MINISTRY OF ENVIRONMENT AND ENERGY
Male' Republic of Maldives

REQUEST FOR PROPOSAL

Consultancy Services to undertake Environmental and Social Impact Assessment for the establishment of a Regional Waste Management System for Zone 6 and 7 (Construction and Operations)

Advertisement No.: (IUL)438-WMPC/1/2017/73

September 2017

Issued By:
Waste Management and Pollution Control Department
Ministry of Ministry of Environment and Energy

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1 SCHEDULE OF CRITICAL DATES

ACTIVITY	ACTION DATE
Advertise	20th September 2017
Deadline to submit proposals	9th October 2017 at 1300 hours

2 SUBMISSION REQUIREMENTS

Interested parties shall submit all the documents listed under Sections 6 (TECHNICAL PROPOSAL - STANDARD FORMS) and Section 7 (FINANCIAL PROPOSAL - STANDARD FORMS). Furthermore, the following documents shall be submitted for the bids to be considered sufficiently responsive.

Please CHECK in the BOXES to confirm the submission of the required documents.

a) If applicant is a Company;

☐ 1. company profile
☐ 2. company registration certificate
☐ 3. organization chart of the team proposed
☐ 4. CVs of the Individuals (Inclusive of a copy of the National Identity Card)
☐ 5. List of Waste related EIA and EMP or any other relevant work completed by the company in the last 3 years.
☐ 6. Proposed equipment and methodology of works
☐ 7. Cost breakdown of major activities. The total cost shall be clearly indicated.
☐ 8. GST Registration Certificate

b) If applicant is an individual or Team;

☐ 1. CVs of the Individuals (Inclusive of a copy of the National Identity Card)
☐ 2. Organization chart of the team proposed (if applicable)
☐ 3. List of Waste Management related EIA and EMP or any other relevant work completed by the applicant in the last 3 years.
☐ 4. Proposed methodology for the works and the tools/equipment that will be utilized
☐ 5. Cost breakdown of major activities. The total cost shall be clearly indicated.
☐ 6. If the applicant is subject to GST as per MIRA Regulations and Guidelines. The GST Registration Certificate

3 LETTER OF INVITATION

Subjects: Consultancy Services to undertake Environmental and Social Impact Assessment for the establishment of a Regional Waste Management System for Zone 6 and 7 (Construction and Operations)

1. The Government of the Republic of Maldives has received Credit from Abu Dhabi Fund for Development (ADFD) and International Renewable Energy Association (IRENA) and the Government of the Republic of Maldives for the establishment of a Regional Waste Management System for Zone 6 and 7 and intends to procure the services of a consultancy (firm or individual(s)) to develop the Environmental Impact Assessment (EIA) Report for the establishment of a Regional Waste Management System for Zone 6 and 7 (Construction and Operations), administered by the Ministry of Environment and Energy (MEE).

2. The overall tasks to be undertaken includes but is not necessarily limited to, the following;

- Assist the Client as necessary in preparing the ESIA Application form (C2) and short (3 page) accompanying project brief.
- Participate in the Maldives EPA, ESIA scoping meeting and advise the Client on the final ToR.
- Collaborate with the engineering design specialist (separate consultancy) to confirm specification and emission controls as required.
- Undertake fieldwork required to collected baseline environmental data, assess environment impacts, prepare mitigation/management plans, and present ESIA report in accordance with the Detailed Scope of Works for conducting an Environmental and Social Impact Assessment (ESIA) the establishment of a Regional Waste Management System for Zone 6 and 7 (Construction and Operations)

3. The Government of Maldives, represented by Ministry of Environment and Energy (MEE), now invites interested eligible parties to submit their proposals according to the Request for Proposals (RFP). Interested parties must provide information indicating that they are qualified to perform the services (brochures, description of similar assignment, experience in similar conditions, availability of appropriate skills among staff, availability of required tools and equipment, etc.). Parties may associate to enhance their qualifications.

4. The RFP document, in the English language will be available on the Ministry website www.environment.gov.mv. And also can be directly downloaded from the attachment of the announcement.

5. The proposals should be submitted to the address below by **1300 hours local time on 9th October 2017, Monday** and will be opened in the presence of the bidder or the representative of the bidders. Electronic bidding is not permitted. Late bids will be rejected.

Procurement Unit
Ministry of Environment and Energy
Green Building, Handhuvaree Hingun, Maafannu, Male', 20392,
Republic of Maldives
Phone: +960-3018-300

Fax: +960-3018-301
Email: procurement@environment.gov.mv

4 INSTRUCTIONS TO CONSULTANTS

2.1 Introduction

a) The Client named in the **Data Sheet** will select a service provider from those who submit their proposal for this request.

b) Interested parties are invited to submit Technical Proposal and a Financial Proposal for the contract named in the **Data Sheet**. The Proposal will be the basis for contract negotiations and ultimately for a signed Contract with the selected Party.

c) The Client will select a ***consultancy firm or individual (as a team)*** (the Consultants) from those who show interest to this call for proposals, in accordance with the method of selection specified in the **Data Sheet**.

d) As a direct response to this document, interested parties must provide their detailed proposals for the **"Consultancy Services to undertake Environmental and Social Impact Assessment for the establishment of a Regional Waste Management System for Zone 6 and 7 (Construction and Operations)".** The standards and other statements on such provision and legislative compliance made by the parties as part of their proposals will form a binding part of the final contract document.

e) The Applicants shall bear all costs associated with the preparation and submission of their proposals and contract negotiation. The Client is not bound to accept any proposal, and reserves the right to annul the selection process at any time prior to Contract award, without thereby incurring any liability to the Applicants.

f) The Client reserves the right to accept or reject any Proposal and to terminate the tendering process without awarding a contract. The parties should be aware that it is unlikely that the Client will be in a position to go forward with any proposals that fails to meet the statutory and essential requirements, set out in the Terms of Reference.

2.2 Conflict of interest

a) A Party (including its Personnel) that has a business or family relationship with a member of the Client's staff who is directly or indirectly involved in any part of (i) the preparation of the Schedule of requirements, (ii) the selection process, or (iii) supervision of the Contract, may not be awarded a Contract, unless the conflict stemming from this relationship has been resolved in a manner acceptable to the Government throughout the selection process and the execution of the Contract.

b) The Consultants have an obligation to disclose any situation of actual or potential conflict that impacts their capacity to serve the best interest of their Client, or that may reasonably be perceived as having this effect. Failure to disclose said situations may lead to the disqualification of the Consultants or the termination of its Contract.

2.3 Fraud and Corruption

The Client requires that all parties including Consultants and their agents (whether declared or not), personnel, sub-contractors, sub-Consultants, service providers and suppliers, observe the highest standard of ethics during the selection and execution its contracts. In pursuance of this policy, the Client:

a) defines, for the purposes of this provision, the terms set forth below as follows:

i. "corrupt practice" is the offering, giving, receiving or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;

ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;

iii. "collusive practices" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;

iv. "coercive practices" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party.

v. "obstructive practice" is

- deliberately destroying, falsifying, altering or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede an investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation, or

- acts intended to materially impede the exercise of the relevant government authorities' inspection and audit rights.

b) will reject a proposal for award if it determines that the recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;

c) will cancel the portion of the contract if it determines at any time that representatives of the Client or of a beneficiary were engaged in corrupt, fraudulent, collusive, or coercive practices during the selection process or the execution of that contract, without the Consultants having taken timely and appropriate action satisfactory to the Client to address such practices when they occur; and

d) will take action against any Party or an individual at any time, in accordance with rules and regulations including by publicly declaring such Parties or individual ineligible, either indefinitely or for a stated period of time.

2.4 Proposal Validity

The Data Sheet indicates how long the Proposals must remain valid after the submission date. The Client will make its best effort to complete negotiations within this period. Should the need arise;

however, the Client may request to extend the validity period of proposals. The Parties who agree to such extension shall confirm that they maintain the availability of the Professional staff nominated in the Proposal, or in their confirmation of extension of validity of the Proposal, The Applicants could submit new staff in replacement, who would be considered in the final evaluation for contract award. Applicants who do not agree have the right to refuse to extend the validity of their Proposals.

2.5 Language of Proposal

The proposal documents must be in written English.

2.6 Preparation of Proposals

a) The Proposal, as well as all related correspondence exchanged by the Consultants and the Client, shall be written in the language (s) specified in the RFP.

b) In preparing their Proposal, Applicants are expected to examine in detail the documents comprising the RFP. Material deficiencies in providing the information requested may result in rejection of the Proposal.

c) Alternative professional staff shall not be proposed, and only one curriculum vitae (CV) may be submitted for each position.

2.7 Technical Proposal Format and Content

The Technical Proposal shall provide the information indicated in the following paras from (a) to (f) using the attached Standard Forms (4. Technical Proposal).

a) A brief description of the Consultants' organization and an outline of recent experience of the Consultants and, in the case of joint venture, for each partner, on assignments of a similar nature are required in Form TECH-2. For each assignment, the outline should indicate the names of Sub-Consultants/ Professional staff who participated, duration of the assignment, contract amount, and Consultant's involvement. Information should be provided only for those assignments for which the Consultants was legally contracted by the client as a corporation or as one of the major consultancy firm/organization within a joint venture. Assignments completed by individual Professional staff working privately or through other organisations cannot be claimed as the experience of the Consultants, or that of the Consultant's associates, but can be claimed by the Professional staff themselves in their CVs. Consultants should be prepared to substantiate the claimed experience if so requested by the Client.

b) Comments and suggestions on the Terms of Reference including workable suggestions that could improve the quality/effectiveness of the assignment.

c) A description of the approach, methodology and work plan for performing the assignment covering the following subjects: technical approach and methodology, equipment that will be used, work plan, and organization and staffing schedule. Guidance on the content of this section of the Technical Proposals is provided under Form TECH-3. The work plan should be consistent with the Work Schedule (Form TECH-6) which will show in the form of a bar chart depicting the timing proposed for each activity.

d) The list of the proposed professional staff team by area of expertise, the position that would be assigned to each staff team member, and their tasks (Form TECH-4).

e) CV's of the professional staff signed by the staff themselves or by the authorized representative of the professional staff (Form TECH-5).

f) The Technical Proposal shall not include any financial information. A Technical Proposal containing financial information may be declared non responsive.

2.8 Clarification and Amendment of RFP Documents

a) During the RFP process, questions or clarifications regarding this RFP document must be requested in writing to the person and address stated in the **Data Sheet**. Requests for clarifications need to be submitted latest by 1400 hours on 5th October 2017.

b) Any additional documentation issued by the Client during the tender process shall be deemed to form part of this RFP and shall supersede any part of the RFP where indicated. The Client may also exercise the option to extend the tendering period and/or postpone the proposal submission date in the event that subsequent documentation is issued.

2.9 Communications

Except as provided in the preceding section relating to questions about this RFP, No parties shall contact any officers, employees, or team members of Client with respect to this RFP. Any oral communication with a Client employee concerning this RFP is not binding on the Client and shall in no way alter any specifications, term or condition of this RFP or any contract documents.

2.10 Submission, Receipt, and Opening of Proposals

a) The original proposal (Technical Proposal and Financial Proposal) shall contain no interlineations or overwriting, except as necessary to correct errors made by the Applicants themselves. The person who signed the proposal must initial such corrections.

b) An authorized representative of the Applicant shall initial all pages of the original Technical and Financial Proposals. The authorization shall be in the form of a written power of attorney accompanying the Proposal or in any other form demonstrating that the representative has been duly authorized to sign. The signed Technical and Financial Proposals shall be marked "Original".

c) Applicants shall submit a "Compliance Statement" stating that the offer is made in accordance with the Request for Proposal. Applicants who offer additional or alternative conditions shall clearly state those in their proposals.

d) The technical proposal and financial proposal must be submitted in two separate sealed envelopes to the address indicated in the **Data Sheet**. The original and all copies of the Technical Proposal shall be placed in a sealed envelope clearly marked "Technical Proposal" Similarly, the original Financial Proposal shall be placed in a sealed envelope clearly marked "Financial Proposal" followed by the name of the assignment, and with a warning "Do Not Open With The Technical Proposal." The envelopes containing the Technical and Financial Proposals shall be placed into an outer envelope and sealed. This outer envelope shall bear the submission address, reference number and be clearly marked "Do Not Open, except in the Presence of the Official Appointed". The Client shall not be

responsible for misplacement, loss or premature opening if the outer envelope is not sealed and/or marked as stipulated. This circumstance may be case for Proposal rejection. If the Financial Proposal is not submitted in a separate sealed envelope duly marked as indicated above, this will constitute grounds for declaring the Proposal non-responsive

e) The Proposals must be sent to the address indicated in the **Data Sheet** and received by the Client no later than the date specified in the **Data Sheet**, or any extension to this date. Any proposal received by the Client after the deadline for submission shall be returned unopened.

f) The Client shall open the Technical Proposal immediately after the deadline for their submission. The envelopes with the Financial Proposal shall remain sealed and securely stored.

2.11 Evaluation of proposals

a) From the time the Proposals are opened to the time the Contract is awarded, the Applicants should not contact the Client on any matter related to its Technical and/or Financial Proposal. Any effort by Applicants to influence the Client in the examination, evaluation, ranking of Proposals, and recommendation for award of Contract may result in the rejection of the Consultants' Proposal.

b) The evaluation committee shall evaluate the Technical Proposals on the basis of their responsiveness to the Technical Requirements, applying the evaluation criteria, sub-criteria, and point system specified in the **Data Sheet**. Each responsive Proposal will be given a technical score (St). A Proposal shall be rejected at this stage if it does not respond to important aspects of the RFP, and particularly the Technical Requirements or if it fails to achieve the minimum technical score indicated in the evaluation criteria specified in the **Data Sheet**.

c) After the technical evaluation is completed, the bidders who are not qualified for technical evaluation will be disqualified for the financial qualification.

d) The Applicant is **REQUIRED** to submit Financial Proposal for the LOT, using for this purpose the Financial Proposal Submission Forms in FIN-1 (One financial proposal submitted with all the FIN-1 Forms).

e) The Evaluation Committee will correct any computational errors. When correcting computational errors, in case of discrepancy between a partial amount and the total amount, or between word and figures the formers will prevail.

f) The **highest** evaluated Financial Proposal (Fm) for the LOT will be given the maximum financial score (Sf) of 100 points. The financial scores (Sf) of the other Financial Proposals will be computed as indicated in the **Data Sheet**. Proposals will be ranked for the LOT according to their combined technical (St) and financial (Sf) scores using the weights (T = the weight given to the Technical Proposal; P = the weight given to the Financial Proposal; T + P = 1) indicated in the Evaluation Criteria: S = St x T% + Sf x P%. The Party achieving the highest combined technical and financial score for the LOT will be invited for negotiations.

5 DATA SHEET

2.1.a	**Name of the Client:** Ministry of Environment and Energy Green Building, Handhuvaree Hingun, Maafannu, Male', 20392, Republic of Maldives www.environment.gov.mv
2.1.b	**Financial Proposal to be submitted together with Technical Proposal in two different envelopes on the same day and time specified.** *Please write name of the Consultancy assignment and indicate whether it is Financial Proposal or Technical Proposal on the envelopes.* Name of the assignment is: "Consultancy Services to undertake Environmental and Social Impact Assessment for the establishment of a Regional Waste Management System for Zone 6 and 7 (Construction and Operations)"
2.1.c	The method of selection would be in accordance to the procedures set out in the National Procurement Regulations issued by the Ministry of Finance and Treasury, Republic of Maldives.
2.4 Validity	Proposals must remain valid up to 120 days after the submission date.
3.8 Clarifications and Amendments of RFP Documents	Interested consultants may obtain further information on request by writing to the address below no later than **5th October 2017 (Thursday).** Procurement Unit Ministry of Environment and Energy Green Building, Handhuvaree Hingun, Maafannu, Male', 20392, Republic of Maldives Email: procurement@environment.gov.mv www.environment.gov.mv
3.10 Submission, Receipt, and Opening of Proposals	The proposals are expected to be submitted to the following address by 1300 hour's local time on **9th October 2017, Monday.** Procurement Unit Ministry of Environment and Energy Green Building, Handhuvaree Hingun,

	Maafannu, Male', 20392, Republic of Maldives Email: procurement@environment.gov.mv www.environment.gov.mv
3.11 Evaluation of Proposals	Criteria, sub-criteria, and point system for the evaluation of Full Technical Proposals are: Points **(A) Company Profile: [100]** No. of similar projects [40] Value of previous assignments [40] Organisational structure [20] Total A = [ ] **(B) Project Team [100]** EIA & EMP Consultant (Under Permanent EIA Registration) [40] Surveyor [30] Backstopping Team Member [30] Total B = [ ] The number of points to be assigned to each of the above positions or disciplines shall be determined considering the following three sub-criteria and relevant percentage weights: Education and qualifications [25%] Experience [65%] Experience in the region and language [10%] **(C) Approach, Methodology &Work plan [100]** Approach & Methodology [50] Work plan of the Assignment [50] Total C = [ ] Technical Score (St) = A/100*[W1] + B/100*[W2] + C/100*[W3] Weights Distribution W1 Company Profile [20] W2 Project Team [60] W3 Approach & Methodology [20] The minimum technical score (St) required to pass is: 60 Points The formula for determining the financial scores is the following: Sf = 100 x Fm / F, in where Sf is the financial score, Fm is the lowest price and F the price of the proposal under consideration.

	The weights given to the Technical and Financial Proposals are: T = [0.6], and P = [0.4]

6 TECHNICAL PROPOSAL - STANDARD FORMS

FORM TECH-1: Technical Proposal Submission Form

[*Location, Date*]

To: [*Name and address of Client*]

Dear Sirs:

We, the undersigned, offer to provide the consultancy service for **"Consultancy Services to undertake Environmental and Social Impact Assessment for the establishment of a Regional Waste Management System for Zone 6 and 7 (Construction and Operations)"** in accordance with your Request for Proposal dated [*Insert Date*] and our Proposal. We hereby submit our Proposal, which includes this Technical Proposal, and our Financial Proposal sealed under a separate envelope.

We hereby declare that all the information and statements made in this Proposal are true and accept that any misinterpretation contained in it may lead to our disqualification.

If negotiations are held during the period of validity of the Proposal, we undertake to negotiate on the basis of the proposed staff. Our Proposal is binding upon us and subject to the modifications resulting from Contract negotiations.

We undertake, if our Proposal is accepted, to initiate the services and fulfill the terms and conditions related this contract.

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature [*In full and initials*]: _____
Name and Title of Signatory: _____
Name of Firm: _____
Address: _____

FORM TECH-2: Consultant's Organization and Experience

A - Consultant's Organization

[*Provide here a brief description/background (Include Organizational chart) of your (if a company/firm) your organization and each associate for this assignment.*]

[*Provide here a brief description/background (Include Organizational chart) of your (if an individual as a team) team organisation and each associate for this assignment.*]

B - Consultant's Experience

*[Using the format below, provide information on each contract/assignment for which (if a company/firm) your organisation, individually as a corporate entity or as one of the major companies within an association, for carrying out **similar consultancy services**.]*

*[Using the format below, provide information on each contract/assignment for which (if an individual as a team) team organisation, for carrying out **similar consultancy services**.]*

Contract/Activity Name:	Contract Value (in MVR):
Country: Location within country:	Duration of assignment/activity (months):
Name of Client:	Total no. of staff-months of the assignment:
Address:	Start date (month/year): Completion date (month/year):
Name of associated Parties, if any:	NO of professional staff-months provided by associated Consultants:
Narrative description of Activities/Project:	
Description of actual services provided by your staff within the Activities:	

Firm's/Individuals Name: _____

FORM TECH-3: Description of Approach, Methodology and Work plan for performing the Assignment

[*Technical approach, methodology and work plan are key components of the Technical Proposal. You are suggested to present your Technical Proposal divided into the following three chapters:*

a) Technical Approach and Methodology,
b) Work Plan, and
c) Organization and Staffing,

a) Technical Approach and Methodology. In this chapter you should explain your understanding of the objectives of the assignment, approach to carry out the design services and obtaining the expected output. You should highlight the problems being addressed and their importance, and explain the technical approach you would adopt to address them. You should also explain the methodologies you propose to adopt and highlight the compatibility of those methodologies with the proposed approach.

b) Work Plan. In this chapter you should propose the main activities of the assignment, their content and duration, phasing and interrelations, milestones (including interim approvals by the Client), and delivery dates of the reports. The proposed work plan should be consistent with the technical approach and methodology, showing understanding of the TOR and ability to translate them into a feasible working plan.

c) Organization and Staffing. In this chapter you should propose the structure and composition of your team. You should list the main disciplines of the assignment, the key expert responsible, and proposed technical and support staff.

d) Proposed equipment. In this chapter you should propose the details of the equipment that will be used during the assignment. Indication of lease need to be made if the equipment is borrowed from another party. A confirmation letter by the bidder need to be submitted to confirm the availability and security of the equipment's proposed to be utilized.

FORM TECH-4: Team Composition and Task Assignment

Professional Staff

Name of Staff	Organisation	Area of Expertise	Position Assigned	Task Assigned

The EIA Decision Statements of the Projects need to be attached for proof and confirmation of the listed projects.

FORM TECH-5: Curriculum Vitae (CV) for proposed Professional Staff

1. **Proposed Position** [*only one candidate shall be nominated for each position*]: _____

2. **Name of Firm / Individual submitting the proposal** [*Insert name of firm proposing the staff*]: _____

   _____

3. **Name of Staff** [*Insert full name*]: _____

4. **Date of Birth**: _____ **Nationality**: _____

5. **Education** [*Indicate college/university and other specialized education of staff member, giving names of institutions, degrees obtained, and dates of obtainment*]: _____

_____

6. **Membership of Professional Associations**: _____

_____

7. **Other Training** [*Indicate significant trainings since degrees under 5 - Education were obtained*]: _____

_____

8. **Countries of Work Experience**: [*List countries where staff has worked in the last ten years*]:_____

_____

9. **Languages** [*For each language indicate proficiency: good, fair, or poor in speaking, reading, and writing*]: _____

_____

10. **Employment Record** [*Starting with present position, list in reverse order every employment held by staff member since graduation, giving for each employment (see format here below): dates of employment, name of employing organization, positions held.*]:

From [*Year*]: _____ To [*Year*]: _____

Employer: _____Positions held: _____

A copy of the National Identity Card need to be attached for each individual.

FORM TECH-6: List of Waste related EIA and EMP completed or any other relevant work

Name of the Project	Name of the Client	Cost of the Project	Assignment Signed Date	Assignment Completed Date

FORM TECH-7: Work Schedule

The consultant shall complete the assignment by 3 months. *This does not include the query/clarification period and document review period.*

	1st	2nd	….	….	10th	….	20th	….	30th	….	….	….	60th
Activity (Work)													
_____													
_____													
_____													

7 FINANCIAL PROPOSAL - STANDARD FORMS

FORM FIN-1: Financial Proposal submission Form

[*Location, Date*]

To: [*Name and address of Client*]

Dear Sirs,

We, the undersigned, offer to provide consultancy services for **"Consultancy Services to undertake Environmental and Social Impact Assessment for the establishment of a Regional Waste Management System for Zone 6 and 7 (Construction and Operations)"** in accordance with your Request for Proposal dated [*Insert Date*] and our Technical Proposal. Our attached Financial Proposal is for the sum of [*Insert amount(s) in words and figures*[1]] which is inclusive of the local taxes.

Our Financial Proposal shall be binding upon us subject to the modifications resulting from Contract negotiations, up to expiration of the validity period of the Proposal.

We understand you are not bound to accept any Proposal you receive.

We remain,

Yours sincerely,

Authorized Signature [*In full and initials*]: _____
Name and Title of Signatory: _____
Name of Firm: _____
Address: _____

1 Amounts must coincide with the ones indicated under financial proposal in Form FIN-2.

FORM FIN-2: Financial Proposal

The methodology to determine the lowest evaluated price including any discounts offered in the Financial Proposal Submission Form, and is specified in ITC 2.11 (Evaluation of Proposals).

Proposals are being invited for individual lots (contracts). Bidders wishing to offer any price reduction (discount shall specify in their Financial Proposal Submission Form the price reductions applicable and the manner in which the price reductions will apply.

	Description	**Cost (Maldivian Rufiyaa)**
1	Community Consultation and Surveying Works	
2	Development of Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) Report	
3	EIA Report Submission Fee	
	Sub Total :	
	GST :	
	Total with GST:	

- *This form highlights the major areas of the assignment. The consultancy firm may provide a more detailed proposal elaborating the different components.*
- *The consultancy firm is to submit copy of the GST registration certificate along with the financial proposal.*
- *[If the Individual is subject to GST as per MIRA Regulations and Guidelines. The GST Registration Certificate and GST quote in the financial proposal for each respective island need to be included.]*

8 TERMS OF REFERENCE

Outline Terms of Reference for Selection of Consultant to undertake

Environmental and Social Impact Assessment for the establishment of a Regional Waste Management System for Zone 6 and 7 (Construction and Operations)

1. BACKGROUND

The Government of the Republic of Maldives has received Credit from Abu Dhabi Fund for Development (ADFD) and International Renewable Energy Association (IRENA) and the Government of the Republic of Maldives for the establishment of a Regional Waste Management System for Zone 6 and 7.

The system will include a Regional Waste Management Facility (RWMF) equipped with a small scale waste to energy system at Addu City, and a waste Transfer Facility for the islands of Huvadhu Atoll to be established at Gaafu Dhaalu Vaadhoo, and a waste collection and transport system within the catchment area of Zone 6 and 7.

The Government of the Republic of Maldives intends to apply part of the proceeds to consultancy services to undertake an Environmental and Social Impact Assessment (ESIA) for the establishment of a Regional Waste Management System for Zone 6 and 7 and its construction and operations.

The Government of the Maldives is now seeking the service of eligible Consultants to undertake an ESIA for the Regional Waste Management System. Subject to performance, the Consultant may be eligible for follow-on ESIA monitoring activities in 2018 and 2019 subject to performance and availability of project funds.

Consultants may associate to enhance their skill base to undertake the assignment, and to satisfy eligibility requirements.

2. OBJECTIVES OF THE PROJECT

- The establishment of a total solution in waste management for the region with the second largest population within the Republic of Maldives
- Generation of at least 18 percent of the energy demand using heat to energy conversion
- Increasing job opportunities within the City in operational and maintenance fields in addition to the construction field.
- Reduction of the consumption of conventional diesel by a significant amount
- Reduction of the volume of waste that goes to the land fill

3. REGIONAL SOLID WASTE MANAGEMENT SYSTEM OVERVIEW

Solid waste remains the most visible environmental threat to the tourism industry. The management of solid waste is especially challenging in the Maldives, much more so than other small island states. With a highly dispersed population spread across numerous islands there is little scope for harnessing scale economies and the costs of delivering services are high. In addition with restricted endowments of land, the space available for disposing of waste is limited calling for the waste stream to be minimized through incentives for resource recovery such as recycling and composting. Finally, a fragile marine ecosystem requires that special attention be given to the choice of waste management technology and system design to mitigate adverse impacts, with further cost implications. To address these risks and challenges, stringent criteria need to be applied for site selection, engineering, technology choice and management within the context of human resource constraints in the Maldives.

Reflecting the Maldives' uniquely challenging geography and fragile ecology, the system will operate at multiple levels, building upon synergies between these levels: The construction of Island Waste Management Centers (IWMCs) would provide facilities for island communities of Huvadhu Atoll, Fuahmulah City and Seenu Hulhumeedhoo to reduce the volume of waste requiring final disposal by sorting, recycling and composting, while temporarily storing residual waste in a safe and environmentally responsible manner. A Regional Waste Management Facility (RWMF), built at Addu City Hithadhoo will serve as the destination for residual waste requiring disposal from the islands. The waste Transfer Facility built at Gaafu Dhaalu Vaadhoo will serve as the collection point for the residual waste from Gaafu Dhaalu and Gaafu Alif Atolls, that will be then periodically transferred to Addu City RWMF via Fuahmulah Route. The system will be supported by allied services such as waste transfer and transportation facilities, technical assistance, community programs, financial systems all of which would be guided by stringent environmental criteria. The facilities will be designed and built to the highest appropriate standards that is economically viable, to reduce the risk of contamination from solid wastes. Special attention would be paid to medical wastes and toxic wastes which would require special handling and management.

The Project is classified under Safeguards Category "A", as a precaution accounting for the fragile ecosystem of the Maldives reflecting the risks involved in the construction and operation of the regional solid waste management facility. Although the construction of the regional solid waste system could generate adverse environmental impacts over the short term, the net environmental and social impacts are expected to be highly beneficial. At present waste is disposed in an ad hoc and unsanitary manner on most islands with considerable risks to human health and to the ecosystem. Floating debris, plastic bags, bottles, PET containers, cans, discarded electronic equipment and lubricant wastes are a growing and highly visible hazard to the coral reefs. By developing an environmentally secure system of waste disposal, this Project is expected to yield net environmental benefits.

4. ENVIRONMENTAL AND SOCIAL ASSESSMENT FRAMEWORK

In accordance with the Environmental and Social Assessment Framework (ESAF) the Project will support the development of a full Environmental and Social Impact Assessment in accordance with

the Maldives Environmental Impact Assessment Regulations (2012). The final ESIA Report will be submitted to both the Maldives Environmental Protection Agency (EPA) and ADFD/IRENA for their respective concurrence. The ESIA must be consistent with the ESAF before ADFD/IRENA will give concurrence.

4.1 Maldives Environmental Impact Assessment Regulation (2012)

The *Maldives Environmental Impact Assessment Regulation* (2012) (*www.epa.gov.mv*) is administered by the Maldives EPA. The EIA Regulation describes the process for assessment and concurrence of development which has the potential to cause harm to the environment in the Maldives. Under Schedule 8 of the Regulation, a full ESIA for the establishment of a Regional Waste Management System for Zone 6 and 7 is required to be submitted for concurrence by the EPA before construction or operational works can commence.

5. CURRENT STATUS OF WASTE MANAGEMENT COMPONENT

The Social Assessment and Best Practical Environmental Option (BPEO) at least cost process are also key components of the Social and Environmental Impact Assessment Framework for the Project.

5.1 Social Assessment

The Social Assessment has been completed, the catchment defined and the islands ranked accordingly. The catchment consists of 18 inhabited islands and 6 resorts within Huvadhu Atoll, Fuahmulah City, Addu City (Hithadhoo, Maradhoo, Feydhoo, Maradhoo-Feydhoo, Gan, Hulhumeedhoo) and the 2 resorts of Seenu Atoll. The Assessment ranks the readiness of the islands to participate in the regional waste management system with respect to the **socio-cultural, institutional, economic, and political context** of the island communities.

The resorts currently operating in the catchment have responded positively to the opportunity of participating in the Regional Waste Management System.

5.2 Technical and Financial Feasibility Study

Phase 1 of the Technical and Financial Feasibility Study has been completed. The outcome of the BPEO process for the RWMS has identified the following system elements:

- compost 25-30% of organic waste on the islands;
- segregation and simple incineration of remaining waste at the Regional Waste Management Facility; and
- land filling of rejects at Regional Waste Management Facility.

The island scoping study identified the plot of land south of the existing waste dump site at S.Hithadhoo as the preferred location at which to locate the RWMF. The Government of the Maldives has approved this land for future use as the location for the RWMF. The location of the land is detailed in *Annex 2*.

A detailed household and resort waste audit and characterisation was completed in January 2011 and Phase II of the Technical and Financial Feasibility Study to determine the financial feasibility of the preferred regional waste management system option at Addu City.

Approximately 2.4ha will be made available for waste management activities at Addu City. An engineering consultancy for the RWMF infrastructure is currently proposed for *November* 2017.

It is proposed that the boat yard located at Maradhoo (which is closest to the proposed RWMF land) will be used for the docking of landing crafts. The ideal location for the docking of landing crafts is to be recommended under the ESIA.

The island scoping study also identified Gaafu Dhaalu Vaadhoo as the ideal location to establish the Transfer Facility for Zone 6 (Gaafu Dhaalu and Gaafu Alif islands). The land for the Transfer Facility is to be recommended under the ESIA including the ideal location for the construction of a slipway for the docking of landing crafts.

6. DEVELOPMENT OF ESIA TERMS OF REFERENCE

In identifying the environmental aspects to be studied under this ESIA, emphasis should be on:

- Establishing a comprehensive environmental baseline assessment of the study area including, marine and terrestrial flora and fauna, groundwater quality and future use potential etc.
- Selection of the ideal location for the docking of landing crafts at Addu City.
- Selection of the ideal location for the establishment of a Transfer Facility and a location for the slipway for the docking of landing crafts at Gaafu Dhaalu Vaadhoo.
- Assessment of the impact of proposed construction activities on the environment including but not limited to the small landfill, incinerator.
- Assessment of the impact of proposed construction activities on the environment including but not limited to the storage bay, slip way.
- Assessment of the potential impact of operations of the RWMF and Transfer facility on the environment with particular reference to, but not necessarily limited to, dispersion or contaminants to air, visual amenity and leachate migration.
- Assessment of alternative location, design and technology for RWMF and Transfer Facility and identification of preferred option.

7. OVERALL OBJECTIVE

The overall objective of the assignment includes but is not limited to undertaking environmental impact assessment of the construction and operations of the proposed RWMF at Addu City and the proposed Transfer Facility at Gaafu Dhaalu Vaadhoo in accordance with the ToR for the ESIA issued under the *Maldives Environmental Impact Assessment Regulation* (2012).

8. SCOPE OF WORKS

In collaboration with Waste Management and Pollution Control Department of the Ministry of Environment and Energy, Maldives EPA, Waste Management Corporation (WAMCO), Addu City Council, Fuahmulah City Council, Huvadhu Atoll island offices and resorts as appropriate, the Consultant will carry out the following activities:

- Assist the Client as necessary in preparing the ESIA Application form (C2) and short (3 page) accompanying project brief.
- Participate in the Maldives EPA, ESIA scoping meeting and advise the Client on the final ToR.
- Collaborate with the engineering design specialist (separate consultancy) to confirm specification and emission controls as required.
- Undertake fieldwork required to collected baseline environmental data, assess environment impacts, prepare mitigation/management plans, and present ESIA report in accordance with the *Detailed Scope of Works for conducting an Environmental and Social Impact Assessment (ESIA) the establishment of a Regional Waste Management System for Zone 6 and 7 (Construction and Operations)* (*Annex 1*).

9. PROJECT TEAM AND QUALIFICATIONS

The following staff members will be required for the assignment. The Consultant should submit full CV's for each of the proposed staff members highlighting the criteria given below.

Position	Qualification	Quantity
EIA & EMP Consultant (Under Permanent EIA Registration)	Bachelor's Degree in Environmental Engineering/Environmental Science/Environmental Management with minimum 05 years' experience in conducting Environmental Impact Assessment (EIA). Tertiary certification will be an added advantage. Experience in conducting EIA for Waste Management Systems will be given preference. The consultant should hold a EIA license and his/her EIA license copy shall be submitted along with a dated letter stating his/her association with the bidding party.	1
Social Assessment Expert	i) Post graduate in social sciences with more than 10 years experience working with on social assessment projects. At least 5 years experience on similar or related projects. Demonstrated expertise with willingness-to-pay studies is highly desirable. Experience in waste management or related field is desirable.	1
Surveyors	Diploma in Surveying with minimum 05 years' experience in conducting land and/or marine surveys or related to the assignment.	2
Technical Support including data management and analysis (preferably local staff)	Graduates with 3-4 years experience in organizing stakeholders' consultations, supervising field data collection, data entry and generating reports. Proficiency with MS Office Word/Excel/Power Point/Access) and field survey experience.	1

10. DELIVERABLES

The deliverables and indicative time schedule is as follows:

- ***Inception Brief:*** the inception brief shall be submitted no later than 2 weeks after the commencement of the assignment and shall include summary of reviews and assessments undertaken. The inception brief shall also identify any constraints the consultant foresees with delivering the services and propose actions to be implemented to overcome the constraints identified.

- ***Interim Report:*** The interim report shall be submitted not later than 12 weeks after the commencement of the assignment. The interim report must include details of the islands/ resorts visited and the activities undertaken, and a brief narrative description of the environmental issues identified.

- ***Draft Final Environment and Social Impact Assessment Report:*** The Draft final report shall be submitted no later than 20 weeks after the commencement of the assignment in the general format and content of the Environmental and Social Impact Assessment Study given in Schedule E2 of the *Environmental Impact Assessment Regulations* (2012).

- ***Final Environment and Social Impact Assessment report:*** The final report shall be submitted to the specifications given in Schedules G, H and I of the *Environmental Impact Assessment Regulations* (2012) no later than 24 weeks after the commencement of the assignment. The final report shall consist of the Final Environmental and Social Impact Assessment inclusive of comments and clarifications made by the Client and acceptable to the Client.

11. PAYMENT

Payment will be in accordance with the schedule specified below;

DESCRIPTION	ALLOCATION	REQUIREMENT
Completion of EIA and EMP Report	50%	Submission of EIA and EMP Report to EPA as per EIA Regulations
Approval of EIA and EMP Report	50%	Release of EIA and EMP Decision Statement from EPA.

12. REPORTING

The successful consultant will report to Mr. Ibrahim Naeem, Director General, Maldives EPA or an alternate nominated by the Director General as necessary.

Upon completion of the ESIA report, a total of 3 (three) hard copies and a digital copy on CD ROM (preferably in Acrobat PDF format) of the report are to be submitted to the Waste Management and Pollution Control Department of the Ministry of Environment and Energy.

13. ELIGIBILITY

In order to be eligible interested consultants must be:

- registered in the register of environmental impact assessment consultants under the ***Environmental Impact Assessment Regulation (2012)***; or

- associated with a consultant who is registered in the register of environmental impact assessment consultants under the ***Environmental Impact Assessment Regulation (2012).***

A list of registered consultants is provided in *Annex 3*.

14. CONTRACT DURATION

The Contract will be for a period of three (3) months and is estimated to commence in **October/November 2017.**

15. SERVICES AND FACILITIES PROVIDED BY THE CLIENT

Office space and office facilities may be made available at the offices of the Waste Management and Pollution Control Department of the Ministry of Environment and Energy if required. The Department will also cover the costs of local transport to islands using the Project budget for the purposes of the assignment, however, additional inter/intra island transfers of consultant staff not directly related to the tasks covered under this assignment will be at the cost of the Consultant. The Client will also provide the consultant with staff to assist with facilitation of local coordination and/or administrative arrangements with stakeholders as required. The Client staff input services may be provided under shared arrangements between the Maldives EPA and the Waste Management and Pollution Control Department of the Ministry of Environment and Energy as staff availability allows.

The client will be required to provide the following information during the course of the assignment:

- Social Assessment Report, BPEO Report & Final Technical and Feasibility Report and Environmental & Social Management Framework.
- Waste sources, composition and quantity data.
- Architectural/ elevation drawings for structures proposed, spot plans and plot layout
- Details on type of incinerator plant to be installed including proposed capacity, specifications, performance characteristics and operational flow diagrams.
- Incinerator emissions data, pollution control equipment, and/ or features designed to suppress or minimise emissions to air including but not necessarily limited to:
    - Stack height
    - Stack diameter
    - Stack exit velocity
    - Stack flow rate
    - Stack exit temperature
    - Emission rates for sulphur dioxide, nitrogen oxides (as nitrogen dioxide), TSP, PM 10, dioxins, furans
- Operational guidelines specifically outlining safety and emission control procedures as well as recommended maintenance practices.
- Details of redundancy measures associated with the air emissions control technology.

Annex 1: Terms of Reference for ESIA

A. INTRODUCTION

The Government of the Republic of Maldives proposes to establish a Regional Waste Management System for Zone 6 at 7 which includes a a Regional Waste Management Facility (RWMF) at Addu City and a Waste Transfer Facility for Huvadhu Atoll Islands at Gaafu Dhaalu Vaadhoo connected by a waste transfer system. Both the facilities will be operated and maintained by the Waste Management Corporation (WAMCO). Because of the potential for environmental and social impacts from the proposed development, the Proponent is required to undertake ESIA of the proposed development to characterise and assess the potential for environmental and social impact within the context of the existing environmental and social conditions and to recommend necessary mitigation measures.

This document presents the Terms of Reference (TOR) for conducting an Environmental and Social Impact Assessment (ESIA).

B. DEGREE OF DETAIL

In preparing the ESIA, it is the applicant's responsibility to address the impacts of the proposal to the degree necessary to enable the relevant government ministries to be informed of all relevant impacts of the proposal. The level and nature of investigations should be relative to the likely extent and scale of the impacts. It is suggested that the applicant/consultant contact the relevant government agencies to clarify the nature and level of investigations.

C. CONTENTS

The ESIA must address the issues set out below and should generally follow the format as suggested in **Reporting** (below).

Introduction - Describe the Regional Waste Management System to be assessed and outline the need for the project.

Background Information - Briefly describe the major components of the proposed project. Provide a brief history and justification of the project for the providing and describe how the proposed development will improve on the current arrangements for waste management in the Project area. Provide details of the proponent, and institutional arrangements for implementation and operations of the proposed development, and environmental and social issues of similar large scale projects in other zones within the Maldives.

Study Area - Describe the location of the project site and indicate the area around the site that will be considered as part of the *study area* for the ESIA. Define a radius of influence around the sites that will circumscribe a suitable air shed for the conduct of air dispersion modelling.

Scope of Work - The ESIA will include but not necessarily be limited to the following tasks:

Task 1. Description of the Proposed Project - Describe the RWMF (incinerator & ash disposal cells) and associated infrastructure (leachate treatment, fuel storage, power supply etc.) to be installed including location, plant layout and its position in relation to surrounding land uses using maps and drawings where appropriate. Maps should also show the setting and precise location in relation to the relevant aspects of the project area, in particular:

- the location and boundaries of current or proposed land tenures that the project area will be subject to,
- the location and boundaries of the project footprint, including easement widths and access requirements,
- the location of any proposed buffers surrounding the working areas (for construction and operation),
- the location of natural features such as wetlands etc.

Describe the operations of the RWMF including waste catchment area to be serviced by the facility, and waste type, volumes and composition to be received at the facility. Indicate the project life span.

Identify the emission releases likely to be of concern and the environmental aspects of the project area which may potentially be impacted by the proposal.

Describe the type of incinerator plant to be installed including manufacturer's specifications, performance characteristics and operational flow diagrams.

Provide details of the ash disposal cells including capacity, dimensions, design specifications and phased development plans.

Provide requirements for new infrastructure to service the project such as water supply and sewerage infrastructure.

Justify the final elevation of structures (including as ash disposal cells) with reference to the height above the mean high tide, highest annual tides and risk of flood inundations during seasonal high tide regimes.

Task 2. Description of the Environment - Assemble, evaluate and present baseline data on the relevant environmental characteristics of the study area, focused on the marine, terrestrial and air environment. Aspects of the environment should be described to the extent necessary for assessment of the environmental impacts of the proposed development. The extent and quality of the available data, should be characterized indicating significant information deficiencies and any uncertainties associated with the prediction of impacts.

This section should provide details of the environment in the vicinity of the proposed development site. Data collection methodology used to describe the existing environment should be detailed. All survey locations, sampling points, reef transects, vegetation transects, manta tows and soil sampling sites must be referenced with Geographic Positioning System (GPS). All marine water samples shall be taken at a depth of 1m below the mean sea level or mid water depth for shallow areas. Baseline data collection must focus on key issues needing to be examined for the ESIA. Consideration of likely monitoring requirements should be borne in mind during survey planning, so that the data collected is suitable for use as a baseline for impacts monitoring.

All available data from previous studies, if available should be presented. Information required includes the following:

1) **Physical environment:**

- Describe the geomorphology, meteorology (rainfall, wind, waves and tides), sea currents, surface hydrology, long shore sediment transportation patterns, climatic and oceanographic conditions in the area, and bathymetry of possible dredge areas.

- An indication of the quality and quantity of water resources in the vicinity of the project site should be given including spatial and temporal monitoring to accurately characterize baseline groundwater characteristics and present water uses. If the project is likely to use or affect local sources of groundwater, provide a description of groundwater resources in the area in terms of:
    - geology
    - aquifer type - such as confined, unconfined
    - depth to and thickness of the aquifers
    - depth to water level and seasonal changes in levels
    - interaction with surface water
    - sources of recharge
    - current access (bores) to groundwater resources
    - likely quantitative groundwater yield.

- Provide at least four beach profiles at different locations giving GPS positions to establish baseline statistics.

- Describe noise sources contributing to ambient noise levels (day/night) at the nearest residential areas and adjacent inhabited islands or resorts. Sensitive noise receptors adjacent to all project components should be identified and typical background noise estimated based on surveys at representative sites. A justification for an ambient noise baseline (dbA) at the nearest and adjacent inhabited islands should be provided.
- Describe traffic flows around project site.

- Describe the topography and climate of the air shed. Parameters should include air temperature, wind speed and direction, atmospheric stability, mixing depth and other parameters necessary for input to the models. Describe the existing air quality within the air shed and at the nearest and adjacent inhabited islands at the nearest residential areas and adjacent inhabited islands or resorts.

2) Biological environment:

- A brief description of the terrestrial environment. Vegetation mapping should adequately describe, at an appropriate scale, the vegetation communities for the project site. The methodology used for fauna surveys should be specified and include details of the use of the area by migratory fauna, in particular any areas used for breeding or significant congregations. The ESIA should indicate how well any affected communities are represented and protected elsewhere in the bio-region where the project occurs.

- A brief description of the aquatic environment, including lagoon, reef system and wetlands. The aquatic flora and fauna including fish species, mammals, reptiles, amphibians, crustaceans and aquatic invertebrates occurring in the area affected by the proposal should be described.

- Areas of special sensitivity including, wetlands, wildlife breeding or roosting areas, significant habitat, rare and threatened plants, animals, communities, marine species and species of commercial importance, and marine turtle nesting beaches, feeding, resting or calving areas should be mapped.

3) Socio-economic and Socio-cultural environment:

- Describe the natural features and landscapes of the project site which may have a cultural significance (day and night).

- Describe the visual amenity from the nearest residential areas and adjacent inhabited islands or resorts.

- Describe any structures on the project sites which may have cultural or religious significance.
- Demographic data of the region including total population, sex ratio, density and growth.
- Brief description of socio-economic environment.

Task 3. Legislative and Regulatory Considerations - Outline the project's consistency with the existing national, state, regional and local planning that apply to the project include reference to relevant statutory and non-statutory plans, planning policies, guidelines, strategies and agreements as appropriate. Outline the pertinent policies, regulations and standards governing project location, land use, environmental quality, and public health and safety.

Task 4. Determination of Potential Impacts – Identify the major issues of environmental and social concern and indicate their relative importance to the design of the project. Distinguish construction and post-construction / operational phase impacts, significant positive and negative impacts, and direct and indirect impacts. Identify impacts that are cumulative, unavoidable or irreversible. The magnitude and significance of each impact shall be evaluated. Special attention should be paid to:

Site preparation, construction and commissioning:

- Site clearing impacts including the area to be cleared (m^2), how waste from land clearing would be managed, measures that would be taken to comply with the ***Regulation on Cutting Down, Uprooting, Digging Out and Export of Trees and Palms from One Island to Another*** including locations for relocating trees, source of obtaining new plants to comply with planting two or more trees for each mature tree cut down, compensation plan if any trees owned by the local community needs to be cut down.
- RWMF construction impacts including a full description of the relevant parts and nature of the works, an indicative construction timetable, including expected commissioning and start-up dates and hours of operation, and a description of major work programs for the construction phase, including an outline of construction methodologies. If fill material is required, the quantity and sourcing of borrow materials, and transport and storage, construction site management, noise, fugitive dust, solid waste disposal, traffic and employment.
- Commissioning impacts – including a description of the regional waste management facility commissioning process.

Incinerator operation:

- Describe solid waste management activities during operations, with particular reference to waste collection, transport, sorting, incinerator loading, stack height of the incinerator, and disposal of incinerator ash.
- Characteristics of any hazardous materials resulting from or involved in the project, indicating appropriate management strategies (e.g. handling, storage, treatment, disposal).
- Provide an inventory of projected annual emissions for each relevant greenhouse gas, with total emissions expressed in 'CO2 equivalent' terms.

Air Quality:

- Characterize the nature of emissions to air likely to be produced during the incineration process including flue gas composition, volumes, expulsion height, ejection velocity and temperature.

- Describe the pollution control equipment, techniques and the features of the incinerator designed to suppress or minimise emissions to air.

- Detail air dispersion modelling outcomes which estimate the effect of the expected emissions from the proposed incinerator on ambient air quality within the air shed with particular reference to the nearest and adjacent inhabited islands and nearest and adjacent uninhabited islands with potential future use for resort development. The air dispersion modelling exercise will evaluate the extent and concentration of following pollutants which are typical constituents of solid waste combustion: sulphur dioxide, nitrogen oxides (as nitrogen dioxide), TSP, PM10, dioxins, and furans. Air emissions should be stated in respect stack and ground level concentrations, using a recognised atmospheric dispersion model.

  The predicted ground level concentrations in nearby areas should be provided. These predictions should be made for both normal and expected maximum emission conditions and the worst case meteorological conditions should be identified and modelled where necessary. Ground level predictions should be made at any residential, industrial and agricultural developments believed to be sensitive to the effects of predicted emissions. The techniques used to obtain the predictions should be referenced, and key assumptions and data sets explained.

  Where possible, estimates of emissions should be based on actual measurements from samples taken from similar facilities, preferably full-scale facilities operating elsewhere or otherwise from experimental or demonstration-scale facilities. Where this is not possible, use published emission factors and/or data supplied by manufacturers of process and control equipment.

- Discuss the outcomes of the air dispersion modelling with reference to risk to human health and IFC *Environmental, Health, and Safety Guidelines: Environmental Air Emissions and Ambient Air Quality*. An analysis of air impacts should include the predicted estimated ground level concentrations generated by the proposed development assessed against typical ground levels concentrations on the islands. Recommendations should be made on the height of the stack of the incinerator based on the analysis of air impacts.

Water Resources:

- Provide details of potential impacts on the quality of ground waters. Particular reference must be made to the chemical and physical properties of wastewater including leachate from ash disposal, the potential of wastewater to contaminate ground water resources, and impact on current and future potential groundwater usage from the proposed development.

- Describe the pollution control equipment and design features of the proposed development for prevention and minimisation of contamination of groundwater resources.

- Detail hot water dispersion modelling outcomes which estimate the effect on ambient water quality at potential dispersion sites of incinerator cooling water3. The hot water dispersion modelling exercise will evaluate the long term effects on water temperature with respect to dispersion depth or distance, using a recognised atmospheric dispersion model.

  The predicted temperatures in nearby areas of potential dispersion sites should be provided. These predictions should be made for both normal and expected maximum temperature conditions and the worst case conditions should be identified and modelled where necessary. Predictions should be made at any residential, industrial and agricultural developments believed to be sensitive to the effects of dispersion. Recommendations should be made on the hot water dispersion site based on the studies made.

Natural Environment:

- The proximity of the facility to any sensitive areas should be described.Describe measures to be taken to avoid and minimize potential adverse impacts of the proposal on sensitive terrestrial and aquatic environments.

- Describe potential issues relevant to sensitive areas, or areas which may have low resilience to environmental change arising from the construction, operation of the project including clearing, salvaging or removal of vegetation. Areas of special sensitivity include wetlands, wildlife breeding or roosting areas, and habitat of threatened plants, animals and communities. The capacity of the environment to assimilate discharges/emissions should be assessed. Short-term and long-term effects should be considered with comment on whether the impacts are reversible or irreversible. The discussion should cover all likely direct and indirect environmental harm due to the project on flora and fauna particularly sensitive areas.

- If construction and operation of the project are likely to cause adverse impacts on sensitive areas or areas which may have low resilience to environmental changedescribe environmental offsets that would counterbalance the impact on these values.

Noise Amenity:

- Describe the impacts of noise generated during the construction and operation of the RWMF and transfer facility to nearby residential population, government offices and public areas. Describe the impacts of noise generated during the construction and operation of the proposed facility on nearest and adjacent inhabited islands and and nearest and adjacent uninhabited islands with potential future use for resort development. An analysis of noise impacts should include the estimated noise levels generated by the proposed development assessed against typical background levels on the islands, and the impact of noise at all potentially sensitive receivers compared with the *IFC Environmental, Health, and Safety (EHS) Guidelines,: Environmental Noise Management.*
- If noise is likely to cause an adverse impact propose measures to minimize or eliminate these effects, including details of any screening, lining, enclosing or bunding of facilities, or timing schedules for construction and operations.

Traffic Flows:

- Describe any potential impacts to traffic flows during construction and operational phase of the RWMF and Transfer Facility. Account for any potential road closure and operation of heavy vehicles during construction phase and operation of waste transport vehicles during operational phase.

Socio-economic and Socio-cultural:

- Describe the impacts of the proposed development on the natural features and landscapes of the project site which may have cultural significance and which may impact on nearest and adjacent islands with potential future use for resort development. Use sketches, diagrams, elevation drawings to portray the near views and far views of the completed structures and their surroundings from visually sensitive locations.

- Describe measures to be taken to avoid and minimize potential adverse impacts of the proposal on visual amenity. Justify the land clearing activities with particular reference to potential for minimizing intrusion of the visual amenity of the proposed development activities.

- Describe the impact of the proposed development on any structures which may have cultural or religious significance. Describe measures to be taken to avoid, manage or mitigate potential impacts on these structures during construction and operation of the proposed development.

- Describe economic impacts of the proposed development, including but not limited to generation of job opportunities during construction and operation of the facility.

The methods used to identify the significance of the impacts shall be outlined. One or more of the following methods must be utilized in determining impacts; checklists. matrices, overlays, networks, expert systems and professional judgment. Justification must be provided to the selected methodologies. The report should outline the uncertainties in impact prediction and also outline all positive and negative/short and long-term impacts. Identify impacts that are cumulative and unavoidable.

Task 5. Analysis of Alternatives – Describe alternatives for the RWMF at Addu City and the Transfer Facility at Gaafu Dhaalu Vaadhoo. Alternatives should include the no-project option, alternative location, technologies and designs. Alternative locations shall be considered for the entire RWMF and Transfer Facility as well as for the slipway to be constructed at Addu City and GDh. Vaadhoo for docking of landing crafts. Environmental, social and economic factors should be taken into consideration when describing alternatives. All alternatives must be compared with locally and internationally accepted standards of similar nature. The comparison should yield the preferred alternative for implementation. Mitigation options should be specified for each component of the proposed project.

Task 6. Develop an Environmental Management Plan(mitigation/monitoring) - The Project's environmental management plan (EMP) should consists of the set of mitigation, monitoring, and institutional measures to be taken during implementation and operation to eliminate adverse environmental and social impacts, offset them, or reduce them to acceptable levels. The plan also includes the actions needed to implement these measures. More specifically, the EMP includes the following components:

Mitigation

The EMP should identify feasible and cost-effective measures that may reduce potentially significant adverse environmental impacts to acceptable levels. The plan should include off-set measures if mitigation measures are not feasible, cost-effective, or sufficient. Specifically the Plan should:

- identify and summarizes all anticipated significant adverse environmental impacts (air, groundwater and physical cultural resources (as applicable);
- describe each mitigation measure, including the type of impact to which it relates and the conditions under which it is required (e.g., continuously or in the event of contingencies), together with designs, equipment descriptions, and operating procedures, including:
    - general operating procedures for managing and mitigation risks to the environment from general facility operations including waste collection, transport, incinerator loading, hazardous waste handling, fuel transfer and storage, litter management disposal of incinerator ash and residues.
    - manufacturer's operational guidelines specifically outlining safety and emission control procedures as well as recommended maintenance practices.
    - general operating procedures for implementing back-up measures that will act in the event of failure of primary measures to minimize the likelihood of adverse air impacts.
    - general operating procedures for implementing backup measures that will act in the event of uncontrolled release to waters due to system or catastrophic failure, or from unforeseen unpredicted weather conditions (abnormal rainfall).
- estimate any potential environmental impacts of these measures; and
- provide linkage with any other mitigation plans required for the project.

Monitoring

Provide (a) a specific description, and technical details, of monitoring measures, including the parameters to be measured, methods to be used, sampling locations, frequency of measurements, detection limits (where appropriate), and definition of thresholds that will signal the need for corrective actions; and (b) monitoring and reporting procedures to (i) ensure early detection of conditions that necessitate particular mitigation measures, and (ii) furnish information on the progress and results of mitigation. Specifically the plan should address physical groundwater quality, air emissions; and physical cultural resources (as applicable).

Capacity Development and Training

Specifically, the EMP should provide a specific description of institutional arrangements--who is responsible for carrying out the mitigation and monitoring measures (e.g., for operation, supervision, enforcement, monitoring of implementation, remedial action, financing, reporting, and staff training). To strengthen environmental management capability in the agencies responsible for implementation, most EMPs cover one or more of the following additional topics: (a) technical assistance programs, (b) procurement of equipment and supplies, and (c) organizational changes.

Implementation Schedule and Cost Estimates

For all three aspects (mitigation, monitoring, and capacity development), the EMP should provide (a) an implementation schedule for measures that must be carried out as part of the project, showing phasing and coordination with overall project implementation plans; and (b) the capital and recurrent cost estimates and sources of funds for implementing the EMP. These figures are also integrated into the total project cost tables.

Task 8. Consultation – The public consultation process should provide opportunities for community involvement and education. It may include interviews with individuals, public communication activities, interest group meetings, production of regular summary information and updates (i.e. newsletters), and other consultation mechanisms to encourage and facilitate active public consultation. Public consultation processes (community engagement) for all parts of the ESIA should be integrated. Sufficient information about the development and the consultation process should be provided to the community at an early stage and in accessible and culturally appropriate ways. Information about the development should inform the community about the benefits, disadvantages, trade-offs, potential issues and implications as required, enabling them to formulate their views.

Information about the consultation processes conducted and their results should be provided including:

- the methodology adopted, a list of the stakeholders consulted during the program and how their involvement was facilitated,
- the processes conducted to date and the future consultation strategies and programs including those during the operational phase of the project,
- indicate how consultation involvement and outcomes were integrated into the ESIA
- recommendations on how the project might address concerns raised during public consultation.

D. REPORTING

The ESIA report will be concise and limited to significant environmental issues. The main text will focus on findings, conclusions and recommended actions supported by summaries of the data collected. The ESIA report will be organized according to the outline below.

- Executive Summary
- Policy, Legal and Administrative Framework
- Description of Proposed Project
- Description of the Environment (Baseline Assessment)
- Significant Environmental Impacts (Impact Assessment)
- Analysis of Project Alternatives
- Environmental Management Plans (mitigation and monitoring)

Annex 2: Regional Waste Management Facility Approved Location at Addu City

Annex 3: List of Registered Environmental Impact Assessment Consultants*

**Although the list is current at the time of advertising, it is the Consultant's responsibility to confirm additions and deletions to the Maldives Environmental protection Agency as necessary.*