REQUEST FOR PROPOSALS (RFP) FOR THE PROCUREMENT OF A FRAMEWORK AGREEMENT TO DESIGN SYSTEMS AND PURCHASE EQUIPMENT

FOR

WIND/DIESEL HYBRID AND WIND ONLY GRID INTERACTIVE POWER SYSTEMS

FOR

INSTALLATION WITHIN THE WATER, HEALTH AND ESSENTIAL SERVICES OF THE GOVERNMENT OF ANTIGUA AND BARBUDA

Government of Antigua and Barbuda

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1. PROJECT OVERVIEW

1.1. Project Goals and Background

The Department of Environment ("DoE") hereinafter referred to also as the "Awarding Authority" is an Agency of the Government of Antigua and Barbuda ("GOAB"). Under the provisions of the Environment Protection and Management Act ("EPMA") 2015, the Awarding Authority has been mandated to implement the provisions of the EPMA in order to design and implement Environmental Management Systems ("EMS") within Government operations with the overall goal of reducing the generation of pollution including Greenhouse Gases (GHGs) within the Public Sector. To reduce GHG pollution, Government agencies will be expected to dramatically reduce their use of Fossil Fuel generated power for both Utility Scale (the grid) and Backup (distributed) diesel engines over the next four years. To this end, the Awarding Authority is issuing this Request for Proposals ("RFP") for a Framework Agreement for the implementation of wind only and wind plus diesel hybrid power systems for Government facilities and some key areas of the private sector in Antigua and Barbuda.

The desired outcome of this RFP is the negotiation and execution of a Framework Agreement with the successful Company ("Respondent") for the scope of services described herein. The Awarding Authority is therefore seeking to enter into a Framework Agreement to install between 15MW – 18MW of Wind Energy **only,** within the context of **Hybrid Wind Energy utilizing existing Diesel Generators and Standalone Wind Energy Systems for Government Facilities. The Hybrid or Wind only Energy Systems must be designed as the primary source of energy with the utility grid remaining as an options as a final backup.** The framework agreement will cover the years of 2017 – 2021 and will include several sites around the island (see map of initial sites in Attachment 1). The installed systems will function as Grid Interactive Systems where the Wind Energy generated is consumed on site and the existing generators or the utility grid is used as backup.

1.2. Project Description

Antigua and Barbuda is a twin island state vulnerable to extreme weather events and the projected impacts of climate change. The island has no indigenous fossil fuel resources and is dependent on imported fossil fuels for its energy supply. The island experiences utility grid instabilities and grid outages when there is severe weather event – extreme rainfall, tropical storms and hurricanes. After 20 years of severe storms, the grid is in need of significant investments if it is to accommodate significant amounts of Renewable Energy (RE). Furthermore, the island is heavily dependent on Reverse Osmosis technology for water production via a desalination process, which is presently tied to the grid and heightens the island's vulnerability to climate change. Without a reliable and resilient source of electricity, water production can be severely curtailed. This has had severe economic and social impact on the population of residents on the twin island state particularly women and children. Antigua and Barbuda's strategic target is to increase the resilience of essential services such that these services can continue to be provided soon after a storm and drought when the grid power supply is not available. The entire program and the framework agreement will focus on the vital sectors of the Government and some key areas of the private sector (private schools, private clinics and small to medium enterprises and large supermarkets). The initial order within the Framework Agreement will be valued at **11.7M USD**.

National adaptation targets, transmitted to the UN via the Cabinet-mandated Nationally Determined Contribution (http://bit.ly/1M40gsG), set an ambition that: *By 2030, 100% of*

electricity demand in the water sector and other essential services (including health, food storage and emergency services) will be met through off-grid renewable sources. The GOAB has secured financing to build national resilience to climate change throughout the island using off-grid and grid interactive renewable energy systems and to reduce pollution from GHGs and other pollutants.

In addition to the GOAB's financial contributions, this project is being provided with financing by:

1. Antigua and Barbuda Sustainable Financing Mechanism for Climate Change Mitigation and Adaptation in Antigua and Barbuda, with a concessional loan from the Abu Dhabi Fund for Development (ADFD);
2. Sustainable Pathways – Protected Areas and Renewable Energy (SPPARE), with funding from the Global Environment Facility (GEF) and implementation by the United Nations Environment Program (UNEP); and
3. The Ministry of Finance, Government of Antigua and Barbuda.

Antigua and Barbuda wishes to acknowledge the technical support of the Clean Energy Solutions Center (CESC) in the development of this RFP.

1.3. Organization

The Department of Environment (DoE), within the Ministry of Health and the Environment, is the national focal point for climate change, and is operationalizing the Sustainable Island Resources Framework Fund ("SIRF Fund") pursuant to section 84 EPMA 2015. The Cabinet of Antigua and Barbuda has approved the DoE/SIRF Fund to procure, install and manage up to 25 MW of renewable energy for resilience and reduced vulnerability to climate change and to reduce GHG emissions. The Cabinet and the Ministry of Finance have authorized the DoE/SIRF Fund to seek grants and concessional loans for investing in climate resilient renewable energy systems, prioritizing essential services. To this end, the Awarding Authority is implementing the first phase of this mandate with the initial purchase of wind turbines to be used within hybrid and standalone solar (where appropriate) and wind systems, utilizing existing on site diesel generation capacity for stability in electricity supply.

1.4. Project Scope

Site-specific wind systems

Table 1. Initial Project Sites and Potential Wind RE Systems

Location	Hybrid RE System	Type of System	Est. Demand
Mount Saint John's Medical Centre	Wind + Generator (Existing) + Accessories	Grid-Interactive	~1MW
Interpretation Center (Christian Valley)	Wind + Solar + Accessories	Grid Interactive	~100KW
Antigua University (Five Islands)	Wind + Generator (Existing) + Accessories	Grid-Interactive	~250KW
Four (4) Reverse Osmosis Plants (APUA)	Wind + Accessories	Grid-Interactive	~5 MW
National Parks	Wind + Solar + Generator (Existing) Accessories	Grid-Interactive	~300 KW

McKinnon's Wastewater Treatment Plant	Wind + Solar + Accessories	Grid-Interactive	~200 KW

1.5. Project Approach

- The Agreement with the successful Respondent will take place in a phased approach where a supplier is selected and orders are placed sequentially over the next four (4) years.
- The initial proposal for assessment of the successful Respondent will be based on the selection of the two sites at:
    - Mount Saint John's Medical Centre (Hybrid); and
    - SembCorp Reverse Osmosis Plant (Wind only).
- Information on the two priority Renewable Energy sites is included Attachment 1.
- All wind procurements over the four-year term would be from the successful Respondent, and a procurement schedule will be established at agreed intervals.
- Wind systems should be designed with SCADA/equivalent software for performance tracking purposes.
- The wind turbines will be grid interactive or off-grid systems and should be sized for the installation to which it is expected to provide power.

1.6. Project Structuring for Local Capacity Building

The Respondent will provide specification sheets for the construction and civil works that will be required per the designed system and the Awarding Authority will engage local civil engineers to complete the construction. All requirements for planning permission including the Environmental Impact Assessment (EIA) for the physical works, in accordance with local planning laws, associated with installation of the wind turbines will be the responsibility of the Awarding Authority.

The Respondent will provide the full engineering plans, designs and documents so that the Awarding Authority may obtain the following permits:

a) Antigua Public Utility Authority (APUA) approval
b) Building permits
c) Electrical permits right-of-way encroachment/access permits
d) Temporary construction power, fire, and sanitation permits
e) Any aviation or height-related permits

1.7. Wind System Design Criteria

1. The systems shall be designed and constructed for a minimum functional life of 25 years.
2. The systems shall be designed and constructed with the primary objective of maximizing energy generation within the lands available and based on on-site consumption.
3. The systems shall be designed and constructed in a manner to locate turbines to capture maximum wind speeds, minimize soiling, wire losses, inverter losses, and switchgear and transformer losses.
4. The systems shall be designed and constructed in a manner to meet the standard nominal power requirements and quality used in Antigua and Barbuda.

5. The systems, facilities, and components shall be designed and constructed to withstand, without damage, all applicable environmental conditions as defined by the local building codes appropriate for the sites, including but not limited to hurricanes, corrosion, precipitation, flooding, temperature and humidity extremes. Antigua and Barbuda is exposed to frequent hurricanes (Atlantic Hurricane Season from June – November each year) and has experienced Category 4 hurricanes. The island experiences approximately one hurricane every three years. The design of the wind turbines to withstand hurricane forces is a key selection criterion.
6. The grid-interactive systems shall utilize wind turbines in the 10-300 kW capacity range as the means of renewable energy generation. The type and technology of the nacelles, towers and blades shall be specified by the Respondent. The Respondent shall provide a plan that meets all the objectives of this RFP.
7. The system shall comply with the requirements of National Electrical Safety Code (NESC), with the International Electric Code (IEC) taking precedence if conflicting code requirements exist.
8. The system shall be designed and installed in compliance with component manufacturer instructions.

1.8. Civil Requirements

The selected Respondent shall be required to provide civil details in engineering drawings for each site. Civil details required for the submission of local permits include but are not limited to:

a) EIA (to be completed by the Awarding Authority)

b) Site topographical evaluation

c) Geotechnical analysis and subsurface investigation

d) Hydrology and hydraulic study

e) Site grading

f) Site drainage and storm water containment

g) Wetlands management and erosion control

h) Vegetation management

i) Vehicle access, parking, paving, and walkways

j) Underground trenches and utilities

k) Pads and foundations

l) Spill prevention and containment plan (where relevant)

m) Any aviation or height-related impacts

1.9. Structural Requirements

All structures must be designed in accordance with applicable local codes and in compliance with international standards.

The complete generating system, support structure, and ancillary structures shall comply with Category 5 hurricane (150 miles per hour basic design wind speed, Risk Category Iper ASCE 7-10) or greater requirements of the local building code requirements. The Respondent shall confirm all wind load requirements with Development Control Authority (DCA) and the Awarding Authority prior to initiating design activities.

The structure must resist both static and dynamic wind loading without damage due to resonance or fatigue. The structures must be designed to withstand gravitational loads and combined loads as required by applicable codes. The structures must take into account expected thermal expansion and contraction and thermal cycling.

The selected Respondent will be required to provide structural details in engineering drawings for the further assessment by the Awarding Authority Engineers. This is required as part of the design and permitting process. Structural details include but are not limited to support structures, material specifications, grades and finishes, foundations, towers, fences, metering sections, monitoring and disconnect facilities, and turbine layout drawings.

1.10. Mechanical Requirements

1. All generating facility components, support structures, hardware, conduits, wire management, enclosures, shall be protected from corrosion due to known or expected atmospheric conditions local to the Project site. Consideration shall be given to humidity, salinity, acidity, condensation, air particulates, or other conditions likely to cause or accelerate corrosion of materials.
2. Contact of dissimilar metals and finishes shall be avoided or intentionally managed to prevent premature galvanic corrosion.
3. Aluminum shall not be in direct contact with concrete or copper.
4. Areas of exposed ferrous metals (i.e., cuts, field welds, butt ends, and similar) shall be aggressively treated with multiple applications of an appropriate corrosion protection coating.
5. Support structure components in contact with soil shall be protected from detrimental subsurface corrosion for the design life of the project. Particular site-specific evaluations including local soil conditions shall be conducted to assure long-term structural integrity of all support structures.
6. Fastener quantity, diameter, material grade, and finish shall be selected appropriate to each joint to assure sufficient initial clamping preload, prevention of loss of preload, and maintainability of the joint for the design life of the Project.
7. Mechanical wire and cable management shall be provided to prevent all opportunities for strain, abrasion, disconnection, accidental grounding, and similar avoidable hazards. Mechanical wire management components shall be rated for long-term sunlight exposure.

1.11. General Electrical Requirements

1. Voltage insulation levels, grounding, equipment interrupting and continuous current capacities, circuit protection, and mechanical strengths shall be selected and coordinated in accordance with calculations and the recommendations of the NESC, EC, or other applicable codes and standards as noted (with IEC taking

precedence if conflicting code requirements). Any variation from code shall be noted. The maximum dc voltage shall be 1000 Vdc.
2. No aluminum wire shall be used within the generation plant.
3. Conductor color codes shall be in compliance with the existing Antigua and Barbuda regulations based on IEEE BS7671 - British Standard.

1.12. Site description (See Attachments 1)

2. CONTRACT TERMS AND REQUIREMENTS

The response must demonstrate the Respondent's willingness and ability to comply with the following expected contract requirements.

2.1. Insurance

The selected Respondent shall be required to carry the minimum required insurance coverage for agreements/arrangements of this nature. The Respondent must specify available insurance that they have to cover the expected amount and type of equipment to be supplied under the framework agreement arrangement with the Awarding Authority.

2.2. Subcontracting

The agreement allows for assignment or subcontracting, but this must be done with the prior knowledge and documented approval of the Awarding Authority. The subcontracting agreements must be consistent with the standards outlined in the framework agreement.

2.3. Indemnification

The agreement will require that the Respondent hold harmless and indemnify the Awarding Authority and its officers, agents and employees against all claims, demands, actions and suits (including all attorneys' fees and costs) brought against any of them arising from the Respondent's work or any subcontractor's work under the contract.

2.4. Compliance with Laws

The agreement will require compliance with all national laws, ordinances, rules and/or regulations, including the following but not limited to:

- The Labour Code;
- Financial Laws that Governs the funding of Prohibitive Practices such, Terrorism, Anti-Money laundering and Fraud;
- Physical Planning Act; and
- Environmental Protection and Management Act.

The Respondent must include a letter to the Awarding Authority stating their understand of these laws and a high level of commitment to be in compliant with these laws.

Local Labor Provisions

To qualify, the Respondent must include a commitment to design a simple certification program for wind installers (3 – 5 persons to be certified in wind installation).

2.5. Governing Law, Venue

All agreements entered into by the Awarding Authority shall be governed by the Laws of Antigua and Barbuda.

2.6. Respondent Due Diligence

Information provided in the RFP is for general information purposes only. It is the Respondent's responsibility to conduct due diligence on the sites. Submission of a response shall be conclusive evidence that the Respondent has examined the Premises and is familiar with all the conditions of this procurement.

2.7. Pre-Contractual Expenses

All proposals prepared in response to this RFP are at the sole expense of the Respondent, and with the express understanding that there will be no claim, whatsoever, for reimbursement from the Awarding Authority for the expenses of preparation. The Awarding Authority shall not be liable for any expenses incurred by the Respondent prior to the date of award and commencement of contract services.

3. RFP PROCESS AND SUBMISSION INFORMATION

3.1. Submission Deadline and Instructions

Proposals from Respondents, as required in accordance with all terms and specifications contained herein, will be received until December 21st, 2016 at 11:59 pm AST.

Proposals are to be sent by mail to the subject "**Response to Renewable Energy RFP**" attn:

Ambassador Mrs. Diann Black-Layne
Director
Department of Environment
#1 Victoria Park, Botanical Gardens, Factory Road
P.O. Box W693
St. John's, Antigua
Diann.Black.Layne@ab.gov.ag
dcblack11@gmail.com
antiguaenvironmentdivision@gmail.com

Copied to:

Dr. Mrs. Helena Jeffrey Brown
Chief Operations Officer
Ministry of Health and the Environment,
Victoria Park Botanical Gardens,
Factory Rd, St. John's, Antigua
Helena.jefferybrown@ab.gov.ag
jefferybrown.helena@gmail.com

Respondent shall enclose one (1) single-file electronic version (in Adobe Acrobat (pdf) format and on a CD-ROM or thumb drive) of the proposal in a sealed envelope marked

with the Respondent's ***company name***, and plainly marked in the lower left hand corner: "Response to Renewable Energy RFP".

The Bids will be opened publicly at 12:00 noon on Friday December 23rd 2016.

The right is reserved, as the interest of the Awarding Authority may require, to reject any or all proposals, to waive any technical defect or informality in proposals received, and to accept or reject any proposal or portion thereof.

3.2. Timeline

Request for Proposals Issued	October 3, 2016
Period for Informational Meeting and Site Visit	November 7 - 10, 2016
Inquiries Due to the Awarding Authority	November 19, 2016
Responses to Inquiries/Addenda Issued by the Awarding Authority	December 1, 2016
RFP Submission Deadline	December 21, 2016
Opening of Bids	December 23, 2016
Anticipated Selection of Selected Respondent	January 5, 2017
Final Contract Approval by Awarding Authority	January 30, 2017

3.3. Informational Meeting and Site Visit

An informational meeting and site visit will be available to prospective Respondents during the week of November 7 – 10, 2016. Respondents interested in a site visit must confirm attendance by contacting Churchill Norbert via email address; churchill.norbert@ab.gov.ag; norbert.churchill@gmail.com and copied to Diann Black-Layne dcblack11@gmail.com; Diann.Black.Layne@ab.gov.ag and carbon copied to antiguaenvironmentdivision@gmail.com.

3.4. Inquiries

All questions and inquiries regarding this RFP must be submitted via email to churchill.norbert@ab.gov.ag; norbert.churchill@gmail.com no later than November 19, 2016 copied to Diann Black-Layne dcblack11@gmail.com; Diann.Black.Layne@ab.gov.ag and carbon copied to antiguaenvironmentdivision@gmail.com.

Inquiries will not be answered directly. The Awarding Authority will issue an addendum to address the written questions submitted by the aforementioned deadline. Any addenda will be posted by email. *It is the responsibility of the Respondent to contact Mr. Churchill Norbert by email;* churchill.norbert@ab.gov.ag; *norbert.churchill@gmail.com prior to the*

submittal deadline to ensure that the Respondent has received all addenda issued by the Awarding Authority.

3.5. Amendments and/or Cancellation of this RFP

If this RFP requires an amendment, written notice of the amendment will be given to all prospective Respondents that have attended the informational meeting or contacted Mr. Churchill Norbert and/or Diann Black-Layne. The Awarding Authority reserves the right to modify, amend or cancel this RFP if the Awarding Authority determines, that it is in the best interest of the Awarding Authority to do so.

3.6. Withdrawal and Modification

Any Respondent may withdraw or modify its response by written request at any time prior to the RFP submission deadline. Telephone responses for amendments or withdrawals will not be accepted; requests must be documented in writing.

After the RFP submission deadline, a Respondent may withdraw, but may not modify, its response except in a manner that is not prejudicial to the interest of the Awarding Authority or to fair competition. Negligence on the part of the Respondent in preparing the response confers no rights for the modification of the response after it has been opened.

3.7. Language

All proposals, deliverables, confirmations, requests for clarification, and other communications associated with this RFP shall be in the English language.

3.8. Proposals as Public Records

All materials submitted in response to this RFP become the property of the Awarding Authority and become public records after the award of contract, except for information not subject to disclosure unless the Respondent wishes to enter a multi-party non-disclosure agreement with the Awarding Authority.

4. PROPOSAL REQUIREMENTS

Submitted proposals should include:

4.1. Respondent Information Form

Each proposal should include a signed and completed Respondent Information Form, found in Attachment 2.

4.2. Transmittal Letter

Each Respondent's response should include a transmittal letter signed by a party authorized to make a formal bid on behalf of the Respondent. The letter shall clearly indicate that the Respondent has carefully read all the provisions in the RFP and should include a brief overview of the Respondent's proposal. Transmittal letters should also acknowledge receipt and understanding of any Addenda associated with the project.

4.3. Company Overview

The Respondent must provide a document with the following company information:

(a) Company overview/description

(b) 2014/2015 revenues (whole company and renewables)

(c) Number of projects/MW installed - Caribbean

(d) Number of projects/MW installed - Outside Caribbean

(e) Number of projects/MW currently in construction

(f) Project references

(g) Years in operation - Caribbean (whole company and renewables)

(h) Years in operation - Outside Caribbean (whole company and renewables)

(i) Size of renewables team

(j) Safety plan/safety record

(k) Quality plan/quality record

(l) Any legal issues or ongoing litigation

(m) Ability to respond to the Environment and Social Safeguards related to this area of concern.

4.4. Project Team

Provide information about the key personnel to be assigned to this project, including:

(a) Full contact information for the project manager.

(b) An organization chart including all key personnel.

(c) For all key personnel (including subcontractors), professional experience, certifications, project role, and office location.

(d) Resumes of key personnel, provided in an appendix to the proposal.

(e) Evidence of NABCEP, Professional Engineer (P.E.), or Master Electrician certification where applicable, provided in an appendix to the proposal and familiarity with the International Electric Code (IEC).

4.5. Qualifications and References

Describe previous wind and solar installation experience, and in particular experience with behind-the-meter wind systems.

In addition to this description, provide references for at least three completed and currently operating non-residential grid-interactive or off grid connected wind systems, including:

(a) System size (kW DC)

(b) Host Customer and/or Owner contract information (name, email, address, phone).

(c) Location and Utility Company name.

(d) Date completed.

(e) Any other relevant installation-specific information.

Describe experiences designing hybrid systems.

4.6. Project Plans

Provide a detailed plan of the proposed project. Project plans must include the following:

(a) Proposed Project Timeline

Following are key milestones for the Project. Expected dates for their completion should be provided in the response to this solicitation.

Milestone	Milestone Date (to be provided by Respondent)
Application submitted for all permits	
Completion of System Design	
Secure System Equipment and Assets	
Commence Construction	
Substantial Completion	
Testing and Commissioning	
Final Completion	

(b) Typical System Design and Components for the two Project Sites.

System Design and Components are not binding at the proposal stage, but this information will be used to evaluate Respondent price proposals. The assessment sites are: Mount St. John's Medical Center (Hybrid) and the SembCorp Reverse Osmosis at Crabbs' Peninsular (Wind):

For the Wind only site for SembCorp Reverse Osmosis:

For the Wind Components: Include an overview of the proposed wind system including descriptions of the main components (at a minimum, turbine, towers, and foundation). Respondents are required to provide specification sheets for any proposed technologies as an appendix.

Design: Include Preliminary Drawings for the proposed system that include (at a minimum):

- System size (in kW DC and kW AC)
- Location of meteorological tower(s)
- Location of wind turbine(s) and tower(s)
- Identification of maximum critical load requirements in kW and emergency energy supply needs in kWh
- Any other site-specific information that will aid in overall evaluation.

Warranty: Describe any warranties associated with the installation, including full system coverage and/or warranties associated with individual components, including warranties from the Respondent and manufacturers.

(c) Expected System Generation

Provide expected annual system generation in kilowatt-hours and capacity factors.

(d) Permitting Plan

Respondents must demonstrate a firm understanding of all approvals and permits required to successfully execute the Project. Proposals should include a plan for acquiring approvals and other necessary permits. The selected Respondent will be responsible for all necessary environmental testing, permitting and compliance. To the extent possible, Respondents should identify the regulatory and permit conditions relevant to their proposals, potential conflicts between the project and existing permit conditions, and variances that might be required.

(e) Construction Plan

Provide a detailed narrative description of the approach taken in installing the proposed project, including how the Respondent will work with subcontractors, government agencies, and other relevant stakeholders. Detail how the Respondent will approach completing the wind systems.

(f) Financing Plan and Credit Worthiness

Provide a description of how the Respondent will finance the proposed project. Identify any financial partners that will be involved in the project, and note whether there will be a guarantor standing behind any specific financial obligations, including security on project milestones. In order to evaluate credit worthiness, the Respondent shall provide audited annual financial statements for the past three fiscal years and current unaudited quarterly financial statements.

(g) Measurement and Verification Plan

Indicate if and how the Respondent will provide system performance monitoring via a data acquisition system (DAS) SCADA equivalent. Provide a detailed description of the DAS system and the end-user interface. This includes how the systems will monitor output of the wind systems.

(h) Operations and Maintenance Plan

The selected Respondent will provide Operation & Maintenance (O&M) services for the full term of the Agreement. Please describe the proposed O&M procedures for the system, detailing duties performed and if the contract will be maintained with the Respondent or a third-party provider. Please briefly describe the Respondent's experience providing such services for similar installations and name the key personnel in charge of handling O&M services.

(i) Decommissioning Plan

The selected Respondent will provide information regarding the proposed approach to system decommissioning. This Decommissioning Plan should include a description of Respondent's approach to providing financial assurance that funding will be available to decommission the system at the end of the life cycle of the equipment.

(j) Security Plan

(k) Health and Safety Plan

(l) Data Acquisition Plan (SCADA or equivalent)

4.7. Employment Practices

Respondent shall provide a comprehensive description of the employment practices of its business and how it plans to comply with applicable laws pertaining to employment. Respondent shall also provide a detailed summary of the design of a simple certification program for wind RE O&M engineers (3-5 engineers to be certified) and any local labor that will be used for engineering, management, and construction.

4.8. Performance Security

The successful Respondent will be required to furnish performance security in the total amount (100%) of the awarded contract executed in favor of the Awarding Authority, to insure faithful performance and payment of the contract. Failure to furnish the security within TEN (10) calendar days may result in bid rejection, forfeiture of bid security, and award of the contract to another Respondent.

The apparent low cost Respondent must provide all required proof of security within 10 days of notification of award. Failure to present the required documents within 10 calendar days may be grounds for award disqualification.

4.9. Conflicts of Interest

The Respondent shall disclose any conflicts of interest or potential conflicts of interest.

4.10. Key Project Risks

The Respondent shall identify key risks that may impact the Project and propose measures to mitigate said risks.

4.11. Pricing Proposal

Price proposals should be provided using the form contained in Attachment 5 of this RFP. This price proposal must be provided in a separate sealed envelope marked "Price Proposal." Price proposals shall be valid for a minimum of 120 days.

4.12. Insurance Requirements

Please provide evidence that the firm meets the minimum insurance requirements listed in section 2.2 above.

5. EVALUATION PROCESS

5.1. Overview of Evaluation Process

The Awarding Authority will utilize an evaluation system to rank the qualified Respondents. It is the responsibility of each Respondent to provide information, evidence or exhibits that clearly demonstrate the Respondent's ability to satisfactorily respond to project requirements and the factors listed in this RFP. The evaluation process may include verification of references, confirmation of financial information and may include examination of other information as the Awarding Authority deems appropriate. The Awarding Authority will conduct interviews to evaluate the Respondents. The Awarding Authority may require public presentations by Respondents. The Awarding Authority reserves the right to request or obtain additional information about any and all responses.

Each response from a qualified Respondent will be evaluated and ranked solely according to the criteria set forth in this RFP as well as the design for the two project sites. The Awarding Authority will enter into negotiation with the Respondent whose proposal yields the highest score. If the Awarding Authority and the most competitive qualified Respondent are unable, within sixty (60) days following the Awarding Authority's notice of commencement of negotiations with a Respondent (or such longer period of time as the Awarding Authority may deem appropriate), to negotiate a satisfactory contract the Awarding Authority determines to be fair, and reasonable, the Awarding Authority shall continue negotiations with the next most competitive Respondent.

The Awarding Authority may cancel this procurement when it determines that cancellation serves the best interests of the public. The Awarding Authority may reject, in whole or in part, any and all planned or proposed project measures, when it determines that rejection serves the best interests of the public.

5.2. Evaluation Criteria

At a minimum, Respondents shall meet the following requirements:

1. Timely submission of response and <attendance at pre-bid meeting/site meeting
2. Submission of all required elements found in 2.4 and section 4 of this RFP
3. Certification of Non-Collusion (Attachment 3)
4. Certification that the Respondent, if ultimately awarded a contract, will guarantee completion of all work required within due dates or the time periods needed.
5. Evidence of appropriate insurance
6. To qualify respondent shall attain a minimum score of seventy percent (70%) from the technical proposal submitted
7. Price Proposals will only be opened for respondents who attained a minimum score of seventy percent (70%) from the technical proposal submitted.

The qualified Respondents providing completed responses will be evaluated based on the following points system:

Criteria	Points
Experience and Track Record	20
Technical Specification of the Equipment proposed	20
Price Proposal	30
Company Profile and Financial Stability	10
Warrantee and Insurance	10
Other	10
Total	100

(a) Developer Experience and Project Team

Proposals must clearly demonstrate the capability, academic background, training, certifications, and experience of the proposed personnel (not just of the Respondent). If sub-contractors will be employed, similar information must be provided and the

portions to be sub-contracted must be identified. Five references will be contacted for each Respondent to determine the quality of past projects.

(b) Project Approach

The response shall include an explanation of how the Respondent will approach the various tasks, including scheduling, methods and sources. A preliminary system design should also be provided for the two sites indicate above. Responses will be evaluated on the adequacy of their proposed system design, project schedule, and construction, financing, measurement and verification, operations and maintenance, and decommissioning plans, and wind certification program design.

(c) Economic Analysis

The economic analysis of each RE system must include an estimated return on investment on a net present value basis using standard discount rates and reasonable electricity price escalation rates.

(d) Financial Resources

The ability to finance the construction of the systems is critical to the Respondent's ability to complete the project. Respondents should provide in their responses a clear discussion of how they intend to finance the system and what financing partners will be involved in the project.

ATTACHMENT 1: SITE DESCRIPTION FOR HYBRID SYSTEMS

Figure 1. Hybrid design renewable energy beneficiary sites in Antigua and Barbuda. The two priority sites relevant to this RFP are circled above: 1) Mount Saint John's Medical Centre (hybrid); and 2) SembCorp Reverse Osmosis Plant (wind only).

The nine sites targeted for hybrid renewable-based energy systems are georeferenced in Figure 1 above and the following Table 2. GIS coordinates of the nine sites are located below. Also included at the end of this attachment are the GPS Maps of the two priority sites.

5.3. Additional information on the Two Priority Beneficiary Sites

Table 2. Site Locations, General Design Intent and Loads to be Served

Facility	Longitude	Latitude	Hybrid RE System	Type of System	Maximum Load Size
Mount Saint John's Medical Center (Only Hospital in the Country)	-61.837	17.119	Wind + Generator (already existing) + Accessories	Grid-Interactive with islanding switchgear and capability	1.05MVA

SembCorp Reverse Osmosis Plant	-61.757	17.127	Wind + Accessories	Grid-Interactive with islanding switchgear and capability	8.88MVA

5.4. Design Intent

The system should be designed to operate daily from the wind turbine and Diesel or Wind turbine only. In the event of not enough wind power to carry the load, the necessary switchgear/ transfer switch shall transfer the load safely to the generator or the utility grid. In the event of generator failure, the switchgear/transfer switch shall transfer the load to the utility grid.

The generator shall serve primarily as the back-up power source in the event that the there is no wind available. In the event that the Wind and Diesel power are not available the facilities can switch to the utility grid.

Wind and Solar Resource Data

For these sites is anticipated that the appropriate wind turbine sizes will be in the 50-300 kW range. The Purchaser shall provide best available datasets for the wind and solar resource for the two selected sites.

5.5. Key Design Parameters – Energy Modeling and System/Sub-System Sizing

The Wind/ Diesel Generator hybrid system shall be designed to meet the daily load based on the wind turbine and other components with an annual target of 90% of the annual load met by the non-diesel generator components. The load information below for the two primary sites is intended to help frame the energy modelling, system engineering and design, and component selection and sizing. More site-specific load information may be required to be obtained by the Respondent.

Table 3 Load Parameters of the Two Project Sites

Facility	Daily Peak Demand (kW)	Daily Mean Demand (kW)	Ave Daily Energy Usage (kWh/day)	Annual Peak Demand (kW)	Annual Energy Usage (MWh/yr.)
Mount Saint John's Medical Center	924	795	19,080	33,7260	6,964.2
SembCorp Reverse Osmosis Plant	4,586	3,160	75,840	1,673,890	27,682

Energy Modelling of the proposed system components and the expected energy generation performance shall be completed using HOMER, RETSCREEN or comparable hybrid system software. The initial assumptions and the modelling results shall be

included in the proposal. The system should be designed to meet daily peak load conditions.

Subsystem siting, particularly with wind turbines, may impact the energy performance of the subsystem. For micro-siting wind turbines, contractor shall use WAsP software (DTU Riso) or equivalent.

5.6. Role of the Awarding Authority

The Awarding Authority will provide relevant information on the sites, including:

1. Text description of the site
2. Available square footage for wind turbines
3. Distance to Facility and Utility interconnection
4. Any feasibility assessment done to date, including information on wind speeds, environmental analysis, etc.
5. Site map

5.7. GIS Maps of Priority Sites

Figure 2. Priority installation site at Mount St. John's Medical Center (Source: Department of Environment EIMAS)

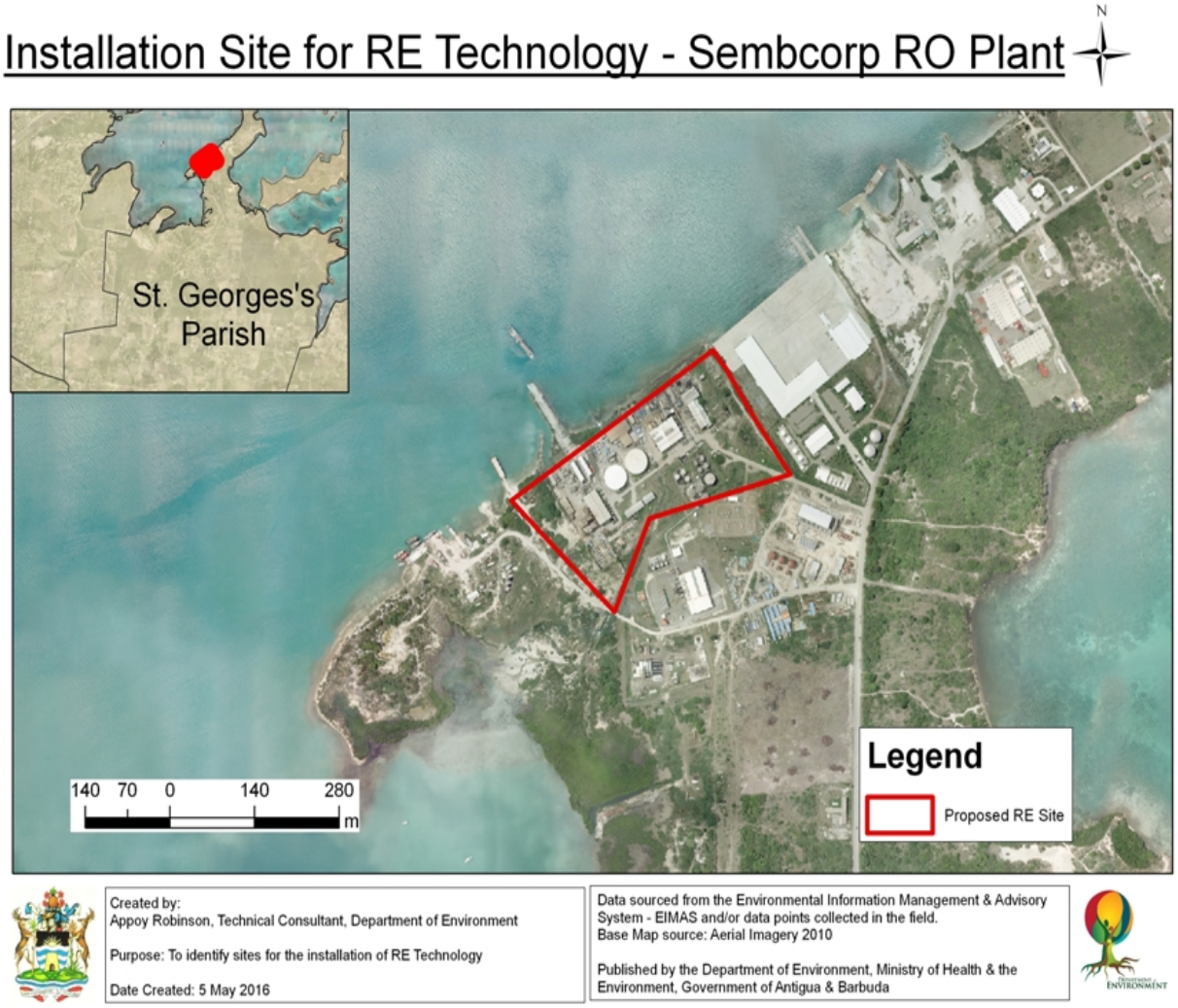

Figure 3. Priority installation site on the east coast of Antigua at SembCorp reverse osmosis desalination plant (Source: Department of Environment EIMAS)

Other Selected Sites for this project

Table 4. Other Beneficiary facilities with GPS coordinates and the classification zones (with two priority sites highlighted in yellow) [1]

Facilities	Longitude	Latitude	SIRMZP Designated Zone
Mount Saint John's Medical Center	-61.837	17.119	Institutional
Antigua University – Five Islands	-61.878	17.119	Environmental Resource
Pigeon Point Desalination Plant	-61.773	17.009	Environmental Protection
SembCorp Desalination Plant	-61.757	17.127	Industrial
Camp Blizzard Desalination Plant	-61.791	17.159	Institutional
Ffryes Desalination Plant	-61.891	17.053	Environmental Protection
Interpretation Center at Christian Valley	-61.863	17.075	Environmental Resource
National Parks at Nelson's Dock Yard	-61.763	17.009	Environmental Resource
McKinnon's Waste Water Treatment Plant	-61.847	17.151	Environmental Protection

[1] SIRMZP, 2012. http://www.environmentdivision.info/wp-content/uploads/2012/01/NPDP-SIRMZP-2012.pdf

ATTACHMENT 2: RESPONDENT INFORMATION FORM

TO: XXXXXX

The undersigned has read the Request for Proposal (RFP) and has carefully examined all specifications/evaluation criteria therein. The undersigned certifies that he/she has visited the site and that there are no known obstacles to prevent the execution of an agreement with Awarding Authority. The undersigned acknowledges that Awarding Authority may reject all proposals, or waive portions of the RFP for all proposals, if it deems it in the best interests of the public.

Signature: _____

Name: _____

Title: _____

Respondent Information

Name of Respondent: _____

Address: _____

Name of Primary Contact: _____

Title of Primary Contact: _____

Primary Contact Phone Number: _____

Primary Contact Fax Number: _____

Primary Contact Email Address: _____

Signature:_____

ATTACHMENT 3: CERTIFICATE OF NON-COLLUSION

The undersigned certifies, under penalties of perjury, that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person. As used in this certification, the word “person” shall mean any natural person, business, partnership, corporation, union, committee, club or other organization, entity, or group of individuals.

_____
(Signature)

_____
(Name of person signing proposal)

_____
(Name of business)

ATTACHMENT 4: PRICING PROPOSAL TEMPLATE (PRICE IN USD)

Estimated RE System Annual Electric Output	_____KWh/year
Guaranteed RE System Annual Electric Output	_____KWh/year
Annual RE System Degradation Factor	_____% Per year
Price per Wind Turbine, and Other components required for each site.	$_____
Shipping and Delivery Cost	
Warrantee of Items and ease of replacement	
Other	