Terms of Reference (ToR)

Regional Center for Renewable Energy and Energy Efficiency (RCREEE)	**DATE: February 18, 2024**
	REFERENCE: TOR/RCR/001/2024

Dear Sir / Madam:

We kindly request you to submit a Proposal for **a Tidal and solar on-grid PV system Feasibility study in Gulf of Suez, Egypt.**

The technical proposal and the financial proposal files MUST BE COMPLETELY SEPARATE and may be submitted on or before **Monday, February 26, 2024** via email to the addresses below:

Procurement@rcreee.org

Your Proposal must be expressed in the English Language, and valid for a minimum period of 90 days.

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 RCREEE 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 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 ToR and all other annexes providing details of RCREEE 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.

No price variation due to escalation, inflation, fluctuation in exchange rates, or any other market factors shall be accepted by RCREEE after it has received the Proposal.

Any Contract or Purchase Order that will be issued as a result of this TOR 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 the General Terms and Conditions of RCREEE.

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

RCREEE encourages every prospective consultancy company to prevent and avoid conflicts of interest, by disclosing to RCREEE 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 ToR.

Thank you and we look forward to receiving your Proposal.

Sincerely yours,

Procurement Section

2/18/2024

ANNEX .1

Introduction:

The adoption of solar photovoltaic (PV) and tidal energy technologies has gained significant momentum as viable alternatives to conventional fossil fuels. The integration of these renewable energy sources into existing grids holds immense potential for reducing carbon emissions and enhancing energy security while promoting economic growth. Herin, this document outlines the Terms of Reference (ToR) for conducting comprehensive feasibility studies on two different promising renewable energies: On-Grid Solar PV and Tidal Energy. These studies (Task I and Task II) aim to assess the potential of the technical, and economic viability of implementing an On-Grid PV system and tidal energy projects simultaneously in the Gulf of Suez, Egypt with full compliance to RCREEE policies, regulations, terms & conditions. Herein, below is the description of TASK I&II for both technologies.

- **Task (I): On-Grid Solar PV Feasibility Study:**

The On-Grid Solar PV Feasibility Study will focus on evaluating the feasibility of harnessing solar energy as a renewable resource for electricity generation where this feasibility study should be approved by the International financial institutions (IFIs), Banks,..Etc.. Hence, the key components of this study will include but not limited to:

A. Resource Assessment: Conduct a thorough analysis of solar irradiance levels, weather patterns, and environmental conditions to determine the solar energy potential of the target area.
B. Technical Analysis: Evaluating the technical feasibility of installing solar PV systems, including site suitability, system design, integration with the grid, and infrastructure requirements.
C. Economic Viability: Assessing the financial feasibility of the project, including investment costs, operational expenses, revenue projections, and potential returns on investment (ROI).
D. Identifying the requirements for the necessary permits and clearness

- **Task (II): Tidal Energy Feasibility Study:**

The Tidal Energy Feasibility Study will focus on evaluating the feasibility of harnessing tidal energy as a renewable resource for electricity generation, this feasibility study should be approved by the International financial institutions (IFIs), Banks,..Etc.. Hence, the key components of this study will include but not limited to:

A. Resource Assessment: Conducting a detailed assessment of tidal patterns, currents, and energy potential in the target area, including tidal range and flow velocities.
B. Technical Analysis: Evaluating the technical feasibility of deploying tidal energy systems, including device selection, deployment methods, grid integration, and infrastructure requirements.
C. Economic Viability: Assessing the economic feasibility of tidal energy projects, including capital costs, operational expenses, revenue streams, and potential financial incentives or subsidies.
D. Identifying the requirements for the necessary permits and clearness

Task (I): Methodology of ON-Grid Solar PV Feasibility Study for Opportunity in Egypt - Total area of 300 Acres

1.1 General Scope of Work

The following scope of work shall be provided by the Service Provider :

a) Preparing the concept designs for the photovoltaic power plant with a total area of (300 Acres).

b) Preparing concept design for the interconnection between the PV power plant and the national grid including the concept design of the underground cables, step-up transformers and medium voltage switchgears

c) For the DC part, preparing different alternatives for the design including the type of the PV

d) panels, the existence of the tracking system…etc.

e) Preparing preliminarily bill of quantity BOQ and best estimates for a budgetary cost of the equipment accordingly.

f) Preparing Pre-feasibility Study

g) Identify requirements for the necessary permits and clearances.

1.2 Work Methodology

a) Data collection:

A detailed list of data needed shall be prepared by the Service Provider and sent to RCREEE. This list of needed data is essential to enable the Service Provider to accomplish its scope of work in the project with targeted precision. However, if any data is missing, the Service Provider can give the best assumption for the missing data based on its experience in the field and international practices. Hence, any assumed data will be highlighted in the submitted report and the base of the assumptions will be addressed.

b) Base design of the DC part of the power plant and Inverters:

Based on the received data considering the available land that is planned to be utilized for PV installation, different design options and base design shall be prepared by the Service Provider. Also, a PVsyst report for each option shall be generated to estimate the annual energy yield for each option.

c) Concept design of the interconnection facilities:

Based on the concept design prepared in point (b) and the received date from point (a) a concept design for the interconnection facility to interconnect the power plant to the national grid taking into consideration reliability, stability, applicability, performance, and cost as decision drivers for the proposed design.

1.3 Detailed Scope of Work

1.3.1 Work Package (1): Base Design of the PV Power Plant

Base Design will be prepared taking into consideration different design alternatives to optimize the energy yield and cost of the power plant. This scope includes the following:

I. Base design shall be prepared by the Service Provider including choosing the optimum technologies to optimize both performance and cost. Different design alternatives shall be investigated as well.
II. Optimum location of the PV panels and the inverters shall be studied to minimize the length of DC and AC cables and to minimize the interconnection cost to the High Voltage Grid.
III. A preliminary annual energy yield report shall be prepared relying on the solar resources assessment and the different design alternatives. P50, P75 and P90 simulations shall be prepared for the expected energy yield taking into consideration different scenarios of the soling assessment onsite.
IV. Preliminary design of the earthing system. This requires the availability of the electrical soil resistivity report. If not, available this will be excluded from the scope of work.
V. Base design of the fixing structure. This requires the availability of geotechnical study. If not, available this will be excluded from the scope of work.
VI. A comprehensive PVsyst report shall be prepared showing the energy yield for different design alternatives and taking into consideration sensitivity analysis for some parameters like soling and losses.
VII. Preparing primarily Bill of quantity (BOQ) and budgetary cost of the components based on international prices.

1.3.2 Work Package (2): Base Design of the Interconnection Facilities

Interconnection to the national grid is one of the most critical tasks particularly in Africa to enable reliable and safe operation of the generating facilities. deep technical assessment for the interconnection facilities is one of the cornerstones in any generation project. the Service Provider shall prepare an optimized interconnection study for the project taking into consideration technical requirements applied in the country (as per Grid code and PV code in Egypt) and international best practices and international codes in this field. This scope of work includes the following:

VIII. Assessment of the technical parameters that affect the safety, compatibility, security for both Variable Renewable Power Plants (VRPP) and Transmission Network Operator (TNO) based on the following, if exists (the following are inputs that shall be received from client's side):

a) Environmental conditions
b) Short circuit levels
c) Time Constant
d) OHTL technical parameters (configuration "one or double circuit", rated current,
e) conductor data, short circuit short time withstand, etc...)
f) Line feeder protection scheme in Bumbuna substation far-end and Freetown substation far-end.

g) Adopted Auto recloser scheme “Off, 3P, or 1P.”
h) Telecommunication scheme between Freetown S/S and Bumbuna S/S
i) Coordinates of the OHTL adjacent Towers.
j) Soil Thermal Report
k) Soil Resistivity Report

I. In accordance with the Point of Common Coupling (PCC) technical assessment and the Grid Code technical requirements for interconnection to H.V network, an optimized design will be conducted for the Balance of Plant (B.O.P) and the high voltage Substation achieving the most cost-efficient configuration and fulfilling the safety, security, selectivity, and energy efficiency.

II. Obtaining the optimized configuration for the Plant’s B.O.P. compromising the Capex, OPEX, loss of power, and the losses mitigation:
1) Step-Up Transformers.
2) Switching Units.
3) M.V cables.

III. Running the relevant adequacy check studies including Load Flow, Short Circuit, Cable Ampacity, Voltage Drop, and Losses Studies to ensure the system Sizing and specifications Adequacy to the standard and applicable Codes Requirements.

IV. The High voltage substation will be designed to provide an optimized configuration for delivering the current phase generated power, considering the expansion up to 100 MW as a non-equipped future extension.

V. The high Voltage Substation Conceptual design will be developed in main packages:

VI. System Primary Design

VII. System Secondary Design includes:

a. Protection system

b. Metering system

c. Control \ Automation system

VIII. Telecommunication system design

IX. Auxiliary systems design

X. Obtaining the scope definition of supply, installation, commissioning, maintenance, Operation, and any modifications work in the Far-end Stations if applicable.

XI. Preparing of the main packages BOQ including budgetary costs of the main equipment based on international prices.

XII. Obtaining a preliminary Budget for the interconnection equipment.

XIII. Preparing the optimized Conceptual Design for the Plant B.O.P. including:
a) Studying the optimum Medium Voltage Level.
b) Sizing and Specifications of the Step-Up Transformers, Switching Units and M.V cables.
c) Preparing Optimized M.V Configuration

XIV. Preparing the optimized Conceptual Design for the High Voltage Substation and Grid Connection Point.

XV. Studying the different design options for the H.V.S.

XVI. Preparing the optimized H.V configuration including

a) Busbar configuration
b) High voltage Equipment Sizing and Specifications
c) Conceptual General Layout for the Substation

XVII. Control and Protection system conceptual Design

XVIII. Metering System Conceptual Design

XIX. Telecommunication System Conceptual Architecture.

XX. SCADA System and communication Conceptual Architecture with the TNO.

1.3.3 Work Package (3): Feasibility Study

The Feasibility study will be done by the Service Provider. Where a detailed list of data needed shall be prepared by the Service Provider and sent to RCREEE. This list of needed data is essential to enable the Service Provider to accomplish its scope of work in the project with targeted precision. However, if any data is missing, the Service Provider can give the best assumption for the missing data based on its experience in the field and international practices. Hence, any assumed data will be highlighted in the submitted report and the base of the assumptions will be addressed.

1.4 List Of Deliverables

Work Package	List Of Deliverables
Work Package (1): Base design for PV power plant	1. Site layout 2. Solar panels arrangements 3. SLD for the DC part 4. SLD for the AC part 5. SLD for the whole power plant 6. PVsyst report encompassing different design alternatives. 7. BOQ including preliminarily budgeting of the cost of the equipment based on international prices.
Work Package (2): Base design for interconnection	1. Engineering Deliverable List. 2. AC Overall Single Line Diagram. 3. High Voltage Substation General Layout. 4. M.V cables General Plan. 5. Relay & metering Single Line Diagram for the H.V.S. 6. SCADA system General Architecture. 7. Telecommunication System General Architecture. 8. Auxiliary System Supply Single Line Diagram. 9. Auxiliary System Load Estimation Report. 10. Power system Load Flow Study for the B.O.P 11. Short Circuit Study for the B.O.P 12. M.V cables Ampacity Study. 13. M.V Network Voltage drop Study. 14. B.O.P. Losses Report 15. High voltage system Technical Description. 16. High Voltage Main Packages Preliminary BOQ. 17. M.V system Preliminary BOQ
Work Package (3): Feasibility study	The Feasibility study will be done by the Service Provider . Where a detailed list of data needed shall be prepared by the Service Provider and sent to RCREEE. This list of needed data is essential to enable the Service Provider to accomplish its scope of work in the project with targeted precision. However, if any data is missing, the Service Provider can give the best assumption for the missing data based on its experience in the field and international practices. Hence, any assumed data will be highlighted in the submitted report and the base of the assumptions will be addressed.
Work Package (4): Identifying the requirements for the necessary permits and clearness	Identifying the prerequisites for obtaining the essential permits and ensuring regulatory compliance is crucial for the seamless operation of an On-Grid PV system. This entails a comprehensive understanding of the regulatory landscape, including zoning ordinances, codes, and utility regulations. Additionally, it involves securing approvals from relevant authorities. Ensuring clarity in the permit application process and adherence to all regulatory requirements is essential to avoid delays and ensure the smooth integration of the PV system into the grid.

Methodology Tidal Energy Pre-Feasibility Study for Opportunities in Egypt

1. Technical Overview of Tidal Wave Potential in the Red Sea, Egypt

To begin with, Egypt's population is rapidly expanding, necessitating the provision of economical, environmentally friendly, and renewable energy. Wind energy is well-developed, and several research studies on the optimal places for wind power generation in Egypt have been published. Nevertheless, further research is needed into the creation of energy from the oceans surrounding Egypt. Not just in Egypt, but across the globe, it is still a relatively new technology. Egypt is encircled by about 3000 kilometers of sea coastlines to the north and east. Using these water supplies to harvest electricity from the sea is a feasible suggestion and bankable opportunity. In the south of Egypt, the Aswan high dam generates approximately 10,000 GW of electricity annually.

There are two forms of tidal energy that are often employed across the globe. One being the installation of barrages, which are based on possible energy variations. Throughout high and low tides, the potential power fluctuates. A dam is built across the breadth of a tidal delta to harvest the energy. Even though this produces a great amount of output electricity, it necessitates a vast and costly public infrastructure. The second kind of tidal power is based on capturing the angular momentum of flowing water currents and converting that momentum into electrical power using marine propellers. It operates in the same way as wind energy is collected using wind turbines, but with water opposed to air as the medium of choice. Thus, there is a lot of commercial potential in next-generation wave project development from utilities and project developers for such a bankable project.

Furthermore, the Red Sea (a branch of the Indian Ocean) is 1900 kilometers long, 280 kilometers wide, and 490 meters deep. The Gulf of Suez is 300 kilometers long and 50 kilometers broad, with varying depths from 50 to 75 meters. The Gulf of Aqaba is 180 kilometers long and 25 kilometers broad, with peak depths of 1850 meters. It is tight in the north and widens towards the south. Tidal speeds moving over reefs, sandbanks, and low islands are often more than 1-2 m/s. The average tidal current speed in the Red Sea is 0.5-0.6 m/s, with a high of 1 m/s. Tidal power facilities have the capacity to generate large amounts of electricity. One of the chief factors for this is the density of water, which is over 800 times that of air. This implies that a tidal turbine will generate far more power than a comparable-sized wind turbine. Furthermore, the density of water enables it to drive a turbine even while travelling at modest rates. As a result, even when the water levels aren't optimum, tidal turbines have the ability to generate enormous amounts of power.

For better context, the Mediterranean Sea is bounded to the north by Europe, eastward by Asia, and on the west by Africa. The Mediterranean Sea has a surface area of around 2.5 million km^2 and an average depth of 1,500 meters. At the Egyptian shore, the average tidal stream speed is around 1.5 m/s. The Nile River, being the ’s tallest river, measuring around 6650 kilometers. The Nile Delta is formed when the west stream supplies the Mediterranean and the east branch supplies Damietta. The Nile River, that has a mean flowrate of 2 m/s, may be used to build tidal flow turbines. In 1971, the Aswan High Dam was built. It operates on the idea of utilizing the elevation difference between both the dam's rising tides, which is 196 meters high, and the dam's base, which is 85 meters above the sea level. Hence, making wave energy a bankable technology that can attract mainstream renewable project finance.

a) Relevant Components of pre-feasibility study

For this purpose, the Service Provider shall conduct a feasibility study to check on the market requirement and viability of studying the existing (and planned) national and international regulations and achievements in the Mediterranean region in terms of offshore wind development. opportunities in the Mediterranean. In particular, the feasibility study is expected: (i) to identify relevant stakeholders and solicit their interest in such a RE opportunity; (ii) to narrow the businesses within the industry, that would have significant tidal energy potential; (iii) to identify marine energy technologies that are locally available and feasible in terms of implementation and operation, (iv) and propose a detailed report on the technical and financial components of marine offshore projects. This process is illustrated in Figure 1 below.

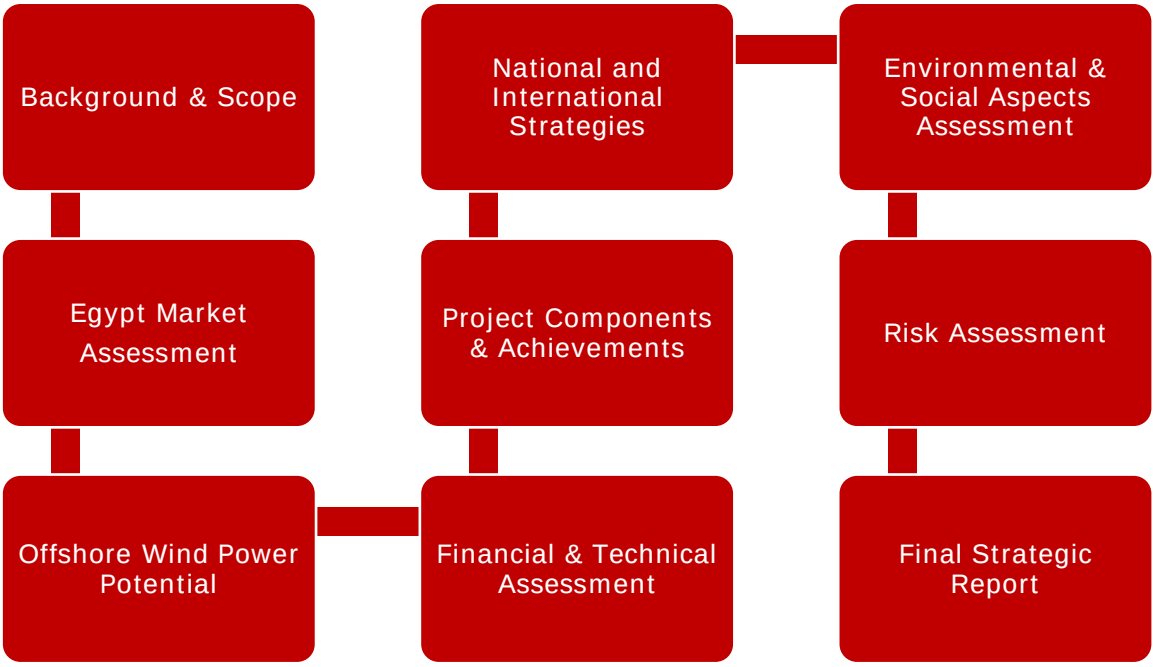

Figure 1 The different components of a strategic report.

There are various reasons as to why incorporating an Integrated Resource Planning (IRP) chart as well as a levy curve. In terms of the IRP, vertically integrated power systems, in which one utility or organization is responsible for the construction, maintenance, and operation of infrastructure for the generation, transmission, and distribution infrastructure to end-users, were the first to adopt IRP techniques. Thus, through the IRP, power plant selection as well as investment in other parts of energy supply as well as demand-side efficiency initiatives can be determined. In terms of the Levy curve, this can be used to better identify the trajectory of the renewable energy project in terms of its current and projected economic outcomes based on multiple factors. In using these 2 approached, the feasibility of the tidal turbine project can be better analysed. This project represents a major step change in the development of the Arabian tidal energy sector and will demonstrate the strong economic benefits that can be delivered by the maturing tidal energy market.

i) Integrated Resource Plan Flow Chart

The figure below shows the building blocks of an IRP encompassing financial, social, and environmental factors. In this context, it becomes simpler to understand how a source of energy (or in this case, tidal power) is influenced by other financial and economic criteria that lead to an acceptable and favorable levy curve if compared to a business as usual (BAU) scenario.

Furthermore, an IRP reveals potential in expanding in green technologies and other areas, as well as allowing the public to remark on the plan. Consequently, an integrated resource strategy is a great method to find relevant relationship possibilities. Studying an IRP after it is issued to see what prospective projects will be heading this way, as well as to pinpoint initiatives they might like to participate in, and much more.

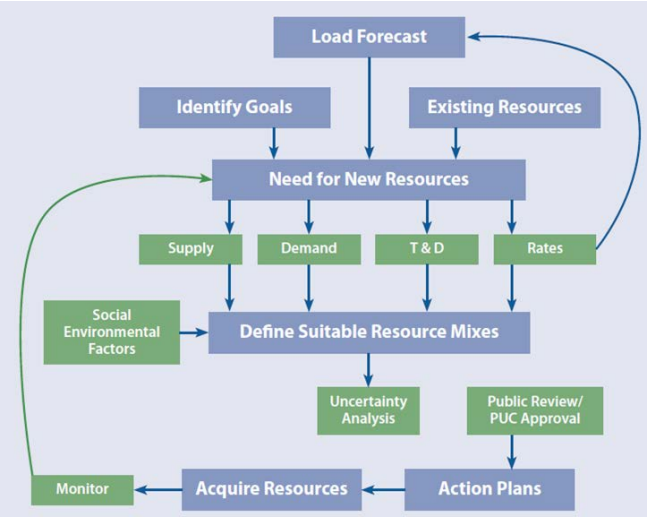

Figure 2 A flow chart for Integrated Resource Planning as a Component of a Strategic Study.

ii) Levy curve

Many national RE strategies and to a certain extent also EE strategies ended up with hidden or published levies, or taxes, or so called system improvement charges, or tariff increases to compensate utilities for increased procurement costs or financial losses caused by national sustainable energy strategies (RE and EE). In the case of electricity savings actions this is entirely avoidable if a utility is asked and compensated for to manage its own DSM outreach program in a technically viable, cost-effective way within its financial means. For this purpose five mandatory cost-effectiveness tests shall be applied for DSM and a prognosed levy curve prepared for new RE capacity addition. The image below shows poor and preferred scenarios of levy curves. Regulators may cap the maximum percentage level a levy is allowed to reach.

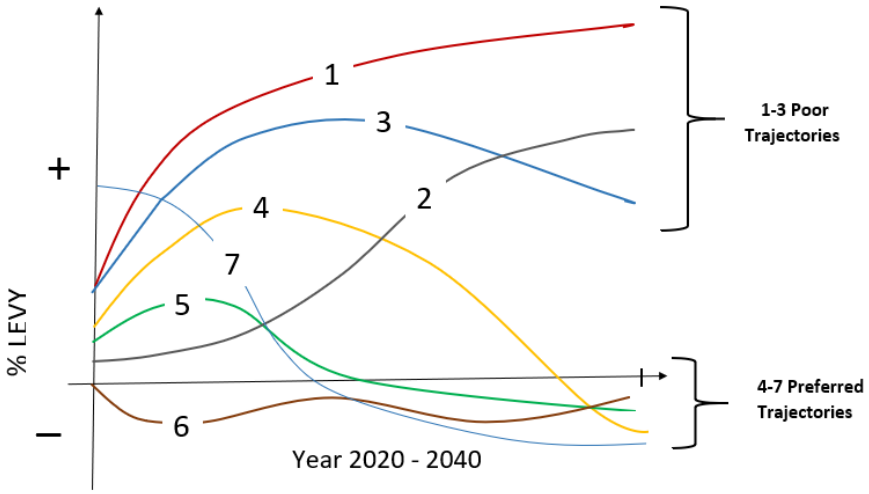

Figure 3 Levy Curve approach as a Component of a Strategic Study.

b) Relevant Outcomes

The planned project is located by the Red Sea, which has had little industrial expansion. During the construction projects, a large number of job opportunities will be created. The project's main aim is to increase enough power to fulfil the rising demand of the developing population.

There are various key outcomes to demonstrate the viability of tidal power turbines as a feasible source of energy in Egypt. For example, although the upfront cost of tidal power is prohibitively expensive, through innovation, design, and practice, the cost of tidal power turbines will be decreased to the point where they will be economical with other renewable technology sources. Additionally, as the cost of fossil resources rises, the viability of fossil fuel power plants will be called into question, highlighting the necessity for tidal energy's strong power capabilities. Also, through the implementation of tidal power turbine projects, Egypt's future electricity generation is secure, and the country's economy is secured. As a result, if the present pace of development continues, tidal energy will be practicable within the coming years is going to become more sustainable over time as new improved solutions are created and suitable incentives are provided.

Furthermore, the industrial and academic sectors of the tidal energy industry will be direct benefactors, while society itself will benefit from the availability of cleaner, more economical renewable energy. The initiative will improve both the academic research reputations, capacities, and skills, in addition to the social and economic benefits of assisting a rising industry sector. This project's methodology and knowledge of basic flow and dynamic interaction challenges will underlie the progression from single seabed supported to multi-turbine floating platforms, as well as propel the industry in Egypt to the vanguard of the marine energy sector.

With that, the Egyptian government is dedicated to commercializing renewable energy products and deploying them widely. The deployment of tidal turbines will give stellar performance at lower prices due to cheaper anchoring foundation technologies, resulting in much lower energy costs, which is

consistent with the governments' renewable energy development plans. The area will designate this project as a high-priority area. The implementation of such turbines can provide bankable tidal energy schemes that can contend with offshore wind and other innovations.

c) Stakeholders Involved

Stakeholder who may be directly or indirectly affected by the project	Outreach and involvement
Regional Centre for Renewable Energy and Energy Efficiency (RCREEE)	Responsible for developing, managing and implementing the wind power projects at the entire marine power technology/turbine life cycle.
Developers	Responsible for providing security clearances and facilitations for site visits.
Egyptian Environmental Affairs Agency (EEAA)	Responsible for providing certificates and processing relevant documentations for relevant institutions.
The Egyptian Electricity and Transmission Company (EETC)	Following up and checking compliance with RCREEE for carrying out offshore wind project-related activities.
New and Renewable Energy Authority (NREA)	Provide trained individuals working in the renewable energy field (i.e. the marine sector involving offshore technical activities, etc.)
Natural conservation Egypt (NCE)	This organisation will be involved in ensuring that the lives and habitats of local flora and fauna are preserved through adequate implementation of the marine offshore project.

d) List Of Deliverables

Work Package	List Of Deliverables
Work Package (1): The base design for the Tidal energy system	a) Site layout b) Technology detailed description c) SLD for the whole power plant d) Report encompassing different design alternatives and Energy output. e) BOQ including preliminarily budgeting of the cost of the equipment based on international prices.
Work Package (2): Base design for interconnection	a) Engineering Deliverable List. b) AC Overall Single Line Diagram. c) High Voltage Substation General Layout. d) M.V cables General Plan. e) Relay & metering Single Line Diagram for the H.V.S. f) SCADA system General Architecture. g) Telecommunication System General Architecture. h) Auxiliary System Supply Single Line Diagram. i) Auxiliary System Load Estimation Report. j) Power system Load Flow Study for the B.O.P k) Short Circuit Study for the B.O.P l) M.V cables Ampacity Study. m) M.V Network Voltage drop Study. n) B.O.P. Losses Report o) High voltage system Technical Description. p) High Voltage Main Packages Preliminary BOQ. q) M.V system Preliminary BOQ
Work Package (3): Feasibility study	The Feasibility study will be done by the Service Provider . Where a detailed list of data needed shall be prepared by the Service Provider and sent to RCREEE. This list of needed data is essential to enable the Service Provider to accomplish its scope of work in the project with targeted precision. However, if any data is missing, the Service Provider can give the best assumption for the missing data based on its experience in the field and international practices. Hence, any assumed data will be highlighted in the submitted report and the base of the assumptions will be addressed.
Work Package (4): Identifying the requirements for the necessary permits and clearness	Identifying the prerequisites for obtaining the essential permits and ensuring regulatory compliance is crucial for the seamless operation of tidal energy system. This entails a comprehensive understanding of the regulatory landscape, including zoning ordinances, codes, and utility regulations. Additionally, it involves securing approvals from relevant authorities. Ensuring clarity in the permit application process and adherence to all regulatory requirements is essential to avoid delays and ensure the smooth integration of the PV system into the grid.

Expected timeframe, outputs and deliverables

The duration of the assignment is expected between September 2023 to February 2024, where the deliverables will be as follows.

No	Deliverables/ outputs	Due dates
1	Detailed work plan and methodological procedures for Solar Energy Technology (Work Package 1& 2).	01.04.2024
2	Detailed work plan and methodological procedures for Tidal Energy (Work Package 1& 2).	
3	Final Feasibility Study for Solar Energy Technology (Work Package 3).	01.05.2024
4	Final Feasibility Study for Tidal Energy (Work Package 3).	
5	Identifying the requirements for the necessary permits and clearness (Work Package 4).	15.05.2024

Qualifications

- The consultancy firm should possess extensive experience and expertise in the field of renewable energy, particularly in the areas of solar photovoltaic (PV) and tidal energy technologies where Proven experience in providing similar services with a proven track record for above 100 MWp On Grid-PV systems, as well as tidal energy technology.
- The consultancy firm should demonstrate a successful track record of conducting feasibility studies for renewable energy projects, especially in similar contexts such as integrating solar PV and tidal energy into existing grids. Previous project examples and client references should showcase the firm's capability to deliver high-quality results.
- The consultancy firm must have a team of experts proficient in conducting resource assessments, technical analyses, and economic evaluations for renewable energy projects. This includes specialists in solar irradiance analysis, tidal pattern assessment, system design, grid integration, and economic modeling.
- The consultancy firm should possess a deep understanding of the regulatory landscape pertaining to renewable energy projects, particularly in the Gulf of Suez region of Egypt. This includes familiarity with permit requirements, environmental regulations, and licensing procedures relevant to solar PV and tidal energy installations.
- A multidisciplinary approach is essential for comprehensive feasibility studies. The consultancy firm should have a diverse team comprising engineers, economists, and regulatory experts who can collaborate effectively to address the technical, economic, and regulatory aspects of the projects.

Requirements for Submission of Financial Proposal

The consultancy firm must send a financial proposal in (EGP)**.** The total amount quoted shall be all-inclusive and include all costs and components required to perform the deliverables identified in the TOR,

Payments will be made upon completion of the deliverables/outputs and as per below percentages:

Payment Terms:

No	Deliverables/ Outputs	Deadline	Percentage for Payment
1	Detailed work plan and methodological procedures for Solar Energy Technology (Work Package 1& 2)	01.04.2024	40%
2	Detailed work plan and methodological procedures for Tidal Energy (Work Package 1& 2)		
3	Final Feasibility Study for Solar Energy Technology (Work Package 3)	01.05.2024	40%
4	Final Feasibility Study for Tidal Energy (Work Package 3)		
5	Identifying the requirements for the necessary permits and clearness for both Solar and Tidal Energy (Work Package 4)	15.05.2024	20%

Payment release will be made within thirty (30) days from the date of meeting the following conditions:

a) RCREEE's written acceptance of the quality of the outputs; and

b) Receipt of payment request from the consultancy firm

GENERAL Terms &Conditions

1. Definitions

1.1 Definitions

The meanings of the terms used in this Agreement are set out below.

Term	Meaning
Affiliate	with respect to any person, any other person that, directly or indirectly, through one or more intermediaries, Controls or is Controlled by or is under common Control with that person.
Agreement	this agreement, including any schedule, annexes, attachment or exhibit to this agreement.
Commencement Date	has the meaning given to it in clause#4 **COMMENCEMENT DATE & DURATION**
Assignments	**Task (I): On-Grid Solar PV Feasibility Study** **Task (II): Tidal Energy Feasibility Study**
Project	a Tidal and solar on-grid PV system Feasibility study in Gulf of Suez, Egypt.
RCREEE	Regional Center For Renewable Energy and Energy Efficiency "RCREEE
Business Day	a Gregorian calendar Day except Fridays, Saturdays and official holidays in the Arab Republic of Egypt.
Day	a Gregorian calendar day, consisting of 24 hours from midnight to midnight.
Dispute	a dispute or difference of whatever nature between all or any of the Parties as to the Technical Assistance or implementation (or both) of this Agreement or as to any matter of whatsoever nature arising under or in connection with this Agreement, including any Claim and any dispute relating to this Agreement's validity.

Term	Meaning
Law	any law, statute, decree, decision, rule, directive (to the extent having the force of law in the Arab Republic of Egypt), order, treaty, code or regulation (including any relating to health or safety matters or any environmental matters)
Party	each of RCREEE or Service Provider (as the case may be), and Parties means RCREEE and Service Provider
SERVICE PROVIDER Provided Services	The services related to the Assignments and the Technical Assistance Service as described in Annex 1, to be undertaken by Service Provider.
Deliverables	MENTIONED IN Annex 1
RCREEE Provided Payment Terms	is defined in clause#6(**PAYMENTS TERMS)**
Site	RCREEE Main Office

1. INTRODUCTION:

This Agreement embodies the entire agreement between RCREEE and the Service Provider. The Parties referenced above, shall not be bound by or be liable for any statement, representation, promise, inducement or understanding of any kind or nature not set forth herein. No changes, amendments or modifications to any of the terms or conditions of this Agreement shall be valid unless in writing and signed by both Parties.

RCREEE shall not be bound by any obligations to the Service Provider other than what is stated in this Agreement.

2. PURPOSE OF THE AGREEMENT:

Tidal and solar on-grid PV system Feasibility study in Gulf of Suez, Egypt"

3. SCOPE OF SERVICES:

as mentioned above in annex 1

4. In accordance with Annex 1 with full compliance to RCREEE policies, regulations, and terms & conditions. **COMMENCEMENT DATE & DURATION**

Service Provider will commence the relevant Services on the date of signing the agreement (the "**March 1,2024**"), and will be valid for one year.

Service Provider acknowledges that the timing of completion of the Services and delivery of the service is of utmost importance to RCREEE and to the Project, and that any delay in the completion of the Services will have a significant impact on RCREEE and the Project.

RCREEE has the right to renew this agreement for further periods by serving Service Provider (30) days' notice prior the expiry date of the agreement.

In case the two parties failed to renew the agreement for another period, Service Provider adhere "upon RCREEE request" to continue rendering services for one month with the same rates and conditions.

5. REMUNERATION:

For the performance of Service, Service Provider shall be remunerated according what has been mentioned above

6. PAYMENTS TERMS:

Payments shall be made through bank transfer in Egyptian Pounds within (30) days' from receiving an approved invoice by RCREEE mentioned agreement Reference Number . Service provider is expected to bear bank charges as a normal cost of doing business except local bank charges will bear by RCREEE

7. OWNERSHIP OF INFORMATION, DATA AND MATERIALS:

Information provided to the Service Provider by RCREEE and/or developed by the Service Provider in carrying out its duties under this Agreement shall be deemed the property of RCREEE and shall be assigned by the SERVICE PROVIDER unconditionally to RCREEE without additional compensation to the Service provider.

8. STANDARDS AND DELIVERABLES:

The Service performed and the resulting deliverables, outputs, outcomes, products or reports produced by the SERVICE PROVIDER will be suitable for their intended purpose.

Service Provider will, in the course of performance of the Service, create and maintain files, working papers and records relating to the performance of the Services as directed by RCREEE. Such files, working papers and records, including any appendices, attachments or supporting information, will be the sole and absolute property of RCREEE.

When requested, Service Provider will promptly disclose and provide to RCREEE fully and completely, together with all related and supporting data, information, reports, methods, formula, computer designs, inventions, conceived or prepared by the Client as a consequence of the performance of the Service referenced in this Agreement or under a Project Specific Agreement.

All such Information, Data and Materials will be deemed to be confidential and will be the sole and exclusive property of RCREEE.

9. CONFIDENTIALITY:

Service Provider will maintain confidentiality and will not disclose, use or publish any information relating to the Service under this Service Agreement except as required to perform the Service to RCREEE in circumstances where prior written consent has been obtained from RCREEE to allow such disclosure, use or publishing.

Notwithstanding anything in this Agreement to the contrary, the Contractor retains the right to disclose, use or publish any information that is in the public domain or otherwise becomes known to the public through no fault of the Service Provider.

This clause will continue in force for a period of two (2) years after termination of this Agreement.

10. RELEASE OF INFORMATION:

Service Provider agrees not to divulge to third parties, without the written consent of RCREEE, any information obtained from or through RCREEE in connection with the performance of this agreement unless; (i) the information is known to Service Provider prior to obtaining the same from RCREEE; (ii) the information is, at the time disclosure by Service Provider, then in the public domain , (iii) the information is obtained by Service Provider from a third party who did

not receive same, directly or indirectly from RCREEE and who has no obligation of secrecy with respect thereto, (iv) the information is required by law or legal process, or (v) the information is developed by Service Provider.

Service Provider's proprietary information and information regarding Service Provider's business obtained by RCREEE in connection with this agreement will be held in strict confidence by RCREEE and will not, except as required by law or legal process, be disclosed by RCREEE to any third party without authorization from Service Provider as long as such information is not in the public domain

11. TERMINATION:

11.1 The Agreement herein shall be deemed null and void 30 days after receipt of written notice provided by either of the PARTIES, for a justified reason.

11.2 The Agreement herein shall be rendered null and void without any prior notice or other formal procedure if any of the following events occur, namely:
Bankruptcy of either of the PARTIES.

11.3 In the case of a termination event mutually, RCREEE agrees to pay for the work already invoiced as well as fees and related expenses for work in progress up to the date of the termination event of the Agreement, and

11.4 SERVICE PROVIDER to adhere to submit all due deliverables.

12. VARIATION

No variation of this agreement, including any modification of the Scope of Work, Remuneration, shall be effective unless it is in writing and signed by the parties. Modification of the terms and conditions of this agreement, may only be made by written amendment of this agreement as agreed to between the Parties.

13. APPLICABLE LAW:

This Agreement shall be governed by and take effect in accordance with the laws of the Arab Republic of Egypt.