REQUEST FOR PROPOSAL (RFP)

(From Vietnamese firms/institutes/organizations)

NAME of service:	DATE: December 29, 2022
A national consulting firm/institution and two international consultants for an assessment of scenarios of taking coal-thermal power generation in Viet Nam to net-zero greenhouse gas (GHG) emissions by 2050, in two phases	REFERENCE: **2-221003**

Dear Sir / Madam:

We kindly request you to submit your Proposal for the ***assessment of scenarios of taking coal-thermal power generation in Viet Nam to net-zero greenhouse gas (GHG) emissions by 2050, in two phases.***

Please be guided by the form attached hereto as Annex 2, in preparing your Proposal.

Proposals may be submitted on or before **Thursday, January 12, 2023** and via email to the address below:

United Nations Development Programme
304 Kim Ma Street, Ha Noi, Viet Nam
Ms. Luu Ngoc Diep, Procurement Associate
Bidding.vn@undp.org

Note:

- *Submission email sent to this email address should indicate the tender's reference number.*
- *Please send a separate email (without attachment) to procurement.vn@undp.org notifying that you already submitted proposal and the number of email(s) submitted. Notification email should be sent to above address by submission deadline or right after you submit proposals.*
- *UNDP will acknowledge receipt of the proposals within 2 working days from the submission deadline. In case you do not receive acknowledgement, please contact us within 3 working days after submission deadline.*
- *Maximum size per email: **30 MB**. Bidders can split proposals into several emails if the file size is large.*

Your Proposal must be expressed in the English language, and valid for a minimum period of **120 days from the date of bid submission deadline.**

In the course of preparing your Proposal, it shall remain your responsibility to ensure that it reaches the address above on or before the deadline. Proposals that are received by UNDP after the deadline indicated above, for whatever reason, shall not be considered for evaluation. If you are submitting your Proposal by email, kindly ensure that they are signed and in the .pdf format, and free from any virus or corrupted files.

Services proposed shall be reviewed and evaluated based on completeness and compliance of the Proposal and responsiveness with the requirements of the RFP and all other annexes providing details of UNDP requirements.

The Proposal that complies with all of the requirements, meets all the evaluation criteria and offers the best value for money shall be selected and awarded the contract. Any offer that does not meet the requirements shall be rejected.

Any discrepancy between the unit price and the total price shall be re-computed by UNDP, and the unit price shall prevail, and the total price shall be corrected. If the Service Provider does not accept the final price based on UNDP's re-computation and correction of errors, its Proposal will be rejected.

No price variation due to escalation, inflation, fluctuation in exchange rates, or any other market factors shall be accepted by UNDP after it has received the Proposal. At the time of Award of Contract or Purchase Order, UNDP reserves the right to vary (increase or decrease) the quantity of services and/or goods, by up to a maximum twenty-five per cent (25%) of the total offer, without any change in the unit price or other terms and conditions.

Any Contract or Purchase Order that will be issued as a result of this RFP shall be subject to the General Terms and Conditions attached hereto. The mere act of submission of a Proposal implies that the Service Provider accepts without question the General Terms and Conditions of UNDP, herein attached as Annex 3.

Please be advised that UNDP is not bound to accept any Proposal, nor award a contract or Purchase Order, nor be responsible for any costs associated with a Service Providers preparation and submission of a Proposal, regardless of the outcome or the manner of conducting the selection process.

UNDP's vendor protest procedure is intended to afford an opportunity to appeal for persons or firms not awarded a Purchase Order or Contract in a competitive procurement process. In the event that you believe you have not been fairly treated, you can find detailed information about vendor protest procedures in the following link: http://www.undp.org/content/undp/en/home/operations/procurement/business/protest-and-sanctions.html

UNDP encourages every prospective Service Provider to prevent and avoid conflicts of interest, by disclosing to UNDP if you, or any of your affiliates or personnel, were involved in the preparation of the requirements, design, cost estimates, and other information used in this RFP.

UNDP implements a zero tolerance on fraud and other proscribed practices, and is committed to preventing, identifying and addressing all such acts and practices against UNDP, as well as third parties involved in UNDP activities. UNDP expects its Service Providers to adhere to the UN Supplier Code of Conduct found in this link :

https://www.un.org/Depts/ptd/sites/www.un.org.Depts.ptd/files/files/attachment/page/pdf/unscc/conduct_english.pdf

Thank you and we look forward to receiving your Proposal.

Sincerely yours,
Tran Thi Hong
Head of Procurement Unit
12/29/2022

Annex 1

Description of Requirements

Context of the Requirement	Please refer to the attached Terms of Reference (TOR)
Implementing Partner of UNDP	Please refer to the attached TOR
Brief Description of the Required Services[1]	(TOR is attached in this Annex)
List and Description of Expected Outputs to be Delivered	Please refer to the TOR
Person to Supervise the Work/Performance of the Service Provider	Please refer to the attached TOR
Frequency of Reporting	Please refer to the attached TOR
Progress Reporting Requirements	Please refer to the attached TOR
Location of work	☒ Hanoi with travel to the selected sites in Viet Nam ☒ At Contractor's Location
Expected duration of work	11 months (3 months for phase 1 and 8 months for phase 2) from January 2023 to September 2023
Target start date	1. Phase 1: January – March 2023 2. Phase 2: March – September 2023
Latest completion date	3. Phase 1: 15 March 2023 4. Phase 2: 30 September 2023
Travels Expected	Please refer to the attached TOR
Special Security Requirements	☐ Security Clearance from UN prior to travelling ☐ Completion of UN's Basic and Advanced Security Training ☐ Comprehensive Travel Insurance ☐ Others *[pls. specify]*
Facilities to be Provided by UNDP (i.e., must be excluded from Price Proposal)	☐ Office space and facilities ☐ Land Transportation ☐ Others *[pls. specify]*
Implementation Schedule indicating breakdown and timing of activities/sub-activities	☒ Required ☐ Not Required
Names and curriculum vitae of individuals who will be involved in completing the services	☒ Required ☐ Not Required
Currency of Proposal	☒ United States Dollars ☐ Euro ☒ Vietnamese Dongs

[1] *A detailed TOR may be attached if the information listed in this Annex is not sufficient to fully describe the nature of the work and other details of the requirements.*

Value Added Tax on Price Proposal[2]	☒ must be inclusive of VAT and other applicable indirect taxes ☐ must be exclusive of VAT and other applicable indirect taxes
Validity Period of Proposals ***(Counting from the date of submission deadline)***	☐ 60 days ☐ 90 days ☒ 120 days In exceptional circumstances, UNDP may request the Proposer to extend the validity of the Proposal beyond what has been initially indicated in this RFP. The Proposal shall then confirm the extension in writing, without any modification whatsoever on the Proposal.
Partial Quotes	☒ Not permitted ☐ Permitted
Payment Terms[3]	☒ As indicated in the attached TOR ☒ Condition for Payment Release: ***Within thirty (30) days from the date of meeting the following conditions:*** • UNDP's written acceptance (i.e., not mere receipt) of the quality of the outputs; and • Receipt of invoice from the Service Provider.
Person(s) to review/inspect/ approve outputs/completed services and authorize the disbursement of payment	Please refer to the attached TOR
Type of Contract to be Signed	☐ Purchase Order ☐ Institutional Contract ☒ Contract for Professional Services ☐ Long-Term Agreement[4] ☐ Other Type of Contract *[pls. specify]*
Criteria for Contract Award	☒ Highest Combined Score (based on the 70% technical offer and 30% price weight distribution) ☒ Full acceptance of the UNDP Contract General Terms and Conditions (GTC). **This is a mandatory criterion and cannot be deleted regardless of the nature of services required. Non-acceptance of the GTC may be grounds for the rejection of the Proposal.**
Criteria for the Assessment of Proposal	Proposal shall be considered technically qualified if it achieves minimum 70% of total obtainable technical points. **Weight of technical and financial point:** **Technical Proposal (70%)** ☒ Expertise of the Firm (25%)

[2] *VAT exemption status varies from one country to another. Pls. check whatever is applicable to the UNDP CO/BU requiring the service.*

[3] *UNDP preference is not to pay any amount in advance upon signing of contract. If the Service Provider strictly requires payment in advance, it will be limited only up to 20% of the total price quoted. For any higher percentage, or any amount advanced exceeding $30,000, UNDP shall require the Service Provider to submit a bank guarantee or bank cheque payable to UNDP, in the same amount as the payment advanced by UNDP to the Service Provider.*

[4] *Minimum of one (1) year period and may be extended up to a maximum of three (3) years subject to satisfactory performance evaluation. This RFP may be used for LTAs if the annual purchases will not exceed $150,000.00.*

	☒ Methodology, Its Appropriateness to the Condition and Timeliness of the Implementation Plan (25%) ☒ Management Structure and Qualification of Key Personnel (50%) **Financial Proposal (30%)** To be computed as a ratio of the Proposal's offer to the lowest price among the proposals received by UNDP. Please refer to the Evaluation Criteria for further details.
UNDP will award the contract to:	☒ One and only one Service Provider ☐ One or more Service Providers, depending on the following factors:
Contract General Terms and Conditions[5]	☐ General Terms and Conditions / Special Conditions for Contract. ☐ General Terms and Conditions for de minimis contracts (services only, less than $50,000) ☐ General Terms and Conditions for Works Applicable Terms and Conditions are available at: http://www.undp.org/content/undp/en/home/procurement/business/how-we-buy.html
Annexes to this RFP[6]	☒ Terms of Reference & Evaluation Criteria (attached to this Annex) ☒ Proposal Submission Form (Annex 2) ☒ Submission checklist (Annex 3)
Contact Person for Inquiries (Written inquiries only)[7]	*Luu Ngoc Diep (Ms.)* *Procurement Associate* *Luu.ngoc.diep@undp.org* Any delay in UNDP's response shall be not used as a reason for extending the deadline for submission, unless UNDP determines that such an extension is necessary and communicates a new deadline to the Proposers.
Other Information *[pls. specify]*	**Bidders are responsible for checking the UNDP website:** https://procurement-notices.undp.org/ for any addenda and updated deadline to this Request for Proposals. UNDP reserves the right to post addenda up to the closing date for submissions. Hence bidders are advised to check the UNDP website frequently prior to submitting their proposal.

[5] *Service Providers are alerted that non-acceptance of the terms of the General Terms and Conditions (GTC) may be grounds for disqualification from this procurement process.*
[6] *Where the information is available in the web, a URL for the information may simply be provided.*
[7] *This contact person and address is officially designated by UNDP. If inquiries are sent to other person/s or address/es, even if they are UNDP staff, UNDP shall have no obligation to respond nor can UNDP confirm that the query was received.*

TERMS OF REFERENCE

Name of service:	**A national consulting firm/institution** and **two international consultants** for an assessment of scenarios of taking coal-thermal power generation in Viet Nam to net-zero greenhouse gas (GHG) emissions by 2050, in two phases		
Reporting to:	UNDP Head of Climate Change and Environment		
Duty Station:	Hanoi and Home based	**Travel Required:**	Travel to the selected sites
Duration of Assignment:	11 months (2.5 months for phase 1 and 6.5 months for phase 2)		
Start Dates:	Upon contract signing: Phase 1: 1.2023 Phase 2: 16.03.2023	**End Dates:**	Phase 1: 15.03.2023 Phase 2: 30.09.2023

BACKGROUND & PROJECT DESCRIPTION

Climate change mitigation to reach the global target of the Paris Agreement under the United Nations Framework Convention on Climate Change (UNFCCC) of maximum 2 degrees Celsius average global warming and preferably no more than 1.5°C compared to pre-industrial levels[11] is not possible without a significant contribution by developing countries such as Viet Nam. The decarbonization of the energy sector plays a crucial role in this, globally as well as in Viet Nam. Reducing emissions in energy production and consumption is critical for getting to the target of net-zero emissions by 2050 and other commitments made by Viet Nam in 2021 at the UNFCCC's 26th Conference of Parties (COP26).

Several organisations have started to analyse the energy transition in Viet Nam, and what it would take to make it a "socially just energy transition"[12]. These look at how an energy transformation can be realised in a socially-just manner and how such energy transformation can be politically accepted and implemented.

The energy transition towards the global and national targets on greenhouse gas (GHG) emissions reduction is technically feasible, although some required technologies are not fully mature yet. The challenge is to satisfy

[11] https://unfccc.int/sites/default/files/english_paris_agreement.pdf
[12] See e.g.: Neefjes, Koos, Ngo Thi To Nhien. 2021. *Prospects for a socially just energy transition in Viet Nam: 2021 and beyond*. Hanoi: Friedrich-Ebert-Stiftung Viet Nam Office, April 2021. http://library.fes.de/pdf-files/bueros/vietnam/18201-20210907.pdf

future energy demand while reducing GHG emissions rapidly, starting with the best available techniques (BAT). The techniques will include (a) deployment of large capacities of variable renewable energy (VRE) such as solar PV and wind power in the electricity system, combined with strongly increased energy storage (chemical, mechanical and heat storage), (b) continued fossil fuel use in heavy industry and some power generation capacity that would be combined with carbon capture, use and storage (CCUS), (c) application of new technologies such as green hydrogen in industry and (heavy) transport, and (d) transformation of road transport from internal combustion (IC) engines to electric motors.

Such technological shifts have many implications. There will be large costs in for example decommissioning of existing coal-thermal power plants and (later) also coal mines, with advantages to the environment but disadvantages for workers and businesses such as declining employment and business opportunities while unable to access new opportunities. Electric vehicles (EVs) will reduce the demand for maintenance of vehicles quite dramatically, with job-losses as a result as well, whereas new jobs will be very different and oriented primarily on information technology (IT) / electronics instead of mechanics. An EV revolution will also increase electricity demand. Heavy industry and thermal power generation capacity that remains dependent on coal or LNG would have to be combined with CCUS, which is still very expensive as well as energy intensive. Workers are needed in new industries, such as manufacture of VRE equipment, energy storage equipment and facilities, and EVs manufacture, maintenance and operation which requires training of women and men of different ages.

Many experts agree that a just energy transition is financially and economically viable. This has been demonstrated by a recent investment boom in VRE in Viet Nam that was largely driven by private sector capital. Studies demonstrate that electricity generated from renewable energy sources is already cheaper than energy derived from fossil fuels, especially when taking into account hidden fossil fuel subsidies as well as harmful effects on health and environment (externalities). Power sector modelling demonstrates a long-term viable path of increased energy efficiency (EE) and VRE that would not lead to costlier electricity, and it might increase economic growth as a result of technological modernization and increased economic efficiencies. "Green finance" is emerging in many countries and also in Viet Nam. Carbon prices through taxes and/or emissions trading systems (ETS) provide signals to markets to increase green investment. And there are numerous other policy instruments that can help financing of a just energy transition by the private sector and consumers, sometimes with public investment or subsidies, or in public-private partnerships (PPPs). Some costs will require State involvement, in particular where it concerns support to businesses and workers who must carry the burden of some of the disadvantages of the transition. These will include interest groups that may also resist the changes[13].

Viet Nam has enabled the expansion of VRE, but VRE deployment has recently been halted as new energy policy is being formulated. The policy framework is supportive for a just energy transition, including Resolution No. 55 on the country's strategic orientations for energy development, the updated Nationally Determined Contribution (NDC) to the Paris Agreement, and Viet Nam's commitments made at COP26. Viet Nam has issued the National Climate Change Strategy for the period to 2050 (NCCS) in July 2022. But the policy framework is also incomplete. The forthcoming energy policies such as national energy development planning and the power development plan nr 8 (PDP8) are yet to be issued. Power sector reform must lead to competitive retail markets but is still incomplete. The Electricity Law and other laws are expected to be revised, and a law on climate change is expected to be formulated (according to the NCCS) which would need

[13] See e.g., Neefjes and Ngo Thi To Nhien

to reflect Viet Nam's commitments such as those made at COP26. In support of most of those policy formulation processes substantial analytical work has been undertaken whereas some is ongoing, by national experts and institutions as well as some international development partners. This is occasionally shared and discussed in forums such as the Viet Nam Energy Partnership Group (VEPG) and the Energy Transition Council (ETC).

One of the most complex, costly and controversial "elements" in the just energy transition will be about the decommissioning and re-purposing of coal-thermal powerplants, their transformation from fossil fuel-based power stations to stations that run on alternative fuels such as natural gas or thermal energy generated from VRE, and/or their refurbishing with end-of-pipe carbon capture technology for use and storage elsewhere. This will affect owners of those power plants, managers, workers and communities of and near those power plants (including their solid waste facilities / landfills), mining and miners in other locations, local authorities that receive tax from local enterprises, and it will affect infrastructure and transport services. There may also be advantages other than reduction of GHG emissions and local environmental improvements, as air pollution and coal-dust nuisance will be eliminated, and because redevelopment of certain sites may deliver valuable land and can spur new economic activity, even if it involves polluted land. These potential revenues need to be accounted in analysis and planning of the trajectory of decommissioning, repurposing and/or refurbishing of coal-thermal power plants.

Currently, overall analysis is taking place by the Energy Transition Partnership (ETP) of the effects of potential decommissioning of the 26 coal-thermal power plants in Viet Nam that are owned by State-owned Enterprises (SoEs) (EVN, PVN and Vinacomin). This includes analysis of scenarios of decommissioning of these 26 plants, perhaps in sub-groups, and analysis of the general technical, financial and legal aspects. In addition, Viet Nam has 12 coal-thermal power plants that are "build, operate and transfer" (BOT) and four owned by independent power producers (IPP).

There is a possibility that international Development Partners (DPs) will provide funding for overcoming some of the disadvantages and help to create opportunities from decommissioning, repurposing and/or refurbishing of specific coal-thermal power plants. However, agreeing that Viet Nam will actually do that and that the DPs will support that will require in depth analysis and a bankable plan. Analysis and planning must include (a) social-economic costs and benefits especially for owners, managers and workers; (b) environmental costs and benefits; (c) technical options regarding decommissioning, repurposing and/or refurbishing; (d) financial needs and returns of the preferred plan for decommissioning, repurposing and/or refurbishing of a specific coal-thermal power plant; and (e) legal aspects, as existing permits and contracts have to be revoked or altered.

To assess the coal-power situation and analyse scenarios of its transformation towards net-zero emissions by 2050, UNDP is looking for a national consulting firm/institution or consortium as well as 3 international experts:

1. **National consulting firm/institution** with a national co-Team Leader and experts, with knowledge and experience of: i) power generation and transmission planning; ii) climate change/energy and environmental impact assessment; iii) thermal power generation technology, renewable power generation technology, transmission and storage technologies, as well as CCUS; iv) legal, contractual issues; v) finance and economics, especially financing of energy asset decommissioning, repurposing and/or refurbishing; vi) social and labour issues, and (local) area development (repurposing of land);

2. **International energy and climate change expert (IE1)**, with expertise and experience of energy and climate change policy and practice in Viet Nam and globally (co-Team Leader who is already engaged by UNDP)
3. **International energy technology expert (IE2)**, with expertise and experience of coal-thermal power technology and (renewable) alternatives, as well as carbon capture, use and storage (CCUS)
4. **International social-economics expert (IE3)**, with expertise and experience of industrial restructuring, including employment and regional development aspects

OBJECTIVES

The overall objective is *to assess current and planned coal-thermal electricity generation in Viet Nam and assess scenarios of taking coal-thermal power generation in Viet Nam to net-zero GHG emissions by 2050, and formulate bankable proposals for decommissioning, repurposing and/or refurbishing of two coal-thermal power plants.*

The scenario assessment will include assessment of approximate costs and benefits based on international experience, according to different power planning scenarios and what those will mean for coal power as Viet Nam transitions to net-zero by 2050. This will be informed by the ETP scenario analysis of 26 SoE power plants and must (also) include the existing BOT and IPP power plants. The (possibly three) scenarios must include general measures for different (groups of) existing coal-thermal power plants including decommissioning and redevelopment of the sites, or transformation to other forms of energy generation, energy storage, and/or adding CCUS. All scenarios must lead to net-zero GHG emissions by 2050 and ensure adequate power supply in all regions of Viet Nam, but they would constitute different proportions and timing of plants that will be decommissioned, transformed, or refurbished, e.g., with CCUS or alternative energy sources.

Different costs and benefits will occur at different times over the period to 2050, and the scenarios are likely to have different costs and benefits. Key activities within each of the scenarios would constitute a roadmap 2022-2050. The activities early on in the scenarios/ roadmaps, e.g., the period to 2030 would need to be articulated in more detail than activities in later stages, including in-depth analysis of some specific plants proposed for decommissioning or transformation before 2030, as the ETP study is also doing for the 26 SoE plants.

The in-depth analysis and formulation of two plans for decommissioning, repurposing and/or refurbishing of two plants will include assessment of the social-economic and environmental costs and benefits to different stakeholders of the transition, including: (a) the State; (b) local authorities (who e.g. receive company tax from local power plants); (c) the owners of the two coal-thermal power plants (SoEs and/or BOT and IPP plants); (d) managers, workers, and local companies/ services that depend on the plants; and (e) communities near the power plants.

The analysis will first inform a number of options, for decommissioning, repurposing and/or refurbishing of two plants: there will be different ways of making redevelopment profitable, or for example of making use of the existing power transmission capacity by replacing the coal-thermal power plants with energy storage capacity. Subsequently there will be in-depth analysis and formulation of a bankable plan. This will require expertise on: i) power generation and transmission planning; ii) climate change/energy and environmental impact assessment; iii) thermal power generation technology, renewable power generation technology, transmission and storage technologies, as well as CCUS; iv) legal, contractual issues; v) finance and economics,

especially financing of energy asset decommissioning, repurposing and/or refurbishing; vi) social and labour issues, and (local) area development (repurposing of land).

The data collection and analysis will be phased, with an inception report including preliminary analysis based on easily accessible general sources in Phase 1. In Phase 2 the general modelling will be done, and, in parallel, data collection, field visits and in-depth analysis of the two specific plants. The Phase 2 general Modeling outputs must include details needed for implementation in the period to 2030. The formulation of bankable proposals for decommissioning, repurposing and/or refurbishing must be based on consideration of different options for those facilities and detailed plans for financing and implementation of the preferred option.

SCOPE OF WORK

The consultancy is expected to be delivered by the team of national and international experts, led by the two co-Team Leaders. The team members supply inputs and reviews at different stages.

III. 1. Main tasks

The main tasks to be implemented jointly by the national team and international experts, are as follows:

Phase 1

Prepare an inception report with detailed workplan, outline of deliverables for the whole team in consultation and agreement with UNDP and Government representatives. [Deliverable 1] To be discussed in an inception workshop with those main stakeholders.

Undertake analysis of international best available technology (BAT) for coal-power plant decommissioning and repurposing of the local site, or substituting with alternative (renewable) power sources, transformation to different energy sources including green Hydrogen or green Ammonia, and/or CCUS linked to thermal-power generation.

1.1. Analysis of experience with coal-power decommissioning, transformation to different energy sources, and CCUS linked to thermal-power generation.

1.2. Case studies of overall (national) action plans of phasing out coal power (emissions).

1.3. Case studies of decommissioning, repurposing of power plant (sites), and/or refurbishment of power generation units with alternative energy sources or grid-managed energy storage.

1.4. This will be documented as a stand-alone report and deliverable by the international experts with some inputs by the national experts. [Deliverable 2]

Review independent, national and international analyses of the costs, benefits and externalities of energy transition in Viet Nam, including coal-power phase-out scenarios and stakeholder analysis. This should include

1.5. Analysis of scenarios with decommissioning/ repurposing and/or refurbishing coal-thermal power plants by the ETP, including alternatives of low emission technology such as LNG during the transition, displacing coal with VRE or biomass/Ammonia, and (end-of-pipe) CCUS, repurposing sites for energy storage, and repurposing sites for non-energy purposes.

1.6. General stakeholder analysis regarding decommissioning, repurposing and/or refurbishing of coal-thermal power plants, including: (a) the State; (b) local authorities; (c) the owners of the coal-

thermal power plants; (d) managers, workers, and local companies/ services that depend on power plants; and (e) communities near power plants.

1.7. This will be documented together with the results of task 4. as a stand-alone report and deliverable by the national experts with some inputs by the international experts [Deliverable 3], and summarised in a Powerpoint presentation for a workshop with different stakeholders [Deliverable 4]

Review the (latest draft) Power Development Planning 8 (PDP8) and its full technical report, regarding coal-power and all thermal power

1.8. Analyse the main scenarios used for PDP8 formulation including the preferred (decided) scenario, and underlying analysis as regards thermal power generation.

1.9. Articulate implications of PDP8 for an overall roadmap of transitioning of coal-power generation capacity over the period to 2050.

1.10. This will be documented together with the results of task 3. as a stand-alone report and deliverable by the national experts with some inputs by the international experts. [Deliverable 3], and summarised in a Powerpoint presentation for a workshop with different stakeholders [Deliverable 4]

<u>Phase 2</u>

Undertake characterisation of the current Vietnamese coal power plants and modelling of alternative phase-out scenarios for the period to 2050.

1.11. Grouping of existing and under-construction/ planned coal-thermal as well as other thermal plants as per the approved or latest draft PDP8, for expected challenges and possible types of actions, including decommissioning, repurposing of power plant (sites), and/or refurbishment to other forms of energy, and adding CCUS to coal-thermal power plants.

1.12. Articulation of about 3 scenarios of the thermal power sector moving towards net-zero and phasing out coal by 2050, including the preferred PDP8 scenario (as decided for PDP8) in regard of coal power and other thermal power, and two alternative scenarios that would also lead to net-zero emissions from thermal power but with different proportions of coal-thermal power plant decommissioning, repurposing and/or refurbishing. These scenarios must be informed by scenario assumptions made in the ETP research and will include SoE owned power plants, as well as IPP and BOT plants.

1.13. In-depth analysis of stakeholders who may be affected by the transition, including, among others, the State; provincial authorities; owners/ shareholders of plants (SoE, BOT and IPP); coal-power plant managers, workers; coal miners; coal suppliers and transporters; local communities; local service suppliers.

1.14. Estimate of expected overall system costs over the period 2021-2030 and 2031-2050 per scenario, as well as expected effect on electricity generation cost over the period.

1.15. Discuss findings with key stakeholders, including experts and representatives of the Ministry of Industry and Trade (MOIT), the Ministry of Natural Resources and Environment (MONRE), the

Ministry of Foreign Affairs (MOFA), the Ministry of Planning and Investment (MPI), some local authorities, CMSC, EVN, PVN and Vinacomin units, BOT&IPP owners.

1.16. This will be documented as a stand-alone report [Deliverable 5] and summarised in a PowerPoint Presentation [Deliverable 6] of the national team with international expert inputs.

Note:

The scenario analysis will include assessment of the challenges, costs, benefits and proposed mitigation measures under the 3 scenarios because the packages of measures for certain (groups of) coal-thermal power generation units will be different:

i) Decommissioning of some existing coal-thermal powerplants, for which alternative generation capacity is needed (somewhere in the electricity system).

ii) Re-purposing of land of decommissioned coal-thermal powerplants and their solid waste facilities, which may deliver valuable assets and can spur new economic activity, even while considering that soil at those sites may be very polluted and not suitable for all land use purposes.

iii) Transformation/cofiring of some existing coal-thermal powerplants to LNG, biomass or biogas power generators, green hydrogen or green ammonia, and/or alternatives such as thermal energy from VRE to generate steam; and/or transformation to grid-managed energy storage units.

iv) Refurbishing of some coal-thermal power plants with end-of-pipe carbon capture for use and storage elsewhere (CCUS) (initially as pilots and expected especially in the period from 2031 onwards).

The transition will affect stakeholders differently which will prompt different social-economic actions by the State or local authorities and some business sector operators, which must be reflected in analysis of overall social and economic costs and benefits of the coal-power transition as well as analysis of specific individual plants. Below are indications of impacts which must be assessed:

i) The State and provincial authorities may face revenue losses unless the power production capacity is replaced by similar power production capacity and tax revenue.

ii) The owners / shareholders of the coal power plants may face loss of capital / productive assets in cases where the plants are still operating within their economic lifetimes at the time of decommissioning or transformation, and potential benefits from repurposing of land including waste landfills.

iii) Several (other) businesses may be negatively affected by the transition, including coal suppliers and transporters, who may need support or compensation.

iv) Coal power plant managers, workers and possibly coal miners will be negatively affected by the transition and may need re-training and/or benefit from alternative employment generation.

v) Local communities and service suppliers near power plants are potentially negatively affected by the transition and may also need support or compensation.

Undertake in-depth assessment, planning and bankable proposal writing of the decommissioning, repurposing of sites, and/or refurbishment to other forms of energy of two coal power plants, for implementation in the period to 2030.

1.17. Detailed analysis of stakeholders in each power plant who may be affected by the transition, including, among others, the State; provincial authorities; owners/ shareholders of plants; coal-power plant managers and workers; coal miners; coal suppliers and transporters; local communities; local service suppliers.

1.18. Initial data collection and analysis of technical, legal, financial, social-economic and environmental aspects to formulate options for decommissioning, repurposing of sites, and/or refurbishment to other forms of energy generation and/or storage.

1.19. Multi-criteria analysis to agree the preferred option for decommissioning, repurposing of sites, and/or refurbishment to other forms of energy generation and/or storage.

1.20. Detailed articulation of the preferred option into financially, technically and legally feasible proposals for decommissioning, repurposing and/or refurbishing for each of the two coal-thermal power plants, that will offer benefits for local economic development and workers as well as environmental benefits. With detailed assessment of social economic cost and benefits to all key stakeholders of the measures that are proposed for each plant.

1.21. This will be documented in two dossiers [Deliverables 7 and 8] and summarised in a PowerPoint presentation [Deliverable 9] of the national team with international expert inputs.

Provide a Summary for Policy Makers of the international experience report, the review analyses of the costs, benefits and externalities of energy transition in Viet Nam, the scenario report re transformation of coal power plants, and the bankable proposals for the decommissioning of the two plants.

1.22. This will be documented by the International energy and climate change expert / Co-Team Leader with inputs of the national team and the international experts [Deliverable 10].

Participate in two half day workshops (Inception and at the end of Phase 1) and a final half day workshop with key stakeholders (towards the end of Phase 2) in person in Hanoi and/or virtually.

1.23. Include representatives of MOIT, MONRE, MOFA, MPI, MOF, some local authorities, CMSC, SoEs with coal-thermal power in their portfolios (EVN, PVN and Vinacomin units), representatives of BOT and IPP plant owners, representatives of energy sector financiers (commercial banks), as well as representatives of NGOs and Development Partners.

1.24. Possibly in cooperation with the VEPG in which the outputs are shared and discussed.

III.2. Specific tasks per expert

The experts of the national firm/institution and the international experts are jointly responsible for the above main tasks and reporting. Each expert will be responsible for specific parts of the analysis and documentation with reference to the main tasks (above) and deliverables (see overview in table and detail further below):

- *The symbol L means the expert will be the lead/co-lead to deliver the tasks.*

- *The symbol C means the expert will be the contributor to deliver the tasks*

Experts Main Tasks	NE-TL	National Experts	IE1-TL	IE2	IE3
Phase 1					
1. Inception report (Deliverable 1).	L	C	C	C	C
2. International best available technology (BAT) coal-power plant decommissioning and repurposing, or substituting with alternative power sources (Deliverable 2).	C	C	L	C	C
3. Review of analyses of the costs, benefits and externalities of energy transition in Viet Nam, including coal-power phase-out (Deliverables 3 and 4).	L	C	L	C	C
4. Review the (draft) Power Development Planning 8 (Deliverables 3 and 4)	L	C	L	C	C
Phase 2					
5. Characterisation of the current Vietnamese coal-thermal power plants and modelling of alternative phase-out scenarios for the period to 2050 (Deliverables 5 and 6).	L	C	C	C	C
6. In-depth assessment and bankable proposal writing for 2 coal power plants transitions (Deliverables 7, 8 and 9)	L	C	C	C	C
7. Summary for Policy Makers of Deliverables 2, 3, 5, 7 and 8 (Deliverable 10).	C	C	L	C	C
8. Participate in a consultation workshop and a final workshop with key stakeholders (Use Deliverables 2, 6, 9 and 10).	L	C	L	C	C

III.2.1. National consulting firm/institution:

The National consulting firm/institution will make available a team of national experts who will be responsible for the following tasks. This will include a national Team Leader as well as 4-6 national experts in different fields, from the consulting firm/institution, other consortium members, or subcontractors

National energy expert, co-Team Leader (NE1)

- **Responsible** for overall management of the assignment, ensuring coherence of approach and adequacy to the needs, the objectives of the assignment and delivering timely quality outputs and deliverables (*with the international energy and climate change expert/ Co-Team Leader)*.
- **Lead** on the inception report including detailed workplan (deliverable 1), and main tasks 5 and 6 (deliverables 5, 6, 7, 8 and 9) *(with inputs by all national and international experts)*.
- **Co-lead** on the main tasks 3, 4 and 8 (*with the international energy and climate change expert/ co-Team Leader)* (contribution to deliverables 3 and 4) *(with inputs by all national and international experts)*.
- **Contribute** to the main tasks 2 and 7 (*led by the international energy and climate change expert/ co-Team Leader; with inputs by all national and international experts)*
- **Contribute** substantively to any of the main tasks and specific tasks (see below)on which the Team Leader has major expertise.
- Together with the Co-Team Leader, coordinate with the UNDP's JET Governance study that will be on-going concurrently with this study.

National experts (NEs) with the following expertise will be engaged, on i) power generation and transmission planning; ii) thermal power generation technology, renewable power generation technology, transmission and storage technologies, as well as CCUS; iii) climate change/energy and environmental impact assessment; iv) finance and economics, especially financing of energy asset decommissioning, repurposing and/or refurbishing; v) legal, contractual issues of decommissioning, repurposing and/or refurbishing; vi) social and labour issues, and (Iocal) area development (repurposing of land). Expert contributions to the main tasks as provided in the table above will be allocated to appropriate experts. Their specific tasks will include, among others, the following:

<u>Power development planning</u>

- Update on policy and analysis of power planning drafts and final in Viet Nam, including phase out and transformation of coal-thermal power plants and other key elements of the national policy on energy transition, including renewable energy development, electrification of transport and consequences for the power sector, grid development, energy efficiency, green hydrogen and CCUS plans.
- Stocktaking of coal power technology currently applied in Viet Nam's coal-thermal power fleet as well as other thermal plants, including a list of existing coal power plants with key characteristics and their remaining economic lifetime, as well as planned investment for coal power plants and their refurbishing up to 2050.
- Analysis of demand of domestic and imported coal, currently, in the business-as-usual (BAU, should e.g., PDP7-revised be continued), and according to the preferred scenario of the (final draft) PDP8, including expected quantity and percentage of domestic coal for electricity generation.
- The formulation and analysis of about three coal-power and other thermal power transition scenarios (that all lead to net-zero emissions), including the preferred PDP8 scenario: transitioning

of existing coal power plants through decommissioning /transformation/ CCUS etc. over the period 2022-2050.

- Assessment of overall financial demand for coal-thermal power and other thermal power transition in Viet Nam under the coal-power transition scenarios.
- Analysis of economic impact of the transition on coal mining and transport (import) businesses of transition away from coal-thermal power under the coal-power transition scenarios.
- Assess power sector GHG emission reduction trajectories of each of the 3 coal-power transition scenarios.

Power generation, transmission and storage technology

- Stocktaking of coal power technology currently applied in Viet Nam's coal-thermal power fleet, including a list of existing coal power plants as well as other thermal plants, and with key characteristics and their remaining economic lifetime of the coal-thermal power plants, as well as planned investment for coal power plants and their refurbishing up to 2050.
- Articulation of BAT and new alternatives for coal-thermal power technologies that would maintain part of the infrastructure, including low emission technology such as LNG during the transition, green H_2 or green NH_3, storing VRE as heat and using heat for boilers to drive generators, as well as carbon capture for use and storage (CCUS) in the context of Viet Nam.
- Assessment of biomass resource potential and technology requirement for use of biomass in thermal power plants in Viet Nam, including co-firing with coal during the transition period, and the quantity of coal that would be replaced.
- Articulation of BAT of alternatives for coal-thermal power technologies that would maintain part of the infrastructure, including grid connected BESS, and storing VRE as heat and using heat for boilers to drive generators.
- Assessment of BAT on VRE (rooftop and large terrestrial and floating solar PV, onshore and offshore wind power, possibly wave and tidal power generation) and its potential in Viet Nam, and BAT regarding power transmission and energy storage requirements which is needed if VRE is to replace large amounts of thermal power.
- Articulation of new, promising technologies on VRE, transmission and distribution, and energy storage that will become relevant for the Vietnamese situation through the period 2023-2050.
- Analysis of technical aspects of decommissioning or refurbishing of two of Viet Nam's existing coal-thermal power plants, including re-purposing of the sites, within the period 2023-2030.

Climate change/energy and environmental impact assessment

- Analysis of environmental situation of two existing coal-thermal power plants that will be decommissioned, repurposed or refurbished within the period 2023-2030, as well as options for redevelopment of the sites concerned.

Finance and economics

- Broad analysis of costs and benefits of decommissioning / transforming of Viet Nam's existing coal-thermal power plants including re-purposing of the sites; costs of alternative lower emissions

power generation in the transition (LNG), displacing coal with VRE or biomass, and (end-of-pipe) CCUS.

- Assessment of overall financial demand for coal-thermal power transition in Viet Nam under the coal-power transition scenarios.
- Analysis of economic impact of the transition on coal mining and transport (import) businesses of transition away from coal-thermal power under the coal-power transition scenarios.
- Analysis of economic costs and benefits of decommissioning or refurbishing of two of Viet Nam's existing coal-thermal power plants including re-purposing of the sites, within the period 2022-2030, as well as options for financing of the proposal.

Legal, contractual issues of decommissioning, repurposing and/or refurbishing

- Analysis of legal aspects of decommissioning, repurposing or refurbishing two existing coal-thermal power plants (owned by SoE, BOT or IPP) within the period 2023-2030, including potential liabilities to company owners, the State, suppliers and buyers of power under a range of options for decommissioning, repurposing or refurbishing.

Social and labour issues, and (local) area development

- Analysis of technical, social and economic costs and benefits of decommissioning or refurbishing of two of Viet Nam's existing coal-thermal power plants including re-purposing of the sites, within the period 2023-2030.
- Assessment of unemployment risk in the coal value chains as well as employment opportunities for men and women in different locations in Viet Nam from the energy transition, and formulation of needs and opportunities of workers for retraining and/or alternative employment and financial requirements to support this.
- Mapping out the businesses, workers and communities in Viet Nam coal mining, coal import and coal-power generation and solid waste management, in general.
- Stocktaking of the current employment, average income, working conditions of labourers in two specific coal value chains related to the selected two coal-thermal power plants.
- Analysis of social costs and benefits of decommissioning or refurbishing of two of Viet Nam's existing coal-thermal power plants including re-purposing of the sites, within the period 2023-2030.
- Assessment of unemployment risk in the coal value chains as well as employment opportunities for men and women in different locations in Viet Nam from the energy transition as articulated by the technical and financial experts.
- Formulation of needs and opportunities of workers for retraining and/or alternative employment in their locations and elsewhere, and financial requirements to support this aspect of the energy (coal-power) transition in two specific sites.

III.2.2 International experts

International energy and climate change expert, co-Team Leader (IE1)

- **Co-Lead**, with the national co-Team Leader, the overall management of the assignment including coordination of contributions by national and international experts, ensuring coherence of approach and adequacy to the needs, the objectives of the assignment and delivering timely quality outputs and deliverables.
- **Contribute** to the inception report including detailed workplan (deliverable 1) and all other deliverables of the team, as appropriate.
- **Lead** on technical, economic and social aspects in at least three international case studies of successful or on-going projects for phasing out coal-thermal power and repurposing, transformation of coal power plants to VRE/heat etc., substitution of coal-thermal power with alternatives, and end-of-pipe carbon capture, from developed countries and developing countries *(coordinator, editor, contributor, with other international experts)* (deliverable 2).
- **Co-lead** on the main tasks 3, 4 and 8 (*with the national energy expert/ co-Team Leader)* (contribution to deliverables 3 and 4) *(with inputs by all national and international experts)*.
- **Contribute** to the main task 5, the formulation and analysis of about three coal-power and other thermal power transition scenarios (that all lead to net-zero emissions): transitioning of existing coal power plants through decommissioning /transformation/ CCUS etc. over the period 2023-2050 (contribution to deliverable 5 and 6).
- **Contribute** to the main task 6, analysis of technical aspects, social and economic costs and benefits of decommissioning or refurbishing of two of Viet Nam's existing coal-thermal power plants including re-purposing of the sites, within the period 2022-2030 (*contributor, with inputs by other experts)* (contribution to deliverables 7, 8 and 9).
- **Lead** on the Summary for Policy Makers of the main report *(main contributor, with inputs by other experts)* (deliverable 10).
- Together with the national co-Team Leader, coordinate with the JET Governance study that will be on-going concurrently with this study.

International energy technology expert (IE2)

- Articulate international best available technology (BAT) and new alternatives for energy transition, specifically decommissioning coal-thermal power plants and repurposing the sites; transformation of coal power plants with lower emission technology such as LNG during the transition, and renewable technology such as biomass or storing VRE as heat for boilers to drive generators; power generation with zero-emissions alternatives such as VRE. Articulate existing (BAT) as well as new and still immature technologies on energy storage (chemical, mechanical, heat, …) and efficient power transmission and distribution to enable a large share of coal-thermal power to be replaced by VRE over the period 2023-2050 (***main*** *contributor, with inputs from other international experts, aiming to support the national technical experts)* (contribution to deliverables 2, 3, 5, 7 and 8).

- Analysis of carbon capture for use and storage (CCUS) as end-of-pipe technology for the remaining coal-thermal power facilities (***main*** *contributor, with inputs from other international experts, aiming to support the national technical experts)* (contribution to deliverables 2, 3 and 5).
- Articulate technical, economic and social aspects in at least three international case studies of successful or on-going projects for phasing out coal-thermal power and repurposing, transformation of coal power plants to VRE/heat etc., substitution of coal-thermal power with alternatives, and end-of-pipe carbon capture, from developed countries and developing countries *(contributor, with other international experts)* (contribution to deliverable 2).
- Support the formulation and analysis of about three coal-power and other thermal power transition scenarios (that all lead to net-zero emissions): transitioning of existing coal power plants through decommissioning /transformation/ CCUS etc. over the period 2022-2050 *(team effort)* (contribution to deliverable 5).
- Support the analysis of technical aspects, social and economic costs and benefits of decommissioning or refurbishing of two of Viet Nam's existing coal-thermal power plants including re-purposing of the sites, within the period 2023-2030 (*contributor, with inputs by other experts)* (contribution to deliverables 7 and 8).

International social-economic expert (IE3)

- Analyse international data on the costs, benefits and externalities of energy transition, specifically decommissioning/ repurposing coal-thermal power, alternatives of low emission technology such as LNG during the transition, displacing coal with VRE or biomass, and (end-of-pipe) CCUS (***main*** *contributor, with inputs from other international experts, aiming to support the national technical experts)* (contribution to deliverables 2, 3 and 5).
- Stocktaking of available international financing for coal phase out that might be accessible for Viet Nam, including public and private financing of decommissioning coal power and alternative sources of power, power transmission and distribution infrastructure and energy storage (***main*** *contributor, with inputs from other international experts, aiming to support the national technical experts)* (contribution to deliverables 3 and 5).
- Articulate financial, economic and social aspects in at least three international case studies of successful or on-going projects for phasing out coal-thermal power and repurposing, transformation of coal power plants to VRE/heat etc., substitution of coal-thermal power with alternatives, and end-of-pipe carbon capture, from developed countries and developing countries *(contributor, with other international experts)* (contribution to deliverable 2).
- Support the formulation and analysis of 3 coal-power and other thermal power transition scenarios (that all lead to net-zero emissions): transitioning of existing coal power plants through decommissioning /transformation/ CCUS etc. over the period 2022-2050 *(team effort)* (contribution to deliverable 5).
- Assess the overall financial demand for coal-thermal power transition in Viet Nam under the coal-power transition scenarios *(support the national finance-economics expert)* (contribution to deliverable 5).

- Analysis of economic impact of the transition on coal mining and transport (import) businesses of transition away from coal-thermal power under the 3 coal-power transition scenarios (*support the national finance-economics expert)* (contribution to deliverable 5).
- Support the analysis of financial aspects, social and economic costs and benefits of decommissioning or refurbishing of two of Viet Nam's existing coal-thermal power plants including re-purposing of the sites, within the period 2023-2030 (*contributor, with inputs by other experts)* (contribution to deliverables 7 and 8).
- Assessment of unemployment risk in the coal value chains as well as employment opportunities for men and women in the two locations in Viet Nam where the decommissioning or refurbishing of existing coal-thermal power plants is focused (*support the national social expert)* (contribution to deliverables 7 and 8).
- Formulation of needs and opportunities of workers for retraining and/or alternative employment in their locations and elsewhere, and financial requirements to support this aspect of transition in the two focus sites *(support the national social expert)* (contribution to deliverables 7 and 8).

DELIVERABLES & IMPLEMENTATION TIMELINE

Key deliverables of the whole team are:

- Deliverable1: Inception report
- Deliverable 2: Report on analysis international experience on BAT for coal-power plant decommissioning and repurposing of the local site, or substituting with alternative (renewable) power sources, transformation to different energy sources including green Hydrogen or green Ammonia, and/or CCUS linked to thermal-power generation.
- Deliverable 3: Report on review independent, national and international analyses of the costs, benefits and externalities of energy transition in Viet Nam, including coal-power phase-out scenarios and stakeholder analysis; and on review the (latest draft) Power Development Planning 8 (PDP8) and its full technical report, regarding coal-power and all thermal power
- Deliverable 4: PowerPoint presentation of Deliverable 3, for the workshop of phase 1
- Deliverable 5: Report with characterisation of the current Vietnamese coal-thermal power plants and modelling of alternative phase-out scenarios for the period to 2050
- Deliverable 6: PowerPoint presentation of Deliverable 5, for the workshop of phase 2
- Deliverable 7: dossier on in-depth assessment and planning of the decommissioning, repurposing of sites, and/or refurbishment to other forms of energy of the first coal power plant, for implementation in the period to 2030.
- Deliverable 8: dossier on in-depth assessment and planning of the decommissioning, repurposing of sites, and/or refurbishment to other forms of energy of the second coal power plant, for implementation in the period to 2030.
- Deliverable 9: PowerPoint presentations of Deliverables 7 and 8 for the workshop of phase 2

- Deliverable 10: Summary for Policy Makers of Deliverables 2, 3, 5, 7 and 8

The Inception report will include detailed target dates and timing of tasks that would match expectations of UNDP and key ministries. This must include plans and timing of the formulation of draft deliverables, review by team members and review by UNDP and key stakeholders, and timing of the final deliverables.

All deliverables by the national firm will be in English and Vietnamese in their final versions. Deliverables by international experts will be in English.

DURATION OF ASSIGNMENT, DUTY STATION & EXPECTED PLACES OF TRAVEL

Duration: Phase 1: January 2023 – March 2023; Phase 2: March – September 2023

1. National consulting firm/institution with a team of experts on i) climate change and environment management (team leader); ii) thermal power generation technology as well as CCUS; iii) power generation planning, renewable power generation, transmission and storage technologies; iv) finance and economics, with experience in energy asset decommissioning and restructuring; v) social and environmental expert with knowledge of labour issues.
2. International energy and climate change expert (already recruited)
3. International energy technology expert: 25 days
4. International social-economics expert: 25 days

Duty station: Home based, Hanoi

Expected places of travel: Experts of the national consulting firm are expected to travel to the 02 existing SoE/BOT/IPP coal-thermal powerplants, that will be selected for possible retirement and /or refurbishing in the period 2023 to 2030 and of which the technical, financial-economic, environmental, legal and social aspects will be assessed in detail. The selection of powerplants for in depth study will be discussed and consulted with relevant partners (MOIT, CMSC) and be approved by UNDP. The firm shall include in their technical proposals the proposed plan with detailed mission days for the site visits. Associated cost for the site visits should also be included in the financial offer.

The national firm/institute shall submit financial offer that consist of 2 phases as indicated above. The contract to the selected bidder will be initially signed for the first phase. The contract shall be extended for phase 2 subject to the satisfactory performance of the phase 1.

PROVISION OF MONITORING & PROGRESS CONTROL

The assignment will be supervised by UNDP, specifically by the ARR/Head of Climate Change and Environment Unit (CCEU) and relevant Project Officers in the CCEU

The consultants and the national firm will routinely report to the UNDP on progress through monthly meetings. The consultants will provide concise information about implemented activities and adjustments to the work plan.

Towards the conclusion of Phase 1, adjustments in the plans and personnel for Phase 2 may be made, depending on progress and quality of the Phase 1 deliverables.

This study must coordinate with the UNDP's JET Governance Study consisting of an international expert and a national expert. The national co-Team Leader and the international energy and climate change expert / Co-Team Leader will be required to coordinate with the Lead Consultant of the JET Governance Study.

UNDP will review all deliverables and must approve them before any payment.

Administrative Support

UNDP will provide some administrative support to the Consultants throughout the assignment.

UNDP will support the team in arranging meetings.

Reference Documents

UNDP will provide background information to the Consultants, which includes documents, reports, technical instructions.

DEGREE OF EXPERTISE & QUALIFICATIONS

	National consulting firm/institution
Qualifications	Locally registered firm with at least 10 years of experience in providing similar service related to the energy sector including relevant experience in research, consultancy and policy advise in energy planning and sector restructuring Demonstrated expertise in power planning and sector restructuring, cost and benefit analysis. Relevant expertise with thermal power plants. Strong experience in working with and providing services to the government agencies and donor-supported agencies in relevant areas as well as companies and corporations in power sector.
Relevant Professional Experience and language	<u>1.National Expert in Climate Change Environment (co-Team Leader) (NE1):</u> • Advanced degree in energy, environment, climate change or other relevant discipline • At least 10 years of experience in power planning and energy-environment management • Proven experience in leading a team of national and international experts in undertaking relevant studies and research • Experience providing similar service to international development organizations or corporations • Fluency in Vietnamese, working knowledge of English with 2 examples of reports in English of similar assignments. <u>All 4-6 other national experts:</u>

	• Fluency in Vietnamese, working knowledge of English with 1 examples of report in English of similar assignment • At least 10 years of working experience in their relevant fields • Different expertises may be combined (also by the Team Leader): <u>Power planning</u>: • Advanced degree in power planning, energy, renewable energy, or similar discipline • Working experience in power development planning, modelling <u>Power Technology, transmission and storage expertise</u> • Advanced degree in energy engineering (coal, gas, renewable power, transmission technology, energy storage technologies) • Working experience in power technology and (related) technologies such as carbon capture, use and storage (CCUS) <u>Environmental expertise</u> • Advanced degree in environmental science • Experience in Environmental Impact Assessment in the power sector. <u>Financial and Economic expertise:</u> • Advanced degree in economics, finance. • Working experience in finance and economics related to the energy sector, including experience in energy asset decommissioning and restructuring; <u>Legal, contractual expertise</u> • Advanced degree in law, in particular contract law • Working experience in / knowledge of energy sector related law including permitting processes, power purchase agreements, … <u>Labour, socio-economics, land use and development planning</u>: • Advanced degree in labour studies, regional development, political science or another relevant discipline • Working experience in local industrial development, capacity development of workers, or related businesses

	International Energy & Climate Change Expert / co-Team Leader (IE1):
Qualifications	Advanced degree in climate change, environment, energy or similar discipline At least 10 years of experience working in the field of climate change and energy

Relevant Professional Experience	Experience providing similar service to international development organizations Substantial knowledge of energy and climate change policy in Viet Nam and globally and Substantial experience providing advisory support to Government and international organizations
Other Competencies	Experience in leading and working in a team to produce a joint outcome
Language Requirements	Fluency in English communication with 1 writing sample provided on topic related to the scope of work Knowledge of Vietnamese a distinct advantage

	International Energy Technology Expert (IE2):
Qualifications	Advanced degree in a discipline relevant to renewable energy, environmental engineering, environmental science or related discipline At least 10 years of experience working in the field of energy technologies
Relevant Professional Experience	Proven experience in consultancy, technical study and policy advise in coal power production, hydrogen, energy planning and clean and renewable energy development for development projects in development countries Proven recent experience in industrial analysis including green hydrogen and ammonia production, trade and use in power production and/ or industrial processes. Experience providing similar service to international development organizations. Experience in Asian countries will be an advantage
Language Requirements	Fluency in English communication with 1 writing sample provided on topic related to the scope of work.

	International Social-economic Expert (IE3):
Qualifications	Advanced degree in labour studies, regional development, political science or in a relevant discipline At least 10 years working experience in labour studies/ restructuring in sectors
Relevant Professional Experience	Experience providing similar service to international development organizations Substantial knowledge of industrial restructuring and labour aspects, regional development especially related to energy transition Experience providing similar service to international development organizations. Experience in Asian countries will be an advantage

Language Requirements	Fluency in English communication with 1 writing sample provided on topic related to the scope of work.

PAYMENT TERMS

No.	Deliverables as indicated in Section IV	Due Date	Payment Amount
	National consulting firm/institution for Phase 1		
1	Upon submission of deliverable 1 with acceptance by UNDP	15 February 2023	20% of total value for phase 1
2	Upon submission of deliverables 3 & 4 with acceptance by UNDP	15 March 2023	80% of total value for phase 1
	National consulting firm/institution for Phase 2		
3	Upon submission of draft analysis of Deliverable 5 with acceptance by UNDP	30 May 2023	25% of total value for phase 2
4	Upon submission of draft analysis of Deliverables 7, 8 and 9 with acceptance by UNDP	30 August 2023	35% of the total value for phase 2
5	Upon submission of deliverables 5, 6, 7, inputs to deliverable 10 and all relevant products under the contract with acceptance by UNDP	30 September 2023	40% of the total value for phase 2
	International energy and climate change expert, co-Team Leader (IE1)		
1	Upon submission of quality assured report versions of deliverables 1, 2, 3 & 4 with acceptance by UNDP	15 March 2023	60%
2	Upon submission of quality assured deliverables 5, 6, 7, 8, 9 and 10 with acceptance by UNDP	30 September 2023	40%
	International energy technology expert (IE2)		
1	Upon submission of inputs to deliverable 1 and final version of deliverable 2, inputs into deliverables 3 & 4 with acceptance by UNDP	15 March 2023	60%
2	Upon submission of written inputs and feedbacks to deliverables 5, 6, 7, 8, 9 & 10 with acceptance by UNDP	30 September 2023	40%
	International social-economic expert (IE3)		

No.	Deliverables as indicated in Section IV	Due Date	Payment Amount
1	Upon submission of inputs to deliverable 1, 2 and 3 and 4 including report on analysed international data on the costs, benefits and externalities of energy transition and stocktaking of available international financing for coal phase out that might be accessible for Viet Nam	15 March 2023	60%
2	Upon submission of written inputs and feedbacks to deliverables 5, 6, 7, 8, 9 and 10 with acceptance by UNDP	30 September 2023	40%

CONSULTANT PRESENCE REQUIRED ON DUTY STATION

☒ NONE ☐ PARTIAL ☐ INTERMITTENT ☐ FULL-TIME

EVALUATION CRITERIA

The evaluation of technical proposal shall be conducted using scoring method (1,000 points), as follows:

Summary of Technical Proposal Evaluation Forms		Points Obtainable
1.	Bidder's qualification, capacity and experience	250
2.	Proposed Methodology, Approach and Implementation Plan	250
3.	Management Structure and Key Personnel	500
	Total	**1000**

Section 1. Bidder's qualification, capacity and experience			Points obtainable
1.1	Reputation of Organisation and Staff (In terms of Competence / Reliability)		50
1.2	Quality assurance procedures		20
1.3	Relevance of:		180
	- Locally registered firm with at least 10 years of experience in providing similar service related to the energy sector including relevant experience in research, consultancy and policy advise in energy planning and sector restructuring	*80*	
	- Demonstrated expertise in power planning and sector restructuring, cost and benefit analysis. Relevant expertise with thermal power plants.	*50*	
	-Strong experience in working with and providing services to the government agencies and donor-supported agencies in relevant areas as well as companies and corporations in power sector.	*50*	
		Total Section 1	**250**

Section 2. Proposed Methodology, Approach and Implementation Plan		Points obtainable
2.1	To what degree does the Offeror understand the task?	50
2.2	Is the scope of task well defined and does it correspond to the TOR?	50
2.3	Have the important aspects of the tasks been addressed in sufficient detail with clear role and responsibility of each team member?	70
2.4	Is the presentation clear and is the sequence of activities and the planning logical, realistic and promise efficient implementation to the assignment?	80
	Total Section 2	**250**

Section 3. Management Structure and Key Personnel			Points obtainable
3.1	Expert in Energy (Team Leader)		100
	Advanced degree in energy, environment, climate change or other relevant discipline	*20*	
	At least 10 years of experience in power planning and energy environment management in Viet Nam	*30*	
	Proven experience in leading a team of national and international experts in undertaking relevant studies and research	*25*	
	Experience providing similar service to international development organizations or corporations	*15*	
	Working knowledge of English with 2 examples of report in English of similar assignment	*10*	
3.2	Expert in Power Technology, Transmission, Storage		70
	Advanced degree in energy engineering (coal, gas, VRE, transmission, storage)	*21*	

	At least 10 years of experience in power technology and (renewable) alternatives as well as carbon capture, use and storage	*42*	
	Working knowledge of English with 1 example of report in English of similar assignment	*7*	
3.3	Expert in Power Planning		60
	Advanced degree in power planning, energy, renewable energy, or similar discipline	*18*	
	At least 10 years of experience in power development planning, modelling	*36*	
	Working knowledge of English with 1 example of report in English of similar assignment	*6*	
3.4	Environmental Expert		70
	Advanced degree in environmental science	*21*	
	At least 10 years of working experience in Environmental Impact Assessment in the Power Sector	*42*	
	Working knowledge of English with 1 example of report in English of similar assignment	*7*	
3.5	Finance and Economics Expert		70
	Advanced degree in economics, finance	*21*	
	At least 10 years of experience working in finance and economics related to the energy sector, including energy asset decommissioning or restructuring	*42*	
	Working knowledge of English with 1 example of report in English of similar assignment	*7*	
3.6	Legal Expert		60

	Advanced degree in law, in particular contract law	*18*	
	At least 10 years of working experience in / knowledge of energy sector related law including permitting processes, power purchase agreements	*36*	
	Working knowledge of English with 1 example of report in English of similar assignment	*6*	
3.7	Labour - Socio-economic Expert		70
	Advanced degree in labour studies, regional development, political science or in a relevant discipline	*21*	
	At least 10 years of Working experience in local industrial development, capacity development of workers, or related	*42*	
	Working knowledge of English with 1 example of report in English of similar assignment	*7*	
		Total Section 3	**500**

All bids passing the minimum technical score of 700 will be technically qualified for financial evaluation. **Submission obtaining the highest weighted points (technical points + financial points) will be selected.**

Important Notes:

1. **Evaluation will be done separately for each of the proposed key personnel (if applicable) and the total personnel score will be the average.**
2. **Please refer to the Submission checklist (Annex 4) for documents to be submitted for the evaluation**

Annex 2

FORM FOR SUBMITTING SERVICE PROVIDER'S PROPOSAL[14]

(This Form must be submitted only using the Service Provider's Official Letterhead/Stationery[15])

[insert: *Location]*.
[insert: *Date]*

To: [*insert: Name and Address of UNDP focal point]*

Dear Sir/Madam:

We, the undersigned, hereby offer to render the following services to UNDP **in conformity with** the requirements defined in the RFP dated *[specify date]* , and all of its attachments, as well as **the provisions of the UNDP General Contract Terms and Conditions** :

1. **Qualifications of the Service Provider**

The Service Provider must describe and explain how and why they are the best entity that can deliver the requirements of UNDP by indicating the following : *I. Profile – describing the nature of business, field of expertise, licenses, certifications, accreditations;* *II. Business Licenses – Registration Papers, Tax Payment Certification, etc.*
III. Latest Audited Financial Statement – income statement and balance sheet to indicate Its financial stability, liquidity, credit standing, and market reputation, etc. ; *IV. Track Record – list of clients for similar services as those required by UNDP, indicating description of contract scope, contract duration, contract value, contact references;* *V. Certificates and Accreditation – including Quality Certificates, Patent Registrations, Environmental Sustainability Certificates, etc.* *VI. Written Self-Declaration that the company is not in the UN Security Council 1267/1989 List, UN Procurement Division List or Other UN Ineligibility List.*

Company Profile

Item Description	Detail
Legal name of bidder or Lead entity for JVs	Click or tap here to enter text.

[14] *This serves as a guide to the Service Provider in preparing the Proposal.*
[15] *Official Letterhead/Stationery must indicate contact details – addresses, email, phone and fax numbers – for verification purposes*

Legal Address, City, Country	Click or tap here to enter text.
Website	Click or tap here to enter text.
Year of Registration	Click or tap here to enter text.
Legal structure	Choose an item.
Are you a UNGM registered vendor?	☐ Yes ☐ No If yes, insert UNGM Vendor Number
Quality Assurance Certification (e.g. ISO 9000 or Equivalent) *(If yes, provide a Copy of the valid Certificate):*	☐ Yes ☐ No
Does your Company hold any accreditation such as ISO 14001 or ISO 14064 or equivalent related to the environment? *(If yes, provide a Copy of the valid Certificate):*	☐ Yes ☐ No
Does your Company have a written Statement of its Environmental Policy? *(If yes, provide a Copy)*	☐ Yes ☐ No
Does your organization demonstrate significant commitment to sustainability through some other means, for example internal company policy documents on women empowerment, renewable energies or membership of trade institutions promoting such issues *(If yes, provide a Copy)*	☐ Yes ☐ No
Is your company a member of the UN Global Compact	☐ Yes ☐ No
Bank Information	Bank Name: Click or tap here to enter text. Bank Address: Click or tap here to enter text. IBAN: Click or tap here to enter text. SWIFT/BIC: Click or tap here to enter text. Account Currency: Click or tap here to enter text. Bank Account Number: Click or tap here to enter text.
Previous relevant experience: 3 contracts	

Name of previous contracts	Client & Reference Contact Details including e-mail	Contract Value	Period of activity	Types of activities undertaken

Bidder's Declaration

Yes	No	
☐	☐	**Requirements and Terms and Conditions:** I/We have read and fully understand the RFQ, including the RFQ Information and Data, Schedule of Requirements, the General Conditions of Contract, and any Special Conditions of Contract. I/we confirm that the Bidder agrees to be bound by them.
☐	☐	I/We confirm that the Bidder has the necessary capacity, capability, and necessary licenses to fully meet or exceed the Requirements and will be available to deliver throughout the relevant Contract period.
☐	☐	**Ethics**: In submitting this Quote I/we warrant that the bidder: has not entered into any improper, illegal, collusive or anti-competitive arrangements with any Competitor; has not directly or indirectly approached any representative of the Buyer (other than the Point of Contact) to lobby or solicit information in relation to the RFQ ;has not attempted to influence, or provide any form of personal inducement, reward or benefit to any representative of the Buyer.
☐	☐	I/We confirm to undertake not to engage in proscribed practices, , or any other unethical practice, with the UN or any other party, and to conduct business in a manner that averts any financial, operational, reputational or other undue risk to the UN and we have read the United Nations Supplier Code of Conduct :https://www.un.org/Depts/ptd/about-us/un-supplier-code-conduct and acknowledge that it provides the minimum standards expected of suppliers to the UN.
☐	☐	**Conflict of interest:** I/We warrant that the bidder has no actual, potential, or perceived Conflict of Interest in submitting this Quote or entering a Contract to deliver the Requirements. Where a Conflict of Interest arises during the RFQ process the bidder will report it immediately to the Procuring Organisation's Point of Contact.
☐	☐	**Prohibitions, Sanctions:** I/We hereby declare that our firm, its affiliates or subsidiaries or employees, including any JV/Consortium members or subcontractors or suppliers for any part of the contract is not under procurement prohibition by the United Nations, including but not limited to prohibitions derived from the Compendium of United Nations Security Council Sanctions Lists and have not been suspended, debarred, sanctioned or otherwise identified as ineligible by any UN Organization or the World Bank Group or any other international Organization.
☐	☐	**Bankruptcy**: I/We have not declared bankruptcy, are not involved in bankruptcy or receivership proceedings, and there is no judgment or pending legal action against them that could impair their operations in the foreseeable future.
☐	☐	**Offer Validity Period:** I/We confirm that this Quote, including the price, remains open for acceptance for the Offer Validity.

Yes	No	
☐	☐	I/We understand and recognize that you are not bound to accept any Quotation you receive, and we certify that the goods offered in our Quotation are new and unused.
☐	☐	By signing this declaration, the signatory below represents, warrants and agrees that he/she has been authorised by the Organization/s to make this declaration on its/their behalf.

2. Proposed Methodology for the Completion of Services

The Service Provider must describe how it will address/deliver the demands of the RFP; providing a detailed description of the essential performance characteristics, reporting conditions and quality assurance mechanisms that will be put in place, while demonstrating that the proposed methodology will be appropriate to the local conditions and context of the work.

3. Qualifications of Key Personnel

If required by the RFP, the Service Provider must provide :

- *Names and qualifications of the key personnel that will perform the services indicating who is Team Leader, who are supporting, etc.;*
- *CVs demonstrating qualifications must be submitted if required by the RFP; and*
- *Written confirmation from each personnel that they are available for the entire duration of the contract.*

4. **Cost Breakdown per Deliverable***

	Deliverables *[list them as referred to in the RFP]*	**Percentage of Total Price** *(Weight for payment)*	**Price** *(Lump Sum, All Inclusive)*
1	Deliverable 1		
2	Deliverable 2		
3	….		
	Total	100%	

**This shall be the basis of the payment tranches*

5. **Cost Breakdown by Cost Component *[This is only an Example]*:**

Description of Activity	**Remuneration per Unit of Time**	**Total Period of Engagement**	**No. of Personnel**	**Total Rate**
I. Personnel Services				
1. Services from Home Office				
a. Expertise 1				
b. Expertise 2				
2. Services from Field Offices				
a . Expertise 1				
b. Expertise 2				
3. Services from Overseas				
a. Expertise 1				
b. Expertise 2				
II. Out of Pocket Expenses				
1. Travel Costs				
2. Daily Allowance				
3. Communications				
4. Reproduction				
5. Equipment Lease				
6. Others				
III. Other Related Costs				

We confirm our full acceptance of the UNDP Contract General Terms and Conditions and agree to abide by this Proposal for 120 days from the date of proposal submission deadline.

I, the undersigned, certify that I am duly authorized to sign this quotation and bind the company below in event that the quotation is accepted.

Exact name and address of company Company NameClick or tap here to enter text. Address: Click or tap here to enter text. Click or tap here to enter text. Phone No.:Click or tap here to enter text. Email Address: Click or tap here to enter text.	Authorized Signature: Date:Click or tap here to enter text. Name:Click or tap here to enter text. Functional Title of Authorised Signatory:Click or tap here to enter text. Email Address: Click or tap here to enter text.

Annex 3

CHECKLIST OF DOCUMENTS SUBMITTED BY BIDDERS

Note:

v) **Bidders are required to review carefully this checklist before submitting proposal to ensure complete submission.**
vi) **Maximum email size: 30 MB/email. Bidders can split proposal into several emails if the file size is large.**
vii) **Technical and Financial Proposals are to be submitted in separate emails before or on Thursday, January 12, 2023 (Hanoi time).**
viii) **Email and proposal should indicate clearly the reference and name of tender.**

Item	Documents	To be completed by bidders		
		Doc submitted Y/N	Number of pages	Remarks
1	Fully filled Technical proposal (pls. refer to the guidelines in Annex 2) with copies/scan of appropriate supporting documents:			
	1. Profile – describing the nature of business, field of expertise, licenses, certifications, accreditations			
	2. Business Licenses – Registration Papers and/or Tax Payment Certification, etc.			
	3. Track Record – list of clients for similar services as those required by UNDP, indicating description of contract scope, contract duration, contract value, contact references, etc.			
	4. Certificates and Accreditation – including Quality Certificates, Patent Registrations, Environmental Sustainability Certificates, etc. (if any)			
	5. Proposed Methodology for the Completion of Services			
	6. Names and qualifications of the key personnel that will perform the services indicating who is Team Leader, who are supporting, etc.;			
	7. Detailed CVs of the proposed personnel with copies of relevant certificates as well as required supporting documents			
2	Duly signed Price Schedule (pls. use the template in Annex 2 and **separate the technical and financial proposals**)			
3	Bidder confirms its full acceptance of the UNDP Contract General Terms and Conditions and agrees to abide by this Proposal for 120 days from the date of proposal submission deadline.			
4	Bidder confirms that it will issue official invoices (hóa đơn tài chính) for payment under this contract.			

5	This duly filled, checked, certified submission checklist to be attached to the submission			
6	Send a separate email (without attachment) to procurement.vn@undp.org notifying that you already submitted proposal and the number of email(s) submitted. Notification email should be sent to above address by submission deadline or right after you submit proposals			

[Name and Signature of the Service Provider's Authorized Person]
[Designation]
[Date]