.1. National energy strategy and sectoral plans involve evidence-based planning for an improved national-smart-grid system along with related infrastructure and innovative technologies

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	IN 1.1-02 - 1 Roadmap that reflects an ambition towards increasing the share of RE/VRE, improving EE, and phasing-down fossil fuels presented to ERAV
IN 3.1-01 - No. of technical recommendations and solutions implemented by the grid operators for planning and operation, leading to smart grid	IN 3.1-01 - At least 3 recommendations and solutions presented in the Roadmap are implemented by the grid operators

### ACTIVITIES

- Research and analysis on the current status of smart grid development in Vietnam;
- Research and analysis on the international experiences of implementing smart grids;
- A detailed roadmap for smart grid development in Vietnam for the period up to 2030, with a vision for 2050 submitted to ERAV for consideration

32. The results are reported with additional supporting information and evidence where applicable and necessary.

## **B. Risks and Mitigation Measures**

33. The ETP team and ERAV had discussions on the technical assistance activities and confirmed that there is no risk of overlapping with activities implemented by other donors in Vietnam. On the other hand, during the project design and development stage, ETP and ERAV will work closely to ensure that the project addresses the needs of ERAV and in line with the Government's regulations. The two teams will jointly provide proper justifications to any questions coming from the relevant authorities, which secure the timely approval of the project.

## VIII. Qualification and experience of the service provider and evaluation criteria

### A. Qualification and Experience of the Service Provider

34. The consultant’s project team should demonstrate the capacity to execute the works and should include all essential roles filled with personnel with relevant experience. CV’s of the personnel proposed should be used to verify this information.
35. The following are the minimum positions that should be included on the team. Bidders should make an assessment of the additional positions needed (if any) to complete the assignment as per Terms of Reference:

Position Assumed in the Project	Minimum requirements
1. Team Lead	<p><b>Education:</b> A Master's Degree in Electrical Engineering, Energy, Engineering, Economics, Climate Change, Social Sciences, Political Sciences, Development or related fields is required. Additional 10 years of similar experience with a Bachelor Degree is considered equivalent.</p> <p><b>Experience:</b></p> <ol style="list-style-type: none"> <li>1) A minimum of 10 years of relevant experience in similar role, with minimum 2 years of leadership experience</li> <li>2) Professional experience in smart grid projects and in Southeast Asia is preferred, strong publication background is preferred</li> <li>3) Knowledge of the smart grid, energy policies, monitoring system, IT system, renewable energy, smart grid index, electricity market, financial market, energy system modelling</li> </ol>
2. International Power Sector Experts (minimum 1, maximum 2 members)	<p><b>Education:</b> Masters degree in Electrical engineer / Renewable Energy / Energy System and Management / relevant similar fields with an additional 10 years of relevant experience</p> <p><b>Experience:</b></p> <ul style="list-style-type: none"> <li>• At least 5 years of working experience in the field of smart grid, deep knowledge on legal framework.</li> <li>• All experts with 3 years of experience in projects in Asia/ASEAN (region), of which 1 year in projects in Viet Nam would be an asset.</li> <li>• Experience in designing and implementing the smart grid projects or consultancy.</li> <li>• Intensive experience of working with power system operators (TSO, DSO), regulators.</li> </ul> <p><b>Other requirements</b></p> <ul style="list-style-type: none"> <li>• Ability to build and maintain relationships, work in a team, particularly interacting productively, proactively, and comfortably with various stakeholders such as local consultants, government</li> </ul>

Position Assumed in the Project	Minimum requirements
	<p>officials, state companies, private sector</p> <ul style="list-style-type: none"> <li>• Knowledge and/or familiarity with Vietnam and willing to travel to the project sites located in any part of the country</li> <li>• Strong and demonstrated capacity for organisation, management with excellent reporting and coordination skills</li> <li>• Strong leadership, technical competence and professional skills for timely implementation, coordination and management of activities</li> <li>• Strong interpersonal and communications skills, resourcefulness, initiative, tact and ability to cope with any situation especially Asian culture</li> <li>• Openness to change and ability to receive/integrate feedback</li> </ul>
<p>3. Domestic Power Sector Experts (minimum 1, maximum 2 members)</p>	<p><b>Education:</b> Master's degree in electrical power system engineering, electrical engineering, physics or equivalent.</p> <p><b>Experience:</b></p> <ul style="list-style-type: none"> <li>• At least 10 years of working experience in the field of Viet Nam's Power Sector and Consultant (i.e. with proven experiences in Power system operation and regulatory framework).</li> <li>• At least 5 years of working experience in the field of Viet Nam's Smart Grid development or related field.</li> <li>• Deep knowledge on Viet Nam's Smart Grid Road Map legal framework and its development progress.</li> <li>• Profound knowledge of the legal and regulatory framework on the power system in Viet Nam.</li> <li>• Excellent network of contacts and profound knowledge of energy stakeholders in Viet Nam (Power distribution system, SCADA, DMS, GIZ, SGI, IT and metering infrastructure, etc.).</li> <li>• Intensive experience of working with power system operators (EVN/NLDC, PCs), regulators (ERAV, EREA/MOIT).</li> </ul> <p><b>Other requirements</b></p> <ul style="list-style-type: none"> <li>• Experience as advisors in international development cooperation projects (i.e. GIZ, WB, ADB, UNDP, etc.).</li> <li>• Experience of working in politically sensitive contexts.</li> <li>• Experience in (high-level) policy advisory in the energy/power system sector.</li> <li>• Experience in developing and drafting comprehensive reports, preparing materials and implementing workshops and seminars, administrative experience in handling of contracts, etc.</li> <li>• Ability to work in a multi-lingual, multicultural, and multi-disciplinary team.</li> <li>• Excellent command of Vietnamese and English (both written and oral form).</li> </ul>

36. Considering the importance of close coordination with stakeholders in Vietnam, it is expected that the team proposed consists of consultant(s) who understands the local context in Vietnam.

37. 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, liaising with UNOPS on submission of invoice and payment-related documents.

## B. Evaluation Criteria

### Eligibility and Formal Criteria

38. The criteria contained in the table below will be evaluated on Pass/Fail basis and checked during 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"> <li>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.</li> <li>Form B: Proposal Submission Form</li> </ul>
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"> <li>All documentation as requested under Instructions to Offerors Article 10, Documents Comprising the Proposals</li> </ul>
3. Offeror accepts UNOPS General Conditions of Contract as specified in Section IV: Contract Forms	<ul style="list-style-type: none"> <li>Form B: Proposal Submission Form</li> </ul>

### Qualification Criteria

39. The criteria contained in table below will be evaluated on Pass/Fail basis and checked during 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"> <li>Certification of incorporation of the Offeror</li> <li>Form F: Performance Statement Form</li> </ul>

Criteria	Documents to establish compliance with the criteria
<p>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.</p> <p>In case of JV, the customer references of JV members can be combined</p>	<ul style="list-style-type: none"> <li>Form F: Performance Statement Form</li> </ul>

### Technical Criteria

40. Technical evaluation will be carried out to bids that pass the eligibility, formal and the 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

### 41. Technical proposal points allocation

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

**Section 1: Offeror’s qualification, capacity and expertise**

<b>Section 1: Offeror’s qualification, capacity and expertise</b>		<b>Points</b>	<b>Sub-points</b>
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. Bidders partnering up with a Vietnamese entity to provide for the strategic consultation, translations; as well as the communications expertise is considered a valuable asset.	15	
	1. Experience in projects of comparable size, type, complexity and technical specialty		5
	2. Experience in providing similar services in the region, especially Vietnam		5
	3. Understanding of local context, and partnering up with a Vietnamese entity to provide for the strategic consultation, translations; as well as the communications expertise		5
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 minimum annual turnover of 150,000 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
<b>Total points for section</b>		<b>20</b>	

## 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, and methodology for meeting or exceeding the requirements of the Terms of Reference	25	
	1. Description of the offeror's approach to identification of data sources, scenarios, issues for the deep-dive in the analysis and providing guidance to the government policy makers		5
	2. Description of the offeror's approach to assessment of the energy sector in Vietnam, International review of emission reduction technologies, demand assessment, supply-side assessment and scenarios		12
	3. Description of the offeror's approach to development of 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		8
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	5	
	1. Bidder submits a detailed implementation timeline which includes detailed activities to be undertaken during this assignment, and is completed with gantt chart		5
<b>Total points for section</b>		<b>35</b>	

### Section 3: Key personnel proposed and Sustainability Criteria

Section 3: Key personnel proposed and Sustainability Criteria		Points	sub-points
3.1	Qualifications of key personnel proposed aligned with the Terms of Reference	20	
	1. Project lead		8
	2. International Power Sector Experts		6
	3. Domestic Power Sector Experts		6
3.2	The bidder shall provide a response that demonstrates its commitment to support gender equality through its operations	5	
<b>Total points for section</b>		<b>25</b>	

## Annex 1. Donor Mapping - Energy Grid

**Table 1.** Relevant programs/ projects on Enrgy Grid

Name of Organization	Topic and detailed activity
<b>WB</b>	<p><a href="#">Vietnam Renewable Energy Development Project (REDP)</a></p> <p>The REDP's carbon finance operations will be based on a scalable Program of Activity to develop renewable energy projects and reduce transaction costs.</p>
<b>ADB</b>	<p><a href="#">Renewable Energy Development and Network Expansion and Rehabilitation for Remote Communes Sector Project</a></p> <p>The primary objective of the sector Project is to develop rural electrification and renewable energy in Vietnam, with a focus on improving the energy grid in remote and poorer areas inhabited by ethnic minority communities.</p>
<b>JICA</b>	<p><a href="#">Data Collection Survey on Power Sector in Vietnam</a></p> <p>The survey assesses long-term assistance for Vietnam's power sector, focusing on grid impact and grid integration recommendations.</p>
<b>GIZ</b>	<p><a href="#">Smart Grids for Renewable Energy and Energy Efficiency (SGREEE)</a></p> <p>The SGREEE project supports Vietnam's Smart Grid Roadmap for modernizing and automating the national power system.</p>
<b>USAID</b>	<p><a href="#">USAID VIETNAM LOW EMISSION ENERGY PROGRAM II (V-LEEP II)</a></p> <p>USAID V-LEEP II aims to deploy advanced energy systems, improve energy sector performance with grid integration, increase competition, and promote innovation in Vietnam's energy sector.</p>