Renewable Energy Agency Puducherry (REAP)

Government of Puducherry

F.No.1530/REAP/SOLAR CITY/2013-14

Dated: 21 June 2013

Request for Proposals

Of

Preparation of Master Plan and DPRs for Development of Pondicherry City
Comprising of Pondicherry and Oulgaret Municipality Areas

As

Solar City

| Name of Project | Preparation of Master Plan with Detailed Action Plan and DPRs for various Activities under Development of Pondicherry City Comprising of Pondicherry and Oulgaret Municipality Areas as Solar City |

By

Managing Director, REAP
Renewable Energy Agency Puducherry
Bunglow No 2, A.F.T Premises, Cuddalore Main Road, Mudaliarpet, Puducherry, PIN- 605004

Ph No. 0413-2354339
Fax No. 0413-2354319

Email: pdreap@dataone.in, pdreap@gmail.com

Signature of Authorised Signatory -
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<td>Tender No</td>
<td>1530/REAP/SOLAR CITY/2013-14</td>
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<td>2</td>
<td>Issue /Download/sale of RFP Document</td>
<td>RFP Documents can be downloaded from <a href="http://www.pon.nic.in">http://www.pon.nic.in</a> or <a href="https://py.gov.in">https://py.gov.in</a> From 24&lt;sup&gt;th&lt;/sup&gt; June 2013 10.00 Hrs. upto 10th July 2013 17.30 Hrs.</td>
</tr>
<tr>
<td>2</td>
<td>Last date and time for receipt of complete bids</td>
<td>15&lt;sup&gt;th&lt;/sup&gt; July 2013 at 17.00 Hrs</td>
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<td>3</td>
<td>Date and Time for opening of Technical bids</td>
<td>15&lt;sup&gt;th&lt;/sup&gt; July 2013 at 17.30 Hrs</td>
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<tr>
<td>4</td>
<td>Bid Security</td>
<td>Rs 20,000/- (Rs. Twenty Thousand Only)</td>
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<td>5</td>
<td>Bid Document Fee</td>
<td>Rs 1000/- (Rs. One Thousand only)</td>
</tr>
<tr>
<td>6</td>
<td>Place of receipt and opening of Bids</td>
<td>Office of Managing Director, REAP Renewable Energy Agency Puducherry Bungalow No 2, A.F.T Premises, Cuddalore Main Road, Mudaliarpet, Puducherry, PIN- 605004</td>
</tr>
<tr>
<td>7</td>
<td>Contact Person for any Query</td>
<td>K.V. Augustine, Planning Officer REAP Phone No 0413-2354339 and FAX: 2354319 <a href="mailto:Planning.reap@gmail.com">Planning.reap@gmail.com</a> and <a href="mailto:reap.pon@nic.in">reap.pon@nic.in</a></td>
</tr>
<tr>
<td>8</td>
<td>Date of Pre Bid Meeting</td>
<td>05&lt;sup&gt;th&lt;/sup&gt; July 2013 at 11.00 Hrs at the Address given at Sl No 6</td>
</tr>
<tr>
<td>9</td>
<td>Date of Presentation by Bidders for Technical Evaluation of Bids</td>
<td>19&lt;sup&gt;th&lt;/sup&gt; July 2013 at 11.00 Hrs at the Address given at Sl No 6</td>
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B. INSTRUCTION TO BIDDERS

1. BID OBJECTIVE

Government of Puducherry intends to Develop Pondicherry City as Solar City under the Scheme of “Development of Solar Cities” of Ministry of New and Renewable Energy (MNRE), Govt of India. MNRE has accorded in principle approval for implementing the Solar City Programme. Government of Puducherry has constituted a Solar City Cell under Renewable Energy Agency Puducherry (REAP), State Nodal Agency for MNRE, as implementing Agency with consent of Competent Authorities in Pondicherry and Oulgaret Municipalities to implement the MNRE Scheme of “Development of Solar Cities”. Accordingly Renewable Energy Agency Puducherry (REAP), as per Ministry of New & Renewable Energy (MNRE), Government of India (GoI) guidelines, intends to develop Pondicherry City Comprising of Pondicherry and Oulgaret Municipality Areas as a Solar City.

REAP invites sealed bids in the templates shown in Annexure-I from experienced consultants empanelled with MNRE under the programme “Development of Solar Cities”.

2. SCOPE

The Scope of Work comprises of Preparation of Master Plan with detailed action Plan for various activities and DPRs for few selected Projects. Detailed Scope of Work is described under Section: Scope of Work.

3. ELIGIBILITY CRITERIA

The Bidder must satisfy the following criteria for selection:

a. Bidder must be empanelled under MNRE’s Solar City Programme.
b. The Firm shall have experience in overall Consultancy Assignments in the field of Energy Efficiency / Renewable Energy / Clean Development Mechanism (CDM) amounting more than Rs. 1.50 crore. Testimonial/ Evidences shall have to be submitted as a part of Technical Bid – Envelope 1.
c. Bidder should have carried out Monitoring & evaluation of solar system/renewable energy projects for PSU/MNRE/Institutions (Public & Private both).
d. Bidder should have prepared minimum three solar city Master Plans under MNRE Solar city Program.
e. Bidder should have experience in preparation of DPR for solar city project and carried out PMC works for at least three Solar Power project.
f. The Firm shall have been working in Renewable Energy & Energy Efficiency Sector, and shall have more than 5 completed/on-going projects.

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4. PRE – BID MEETING

A pre-Bid meeting will be convened in the office of the Managing Director (REAP), Conference Room, Renewable Energy Agency Puducherry, Bungalow No.2, A.F.T Premises, Cuddalore Main Road, Mudaliarpet, Puducherry, PIN- 605004 on 05.07.2013 at 11:00 AM. to clarify issues and doubts on any matter related to the RFP that may be raised at that stage by the Bidders. The Bidders or their authorized representatives are advised to attend the meeting in their own interest. The Bidders are required to submit any question(s) in writing by Speed Post / Fax to reach the REAP not later than 3 days before the meeting. Minutes of meeting, including copies of the questions raised and responses given, will be furnished expeditiously to all those who had been issued the bid Documents exclusively through the issuance of an addendum and shall make modifications of the Tender Documents or technical specifications, which may become necessary as a result of the pre-Bid meeting.

5. AMENDMENT TO BID DOCUMENTS

At any time prior to the deadline for submission of bid documents, REAP may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bid document by amendment. The amendment will be notified in writing by Speed Post / Fax to all prospective bidders, to whom bid document have been issued, and the same will be binding on them. In order to afford prospective bidders, reasonable time to enable them to take the amendment into account in preparing their bid document, REAP may at its discretion extend the deadline for the submission of bid documents.

6. SUBMISSION OF BIDS

The Technical & Financial Bid, consisting of support documents, as explained in the RFP Tender must be submitted on or before 15/07/2013 by 17.00 Hrs. Bids submitted after 17.00 Hrs on 15/07/2013 will not be accepted. The Technical Bid may be opened on the same day at 17.30 Hrs in presence of available Bidders. Initially only Technical Bids shall be opened. Financial Bids of the Technically Qualified Bidders will be opened on a later date, which will be announced subsequently. The Bid must be submitted by Registered Post / Speed Post / by hand / by courier so as to reach by the scheduled date and time. Any bid received after the due date and time of submission on account of delay of any kind shall not be opened. Telegraphic / Faxed Bids shall not be considered.

6.1 PROCEDURE FOR SUBMISSION OF BIDS

The bid shall be submitted in Two Parts as directed below –

The following shall be kept in one envelope super-scribed DDs for EMD and RFP Cost

i. Demand Draft towards Cost of the RFP Document;

ii. Earnest Money Deposit (EMD);

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6.2 Technical Bid: Envelope 1

The Technical Bid: Envelope 1 shall contain the following –

i. FORM 1: Covering Letter Prorforma
ii. FORM 2: Minimum Eligibility
iii. FORM 3: Technical Qualification
iv. FORM 4: Declaration Letter
v. FORM 5: Approach & Methodology
vi. FORM 7: Project Detail Sheet
vii. FORM 8: CV’s of Key Professional
viii. Related Experience / Capability Statements;
ix. Documents & Records proving Eligibility Criteria;
x. Details of Empanelment with related (relevant) Government Organizations / Agencies;

The Technical Bid should be appropriately indexed.

6.3 FINANCIAL BID: ENVELOPE 2

This Part shall contain the Price Offer. This part will be opened only after acceptance of Bidding Firms satisfactory compliance of the Technical Eligibility Criteria, as mentioned in the RFP document. The Financial Offer Bid shall only be opened of those bidders who meet the Qualifying Requirement.

6.4 OPENING OF BID:

The Bids may be opened on the same day in presence of available Bidders, if possible. Initially only Technical Bids shall be opened. Financial Bids of the Technically Qualified Bidders will be opened on a later, date which will be announced on the date of opening the technical bids, if possible or subsequently.

7. INFORMATION ON RFP

The details of the offer shall be as under:

i. The Cost of the Request for Proposal (RFP) Document shall be Rs. 1000/-, payable the form of DD only, drawn on any nationalized bank, in favour of Managing Director REAP, payable at Puducherry.

ii. The offer shall be received at the Office of the Managing Director REAP by 17.00 hrs of 15 July 2013, positively. The same shall be opened on the same day at 17.30 hrs. If due to any unforeseen reason due date of Bid Submission falls on a holiday, then the date of opening shall be next working day without change in time.

iii. The Bid shall be submitted in two parts as mentioned at Clause No. 6.

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iv. The Offer shall be kept valid for 120 days from the last date of the submission of the Bids.

v. Earnest Money Deposit (EMD), amounting to Rs.20,000/- (Rupees Ten Thousand Only) shall be furnished in the form of DD only, drawn on any nationalized bank, in favour of Managing Director REAP, payable at Puducherry.

vi. REAP reserves the right for rejection of any or all tenders / in part or full thereof, without assigning any reason whatsoever.

8. KEY PROFESSIONALS

For successful implementation of Solar City Master Plan, it is of utmost importance that the Team of Experts proposed should have experience in all spheres of studies related to Energy Efficiency, Renewable Energy, and Clean Development Mechanism, whereby economic and financial feasibility is ensured for all Projects conceptualized within the Solar City Master Plan Document.

Following are the List of Professionals / Experts & Experiences, for which the Bidding Firms should submit CVs / Bio-Data, for the purpose of evaluation of the Technical Strength of the their Bids. These Professionals should be on the payroll of the Firm at the time of Bid submission.

<table>
<thead>
<tr>
<th>SL No</th>
<th>Experts</th>
<th>Qualification</th>
<th>No of Position</th>
<th>Years of Experience</th>
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<tr>
<td>1</td>
<td>Project Team Leader</td>
<td>Engineer with Post Graduation in Business Management</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>2</td>
<td>Environmental Engineer</td>
<td>Engineer with Post Graduation in Environmental Engineering</td>
<td>1</td>
<td>10</td>
</tr>
<tr>
<td>3</td>
<td>Financial Analyst and Carbon Market Specialist</td>
<td>CA/CS/MBA Finance</td>
<td>1</td>
<td>05</td>
</tr>
<tr>
<td>4</td>
<td>Bio-energy &amp; Sustainability Expert</td>
<td>Engineer with Post Graduation in Business Management, certified as Green Building Practitioner</td>
<td>1</td>
<td>05</td>
</tr>
<tr>
<td>5</td>
<td>Energy Auditor &amp; Sustainability Expert</td>
<td>Electrical Engineer / Post Graduate, certified as Sustainability Assurance Practitioner (CEAP)</td>
<td>02</td>
<td>05</td>
</tr>
<tr>
<td>6</td>
<td>Power / Solar Energy Expert</td>
<td>Post Graduation in Power &amp; related disciplines</td>
<td>02</td>
<td>04</td>
</tr>
<tr>
<td>7</td>
<td>Urban planner, and</td>
<td>Post Graduate in Urban</td>
<td>01</td>
<td>05</td>
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9. BID EVALUATION & MARKING CRITERIA

The Consultants/ Firms/ Organizations shall be required to make presentation before the Committee/Board Constituted for evaluation of Bid Proposals on 19.7.2013. Depending on the number of proposals received, Presentations may extend for more than one day and the Project Team and / or Team Leader should make themselves available for presentation as may be intimated to them on the first day of Presentations. Technical Bids of only those Bidders shall be evaluated who make presentation. No TA/DA will be paid to the Bidders. Bids of absentee Bidders on the day of presentation will not be evaluated and their EMD will be forfeited.

After all presentations the Committee/Board shall evaluate the Technical Bids by awarding Technical Marks (St) as per the following Scheme –

<table>
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<th>Sl. No.</th>
<th>Parameters</th>
<th>Marks Alotted</th>
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<tbody>
<tr>
<td>A</td>
<td>Experience in preparation of Solar City Master Plan for at least 3 Cities/Towns. Submissions: Work orders of assignments related to preparation of Master Plan.</td>
<td>20</td>
</tr>
<tr>
<td>B</td>
<td>Experience in experience in preparation of DPR for solar project and carried out PMC works for at least two Solar Power projects. Submissions: Work orders of assignments related to PMC work for solar projects.</td>
<td>10</td>
</tr>
<tr>
<td>C</td>
<td>Experience for working in Renewable Energy &amp; Energy Efficiency Sector, and shall have more than 5 completed / on-going projects. Submissions: Work orders of major assignments related to Renewable Energy &amp; Energy Efficiency</td>
<td>10</td>
</tr>
<tr>
<td>D</td>
<td>Technical approach, Methodology &amp; work plan</td>
<td></td>
</tr>
<tr>
<td>d1</td>
<td>Technical approach &amp; Methodology: 12 Marks Submissions: Detailed provision, method and ideas for preparation of the master plans explaining step by step procedure must be submitted.</td>
<td>20</td>
</tr>
<tr>
<td>d2</td>
<td>Work Plan: 08 Marks Submissions: Detailed work schedule indicating various milestones for the</td>
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<th>preparation of the master plan.</th>
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<td>E</td>
<td>Availability of Professionals / Experts as per Clause 5 Submissions:</td>
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<tr>
<td></td>
<td>Bio-data of the personnel along with their signatures as per clause 5</td>
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<td></td>
<td>Preference will be given for knowledge of Local Languages Tamil/Malayalam/Telugu</td>
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<tr>
<td>F</td>
<td>Detailed Capacity Building activities Proposed in Methodology and implementation Plan as indicated in Clause B of the Section C : Scope of the Work.</td>
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**Note:**
1. Same Projects shall not be repeated in various parameters
2. More marks will be awarded to Bidders with More experience.

The Minimum Aggregate Technical Score required for eligibility is 75 points.

The formula for determining the Financial Score (Sf) is as follows –

Financial Score (Sf) = 100 x Fm/F

- In which Sf is the financial score, Fm is the lowest price & F the price of the Proposal under consideration.
- The weight-age to be given to the Technical Score (St) is 75% & Financial Score (Sf) is 25%.

**Final / Combined Score = St X 0.75 + Sf X 0.25**

10 TIME SCHEDULE

**A. Completion period:** The scope of services shall be completed within a period of 06 Months, from the date of release of Work Order or signing of Consultancy Services Agreement or whichever is earlier. For Details of timelines and Milestones and Payment terms the Bidders may refer to Section C: Scope of Work and Section D: Timelines And Payment Terms. TheBidder shall Submit PERT Chart and Gantt Chart for various activities for preparation of Master Plan and Detailed Action Plan and DPRs.

11 PENALTY FOR DELAY

Any delay in completion of the work assigned from the specified/agreed time schedule shall attract a penalty @ 1% per week of the contracted fee subject to the maximum limit of 10%.
12. PERFORMANCE SECURITY

The successful bidder will be required to submit performance security in form of Bank Guarantee as prescribed in Form 8 or Demand Draft for a value of 10% of total quoted price within 20 days from the date of placing of Letter of Intent along with acceptance of LoI. In case, the Performance security is not furnished by the successful bidder during the 20 days time period, the next lowest bidder will be considered for allotment of work. In such case, the EMD shall be forfeited. The EMD shall be refunded only after receipt of performance security Bank Guarantee as prescribed.

13. GENERAL TERMS & CONDITIONS

13.1 CONFIDENTIALITY

The Bidder shall not, during the terms of the contract, disclose any proprietary or confidential information relating to the contract without prior express written consent of the REAP.

13.2 OWNERSHIP OF MATERIAL / DOCUMENTS

The study reports or other material, graphic, software prepared by the Bidder, and also supplied by REAP, as input for the Assignment, for the Contract shall belong to and remain the property of REAP. The Consultant may retain a copy of such documents and software but shall not except with prior approval of REAP use for any purpose other than work of REAP. The Documents as may be supplied by REAP shall be returned in original to REAP. The data collected shall be verified and certified by the consultants.

13.3 ACCEPTANCE OF TENDER

REAP is not bound to accept the price wise lowest tender or any other tender without assigning any reason, whatsoever for rejection of any or all the tenders. REAP also reserves the right to accept the whole or part of the Tender. REAP reserves the right to reject any incomplete offer and not ask for any clarification/supplementation on original submission.

13.4 TAXES & DUTIES

Service Tax as applicable during contractual period shall be included in Price Offer.

13.5 WITHDRAWAL OF TENDER

The Bidder may not withdraw his Bid after submission.

13.6 BID CURRENCY

Prices shall be quoted and payable in Indian Rupees only.

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13.7 BID VALIDITY

Bids shall be valid for 120 calendar-days from the last date of submission of bids. Bid with lesser validity will not be considered qualified.

13.8. LATE BIDS

Any bid received after the dead line for submission of the bids, shall be rejected.

13.9 CONDITIONAL BIDS

The Bidder shall not impose any of his own conditions in Price Bid or Technical Bid. Conditional Bid shall be rejected.

13.10 BID SIGNING

The Bidder or his Authorised Signatory must sign on all pages of Bid Documents and Enclosures.

13.11 LETTER OF AWARD

The Bidder shall have to accept the Letter of Award, unconditionally and immediately, and enter into formal Consultancy Services Agreement on Non Judicial Stamp of Rs. 100/- within a period of seven days (7) from the date of issue of Letter of Award.

13.12 BID PRICE

The Price quoted in the Bid should be in conformity with the guidelines of Ministry of New and Renewable Energy Govt of India Scheme of Development of Solar Cities which provides for CFA upto Rs 10 lakhs for preparation of a Master Plan along with few implementable Detailed Project Reports.

The Price must be quoted in figures as well as in words. In case of any difference between these two, the rates quoted in words will be considered for evaluation. However, for award of contract, highest scorer (including technical and financial) will be taken into account.

The quoted price must be written in both figures and words in capital letters. In no case there shall be overwriting and/cutting. Tenders with such overwriting/cutting shall be liable for rejection.

REAP reserves the right to accept or reject any/all offers without assigning any reason thereof/decrease the quantum of job. The quoted rates, terms & conditions shall apply and cover for the work to be carried.

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13.13 DISPUTE RESOLUTION

Any dispute out of the Contract, which cannot be amicably settled between the Parties, shall be referred to adjudication/arbitration in accordance with the Laws prevalent in the District Court of Puducherry in the UT of Puducherry and High Court Madras only, as per Indian Arbitration Act 1996.

13.14 LAW GOVERNING THE CONTRACT

The Contract shall be governed by the Laws prevailing and subject to jurisdiction in the District Court, Puducherry in the UT of Puducherry and High Court Madras only.

13.15 Consultant shall Not to Participate directly or indirectly in the tenders called for implementing DPRs prepared by him as part of this Process. The Consultant shall disclose relevant information in this regard.
C. SCOPE OF WORK

The Preparation of Master Plan should follow the Guidelines and suggestions of MNRE appended to RFP as Annexure-II.

The Master Plan should cover the projection of energy demand for at least 10 years in all the sectors also the energy utilization and GHG emissions in the various sectors. Plan will also include the sector-wise energy planning, year wise goals of saving, action plan for achieving the set goals and expected GHG abatements including capacity building and awareness generation. Budget estimate and potential source of funding (including Carbon Credit Returns) from various sources are also to be included in the proposed Master Plan.

The indicative guidelines for preparing Master Plan & organizing other activities for Pondicherry City to be developed as a ‘Solar City’.

A. Master Plan

1. Projection for energy demand and supply for 10 years
   b. Total
      i. Appraisal of Pondicherry City Comprising of Pondicherry and Oulgaret Municipal areas in terms of energy supply and consumption.
      ii. Meetings and consultations with stakeholders
      iii. Study of prevailing schemes related to subsidy and preferential tariffs.

2. Base line of energy utilization & GHG emissions : Preparation of Energy Baseline
   a. Residential
      i. Preparation of detailed checklist for various sectors (Residential, Commercial, Municipal & Institutional)
   b. Commercial/Industrial
      i. Identifying departments/ institutions concerned with the development (sector-wise)
   c. Institutional/Hospitals
      i. Preparation of energy baseline report for various buildings falling under REAP services area.
   d. Municipal Services
      i. Preparation of base line for Municipal Buildings & shopping complexes etc.
   e. GHG emission

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3. Energy Planning (Sector-wise) : Demand Forecasting
   a. Study of future growth plans based on land use plans, power infrastructure plans, business forecast and resources.
   b. Establishment of growth rate and energy demand for each sector & options for energy savings and demand reduction.
   c. Year-wise goals of savings in conservation of energy through demand side management & supply side measures based on renewable, sector-wise Strategies and Renewable Energy Options
   d. Identification of projects.
   e. Techno Economic feasibility study of various projects.
   f. Prioritization of projects.

4. Year-wise goals of savings in conservation energy through demand side management & supply side measures based on renewable.

5. Development of Strategic Vision and Master Plan and Action Plan for achieving the set goals & expected GHG abatements.
   I. Development of strategic vision
   II. Finalization of vision statement with stakeholders
   III. Finalization of Strategies in various sectors
   IV. First Draft -Master Plan
   V. Final Draft -Master Plan

6. Budget estimates and potential sources of funding from respective sources (both public and private)

Note: Before finalization, the Master Plan should be discussed in a Stakeholders Consultation Workshop having representation from elected/nominated representatives, local research and academic institutions, resident welfare associations, industries and corporate organizations, NGOs, SNA, etc. The Master Plan will set a goal of minimum 10% reduction in projected total demand of conventional energy at the end of five years to be achieved through energy saving from energy efficiency measures and generation from renewable energy installations. The Bidder will organize the said stakeholders' consultation workshop at his own cost.

B. Other Activities

The Bidder should provide the following details:

1. Details of training programmes / workshops/ business meet etc. to be provided which will be organized for implementation of the Master Plan.

2. Details of publicity & awareness campaign to be provided as part of preparation of Master Plan, Detailed Action Plan and DPRs.

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C. Implementation Plan

The Bidders should provide the Implementation Plan for the measures to be taken by REAP for developing Pondicherry City as ‘Solar City’. The Implementation Plan should address the following points:-

1. To operationalise and envision stable source of financing for functioning of “Solar City Cell” within Renewable Energy Agency Puducherry, this will be fully responsible for city planning and implementation of projects towards making it a “Solar City”.

2. To conduct energy auditing of Govt. /Public sector buildings, water pumping and street lightings in the City at regular interval and take necessary steps towards conservation of Electricity. Other establishments also to be encouraged for the same.

3. To reduce Electricity consumption in street light/garden lights, traffic lights, blinkers and hoardings etc. by using energy conservation & renewable energy devices.

4. To promote National Rating System for construction of energy efficient Green Buildings in particular to commercial and institutional buildings

5. To amend building bye-laws for making the use of solar water heating systems mandatory in certain category of buildings.

6. To provide rebate in property tax through Municipal Council/ Municipalities & in electricity tariff though Utilities/ Distribution licensees to the users of Solar Water Heaters especially in domestic sector.

7. To issue G.O as regards to construction of energy efficient solar buildings at least in Govt. /Public sectors in accordance with ECBC:2006 and follow up its implementation rigorously.

8. To comply with MSW Rules 2000 notified by the Mo EF and set up projects of suitable capacity for generating energy from the waste collected from the city/town.

9. To organize rigorous publicity, and also the training programmes/ business meets for various stake holders e.g. architects, engineers, builders & developers, financial institutions, NGOs, technical institutions, manufactures/suppliers, RWAs etc. so as to involve them for actively in meeting the objective of solar city.

10. To generate necessary funds from UT Government and other funding organizations for achieving the objective of making the city as “Solar City”. Benefits of the schemes of Govt. of India will also be taken in meeting the objectives.

Signature of Authorised Signatory -
D. Implementation Strategy

The Bidder should provide the Implementation Strategy for providing incentives, financial supports and subsidy etc. for renewable energy devices/systems/ projects & energy conservation measures that can help to bring about reduction in consumption of conventional energy, renewable energy devices/systems/ projects.

Additionally, the Solar Master Plan should be made in accordance with MNRE circular/ guidelines No. 5/11/2010-11/ST issued 24th January 2011, No.: 3/10/2008 UICA (SE) – Development of Solar City Programme and / or any other additional guidelines of MNRE.

E. Presentation and Acceptance of Mater Plan , Detailed Action Plan and DPRs

The Bidder shall indicate activities which would be undertaken in preparation of Master plan and DPRs.

Activities During MileStone-1

1. Issue of Letter of Award, Signing of CSA and Inception Workshop with Stakeholders Committee and submission of Inception Report

Activities During Milestone-2

2. Meetings with various stakeholders
3. Survey for collection of Primary data
4. Workshop before Stakeholders committee for first Draft Master Plan Presentation
5. Meetings with Solar City Cell members to discuss Master Plan and DPRs

Activities During Milestone-3

6. Workshop before Stakeholders Committee for Final Master Plan.
7. Presentation Before State Level Solar City Monitoring Committee for acceptance of Master Plan
8. Presentation of DPRs before Solar City Cell Members

Activities During Milestone-4

9. Approval of Final Master Plan by MNRE , Govt of India

The Bidder or his Project Team shall be responsible to carry out all activities incidental to the performance of the Contract and in preparation of master Plan and DPRs.
D. TIMELINES AND PAYMENT TERMS

The payments will be made by Director (Projects), REAP as follows:-

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Milestones</th>
<th>Timeline</th>
<th>% age of Quoted Value</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>I Installment</td>
<td>25 days from Issue of Letter of Intent/Award</td>
<td>No Advance Payment will be Made. However 25% of contract value could be released After submission of Bank Guarantee of equal amount. This is in addition to Performance Security Bank Guarantee of 10% inclusive of EMD Amount.</td>
<td>After entering into the CSA on submission of Performance Security Bank Guarantee and On conducting ‘Inception Workshop’ and submission of Inception Report</td>
</tr>
<tr>
<td>2</td>
<td>II Installment</td>
<td>120 days from the date of start (Sl. No 1)</td>
<td>25% If Bank Guarantee for first installment is not submitted for release of first installment then 50% of the total quoted value will be released</td>
<td>On submission of Draft Master Plan to REAP and its presentation by the Consultant to Stakeholders committee and Solar City Cell</td>
</tr>
<tr>
<td>3</td>
<td>III Installment</td>
<td>140 days from the date of Start (Sl No 1)</td>
<td>25%</td>
<td>On submission of Final Master Plan report subject to approval of Solar City Cell and Stakeholders Committee Consultant is required to make a Presentation Before the Committee and Specific DPRs to be Presented Before the Solar City Cell</td>
</tr>
<tr>
<td>4</td>
<td>IV Installment</td>
<td>180 Days from the Date of Start (Sl No 1)</td>
<td>25%</td>
<td>After receipt of approval of Final Master Plan report by MNRE, Govt. Of India.</td>
</tr>
</tbody>
</table>

Note: Security Deposit shall be released After Milestone - 4

Signature of Authorised Signatory -
FORM 1: COVERING LETTER
(To be provided on Official Letter head)

To,
The Managing Director,
Renewable Energy Agency Puducherry,
Bungalow No 2, A.F.T Premises,
Cuddalore Main Road, Mudaliarpet,
Puducherry, PIN- 605004

Sir,

Subject: Preparation of Master plan and DPRs for Development of Pondicherry City Comprising of Pondicherry and Oulgaret Municipality areas under Development of Solar City Programme.

The undersigned, having read and examined in detail the bid documents for Development of Pondicherry City Comprising of Pondicherry and Oulgaret Municipality Areas in UT of Puducherry under Development of Solar City Programme of MNRE, are submitting our complete offer. The Correspondence address is as follows:

Correspondence Details:

<table>
<thead>
<tr>
<th>S/No</th>
<th>Particulars</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Name of Company</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Address of Company</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Name of Contact Person to whom all references shall be made regarding this tender</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Designation of Contact Person to whom all references shall be made regarding this tender</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Address of Contact Person</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Telephone &amp; Mobile number</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Email of contact Person</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Fax Code (With STD Code)</td>
<td></td>
</tr>
</tbody>
</table>

8 Documents enclosed forming part of Bid:

i. Demand Draft towards Cost of the RFP Document;
ii. Earnest Money Deposit (EMD);
iii. FORM 1: Covering Letter Proforma
iv. FORM 2: Minimum Eligibility
v. FORM 3: Technical Qualification
vi. FORM 4: Declaration Letter

Signature of Authorised Signatory -
xii. Related Experience / Capability Statements;
xi. Documents & Records proving Eligibility Criteria; 
  Company Profile,
ix. Form 8: CV’s of Key Professional
viii. Form 7: Project Detail Sheet
vii. FORM 5: Approach & Methodology

We hereby declare that our bid is made in good faith and the information contained is true and correct to the best of our knowledge and belief.

Yours Faithfully

(Authorized Signatory)
Name:
Designation
Seal:
Date:
Place:

Business Address:

Signature of Authorised Signatory -
# FORM 2: MINIMUM ELIGIBILITY

<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
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</thead>
<tbody>
<tr>
<td>1.1</td>
<td>Name of Firm/Company</td>
<td></td>
</tr>
<tr>
<td>1.2</td>
<td>Year of Registration/Incorporation</td>
<td></td>
</tr>
<tr>
<td>1.3</td>
<td>Year of Registration/Incorporation in India</td>
<td></td>
</tr>
<tr>
<td>1.4</td>
<td>Number of Employees in India as on March 31, 2011</td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td>Empanelment under MNRE’s Solar City Programme</td>
<td>YES / NO</td>
</tr>
<tr>
<td>1.6</td>
<td>Bidder should have prepared minimum two solar city Master Plans under MNRE Solar city Programme.</td>
<td>YES / NO</td>
</tr>
<tr>
<td>1.7</td>
<td>Bidder should have carried out two monitoring &amp; evaluation of solar system/renewable energy project for PSU/MNRE/Institutions (Public &amp; Private both).</td>
<td>YES / NO</td>
</tr>
<tr>
<td>1.8</td>
<td>Bidder should have experience in preparation of DPR for solar city project and carried out PMC works for at least two Solar Power project.</td>
<td>YES / NO</td>
</tr>
<tr>
<td>1.9</td>
<td>Audited Statement to be Submitted for three years and Provisional Statement for 2012-13</td>
<td>FY 2008-09</td>
</tr>
<tr>
<td>1.10</td>
<td>Annual Turnover from Consultancy Services (in Rs. Lacs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Annual Profits</td>
<td></td>
</tr>
</tbody>
</table>

**Note:**

1. Please submit/enclose documents in support of justification of eligibility criteria.

2. Submit the proposal along with Bid Security of Rs. 20,000/- in the form of Demand Draft in favour of Managing Director REAP Payable at any Scheduled Bank at Pondicherry.

Authorized Signatory
Seal

Signature of Authorised Signatory -
FORM 3: TECHNICAL QUALIFICATION

1. Experience in Renewable Energy sector / CDM Project / consultancy work along with details of projects / assignments carried out in PDF format.

2. Details of Organizational Capacity to be furnished.

3. Details of Proposed Team Structure along with CVs of key personnel.

4. Time and Work Schedule to be provided, With Pert Chart and Gnatt Chart.

Signature of Authorised Signatory
FORM 4: DECLARATION LETTER  
(To be provided on Official Letter Head)

Declaration Letter, stating the following:

1. We are not involved in any major litigation that may have an impact of affecting or compromising the delivery of services as required under this contract.

2. We are not black listed or under purview of blacklisting by any Central / State Government / UT Govt/Public Sector undertaking in India

Authorized Signatory
Seal

Signature of Authorised Signatory -
Form 5B: Comments about RFP Document
(in Not More than 200 words)
Please mention clause numbers

Signature of Authorised Signatory -
FORM 6: PRICE BID SCHEDULE
(To be provided on Official Letter head)

To,

The Managing Director,
Renewable Energy Agency Puducherry,
Bungalow No 2, A.F.T Premises,
Cuddalore Main Road, Mudaliarpet,
Puducherry, PIN- 605004

Sir,

Subject: Price Bid for Preparation of Master Plan for Development of Pondicherry City Comprising of Pondicherry and Oulgaret Municipalities Areas under Development of Solar City Programme.

The undersigned, having read and examined in detail the bid documents for Development of Pondicherry City Comprising of Pondicherry and Oulgaret Municipalities Areas in UT of Puducherry under Development of Solar City Programme of MNRE, are submitting our financial offer as follows:

<table>
<thead>
<tr>
<th>Sl No</th>
<th>Particulars</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Name of Company</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Address of Company</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Total fees for Preparation of Master Plan for Development of Pondicherry City Comprising of Pondicherry and Oulgaret Municipalities Areas under Development of Solar City Programme as per scope of work, guidelines, terms and conditions, etc. of MNRE/REAP</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rs. (In Figures)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rs. (In words)</td>
<td></td>
</tr>
</tbody>
</table>

In case of any difference in amount in figures and words, the amount in words shall be applicable.

Note: The above amount is inclusive of all taxes, levies, arrangements, implementation accomplishment of work, submission of reports etc.

Authorized Signatory
Company Name
Seal
Date:

Signature of Authorised Signatory -
<table>
<thead>
<tr>
<th>Project Name:</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Location:</td>
<td>Professional Services provided by the firm:</td>
</tr>
<tr>
<td>Name of Clients:</td>
<td>No. of person months of professional staff by the firm:</td>
</tr>
<tr>
<td>Project Cost:</td>
<td>Project Fees:</td>
</tr>
<tr>
<td>Start Date (Month/Year):</td>
<td>No. of person months of professional staff by associated firms/consultants:</td>
</tr>
<tr>
<td>End Date (Month / Year):</td>
<td></td>
</tr>
<tr>
<td>Name of Associated Consultants, if any:</td>
<td>Status of the firm in the association/consortium:</td>
</tr>
<tr>
<td>Narrative Description of Project:</td>
<td></td>
</tr>
<tr>
<td>Scope of Work:</td>
<td></td>
</tr>
</tbody>
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Signature of Authorised Signatory -
<table>
<thead>
<tr>
<th>Proposed Position:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Name of Staff:</td>
<td></td>
</tr>
<tr>
<td><strong>total work experience:</strong></td>
<td></td>
</tr>
<tr>
<td>Detailed Tasks Assigned:</td>
<td></td>
</tr>
<tr>
<td>Key Qualification:</td>
<td></td>
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<tr>
<td>Employment Record:</td>
<td></td>
</tr>
<tr>
<td>Relevant Experience:</td>
<td></td>
</tr>
</tbody>
</table>

*Signature of Authorised Signatory -*
FORM 9: CONSULTANCY SERVICES AGREEMENT

Subject: Consultancy services for the Preparation of Solar City Master Plan for Development of Pondicherry City Comprising of Pondicherry and Oulgaret Municipality Areas

Company Name: ..............................................................

This agreement is entered into the .......... day of the month of ............... 2013 between Renewable Energy Agency Puducherry (REAP) and on the other hand M/s. ......................................................

Set out below are the terms and conditions under which M/s. ...................................................... has agreed to carry out for REAP the above-mentioned assignment as specified in the attached Terms of Reference.

1. Methodology for preparation of the Master Plan should be strictly as per project guidelines & norms of the MNRE., GOI.
2. A nodal officer based in Puducherry will be engaged by M/s ......................... for preparation of Solar City Master Plan for Development of Pondicherry City Comprising of Pondicherry and Oulgaret Municipality Areas as well as with stake Holder Committee. The REAP shall have no financial obligation in respect of any payment to such officer.
3. For administrative purposes REAP shall administer the assignment and to provide M/s. ................................. with all relevant information needed to carry out the assignment. The service will be required in Consultancy services for the Preparation of Master Plan for REAP as per the guidelines of Ministry of New & Renewable Energy, New Delhi for solar city Programme for six months from the date of signing of agreement.
4. The Renewable Energy Agency Puducherry has reserved the right to postpone or cancel the assignment and/or shorten or extend its duration without assigning any reason. In such case, every effort will be made to give you, as early as possible, notice of any changes. In the event of termination, the M/s. ................................. may be paid for the services rendered for carrying out

Signature of Authorised Signatory -
the assignment to the date of termination, subject to the acceptances of Stake Holder Committee and the M/s. ........................................ will provide the REAP with any reports or parts thereof, or any other information and documentation gathered under this contract prior to the date of termination.

5. The services to be performed, the estimated time to be spent, and the reports to be submitted will be in accordance with the attached description of services.

6. M/s ........................................ will organize two nos. of interim presentations and one final presentation during submission of final master plan in consultation with REAP in addition to Capacity Building Programmes as per his RFP.

7. This contract, its meaning and the interpretation and the relation between the parties shall be governed by the Laws of the land governing the field or the appropriate acts on the subject.

8. Payments for the services will not exceed a total amount of Rs. ................./- (Rupees..........................).

Above consultation fee is inclusive of all contingencies, service tax, incidental charges, other taxes, duties etc., as applicable from time to time during the pendency of the contract. 10 % of the Quoted Value shall be retained as Performance Security Bank Guarantee inclusive of EMD amount before the Letter for Award of Work is issued.

Payment of consultancy fees shall me made as per satisfactory progress of the work and subject to release of the applicable financial assistance by the MNRE, GOI as per following terms:-

a) 25% of the agreement amount i.e. Rs ........................./- (Rupees ................................only) shall be paid against signing of MOU on submission of Bank Guarantee of equivalent amount from any Nationalized Bank and On conducting ‘Inception Workshop’ and submission of Inception Report whichever is later. This task must be completed within 25 days.

b) 25% of the agreement amount i.e. Rs ........................./- (Rupees ..........................only) on submission of draft Master Plan Report to REAP as well as to Stake Holder Committee in five bonded copies with C.D’s and its presentation by the Consultant to Stakeholders committee and Solar City

Signature of Authorised Signatory -
Cell. This task must be completed within 120 days. In case Bank Guarantee for 25% amount mentioned in the first installment is not availed the payment for the Second Installment will be 50%.

c) 25% of the agreement amount i.e. Rs ......................../- (Rupees ...............................only) will be paid on submission of final Master plan report in five bonded copies with C.D's subject to approval of REAP and the Stake Holder Committee & should be acceptable to MNRE, Govt. Of India. Consultant is required to make a Presentation Before the Committee and Specific DPRs to be presented before the Solar City Cell. This task must be completed within 140 days.

d) 25% of the agreement amount i.e. Rs ......................../- (Rupees ...............................only) after receipt of approval on final Master Plan report by MNRE, Govt. Of India. Within 180 days subject to receipt of CFA from MNRE, Govt. Of India.

9. M/s. ........................................................... will be responsible for appropriate insurance coverage. In this regard, the M/s ...............................................................shall maintain workers compensation, employment liability insurance for their staff on the assignment. The firm shall also maintain comprehensive general liability insurance, including contractual liability coverage adequate to cover the indemnity of obligation against all damages, costs, and charges and expenses for injury to any person or damage to any property arising out of, or in connection with, the services resulting from the fault of the M/s...............................................................or its staff. All the employees engaged by the M/s ........................................................... shall provide the REAP with certification thereof upon request.

10. M/s ........................................................... shall indemnify and hold harmless the REAP against any and all claims, demands, and/or judgments of any nature brought against the Ministry of New and Renewable Energy, Government of India, New Delhi arising out of the services by the M/s........................................................... under this contract. The obligation under this paragraph shall survive the termination of this contract.

Signature of Authorised Signatory -
11. M/s. ................................... agree that, during the term of this Contract and after its termination, they and/or any entity affiliated with them, shall be disqualified from providing goods, works or services (other than the Services and any continuation thereof) for any project resulting from or closely related to the Services.

12. All final Master Plan reports and other documents submitted by the M/s. ................................................ in the performance of the Services shall become and remain the property of the REAP. The Firms may retain a copy of such documents but shall not use them for purposes unrelated to this Contract without the prior written approval of the REAP.

13. M/s. .................................. shall undertake to carry out the assignment in accordance with the highest standard of professional and ethical competence and integrity, having due regard to the nature and purpose of the assignment, and to ensure that the staff assigned to perform the services under this Contract, will conduct themselves in a manner consistent herewith.

14. M/s. ........................................ will not assign this Contract or sub-contract or any portion of it without the prior written consent of the REAP.

15. M/s. ........................................ shall pay the taxes, duties, fees, levies and other impositions levied under the Applicable law and the REAP shall perform such duties in this regard to the deduction of such tax as may be lawfully imposed.

16. The M/s........................................ also agree that all knowledge and information not within the public domain which may be acquired during the carrying out of this Contract, shall be, for all time and for all purpose, regarded as strictly confidential and held in confidence, and shall not be directly or indirectly disclosed to any person whatsoever, except with the REAP’s written permission.

17. The Tender Documents Submitted by the Bidder together with correspondences exchanged as part of Bid Process prior to the Signing of this Agreement and the work order issued by REAP to M/s........................................ will be treated as a part of this agreement.

18. All disputes relating to this order will be under the legal jurisdiction of Puducherry Court only.

Signature of Authorised Signatory -
SCOPE OF WORK

1. STUDY AREA

The study area would comprise the Pondicherry City comprising of Pondicherry and Oulgaret Municipalities Areas.

2. SCOPE OF WORK

Preparation of Solar City Master Plan for Development of Pondicherry City Comprising of Pondicherry and Oulgaret Municipality Areas. The master plan shall be prepared as per the guidelines and instruction of MNRE from time to time as indicated in Annexure-I to IV of this agreement and Tender Document.

3. DURATION OF THE ASSIGNMENT

The time for completion of the Project will be six months as mentioned. The commencing date would be the date of the first stakeholder’s meeting called Inception Workshop or Signing of CSA and submission of Performance Security Bank guarantee whichever is earlier and thus the final Master Plan would be submitted 140 days from the date of the First Stakeholder’s meeting or Signing of CSA and submission of Bank guarantee whichever is earlier. Any delay in completion of the work assigned from the specified/agreed time schedule shall attract a penalty @ 1% per week of the contracted fee subject to the maximum limit of 10%.

4. MODIFICATIONS

Any modification to the terms and conditions of this agreement shall be subject to the mutual content of both the parties decision in this regard shall be final and binding on both the parties.

Signature of Authorised Signatory -
5. LANGUAGE

English shall be the governing language for the purpose of operation of this agreement.

6. FINAL REPORTS

M/s. .......................................................... shall inform in writing and shall submit Six Hard copies along with Two soft copies in CD of the report.
Annexure-I

MNRE Programme on “Development of Solar Cities” Guidelines for preparing master plan as per the prescribed format of MNRE

Background

Ministry of New and Renewable Energy (MNRE) has launched a program on “Development of Solar Cities” (http://mnes.nic.in/adm-approvals/Scheme-Solar-cities.pdf). The program assists Urban Local Governments in:

- Preparation of a master plan for increasing energy efficiency and renewable energy supply in the city.
- Setting-up institutional arrangements for the implementation of the master plan.
- Awareness generation and capacity building activities.

The program aims at minimum 10% reduction in projected demand of conventional energy at the end of five years, which can be achieved through a combination of energy efficiency measures and enhancing supply from renewable energy sources. Out of this 5% will be from renewable energy sources.

This document provides general methodology for preparing the master plan.

Methodology

The master plan preparation process is divided into five steps:

1. Preparing energy base-line for year 2012

1.1 Energy base-line for the city is a detailed documentation of the existing energy demand and supply scenario for the city. Among other things, it consists of sector-wise energy consumption matrix and energy supply-mix for the base year. The main activities in preparation of the energy base-line are:

1.2 Sector wise (residential, commercial and institutional, industrial and municipal
1.3) data collection on energy consumption (electricity, petroleum products, coal, biomass, etc).

a) **Residential sector:** In the residential (housing) sector electricity is the major source of energy for lighting and for powering home appliances (air conditioning, refrigerators, fans, television, electric geysers, washing machines, water pumps, etc.), while LPG, piped natural gas, kerosene, biomass fuels are used for cooking.

**Potential sources of Data:**

- Local electricity distribution company/electricity board/ State Electricity Regulatory Commission for data on electricity.
- Oil marketing companies for data on LPG, natural gas.
- PDS/ oil marketing company for data on kerosene.
- Firewood/biomass sellers for estimation of biomass fuels used for cooking.

b) **Commercial and Institutional sector:** This sector includes all offices, shops, shopping centres, multiplexes, hotels, restaurants, advertisement billboards etc and institutional buildings like hospitals, schools, colleges, hostels, jails, government offices, etc. The major sources of energy are electricity and LPG. In addition, a variety of fossil fuels may be used for power back-up e.g. diesel generators. In some cases, biomass fuels are also used for cooking and water heating.

**Potential sources of Data:**

- Local electricity Distribution Company/ electricity board/ State Electricity Regulatory Commission for data on electricity.
- Oil marketing companies for data on LPG, diesel and other petroleum fuels.
- Firewood/biomass sellers for estimation of biomass fuels.
- BEE data on electricity consumption in commercial buildings.

Signature of Authorised Signatory -
• Local chambers of commerce and industries for data on distribution of different types of commercial establishments and typical energy consumption in commercial establishments.
• CPWD, MES, State PWD, Municipal Corporation, etc. For data on energy use in government buildings.
• State Pollution Controls Boards for data on DG sets.

c) **Industrial sector:** This includes all types of industries falling within municipal limits. Other than the electricity, other fuels that are used include petroleum products (diesel, natural gas, naphtha, furnace oil, etc), coal, biomass, etc.

**Potential sources of Data:**

• Local electricity Distribution Company/ electricity board/ State Electricity Regulatory Commission for data on electricity consumption.
• Public sector oil marketing companies for data on petroleum products.
• Firewood/biomass sellers for estimation of biomass fuels.
• Local chambers of commerce and industries, District Industry Centre, MSME Service Institutes for data on distribution of different types of industries and data on energy use.
• State Pollution Control Boards for data on DG sets.

d) **Municipal sector:** This includes municipal services (water pumping, street lighting, sewage treatment, etc). Here also the main source of energy would be electricity.

**Potential sources of Data:**

• Sample Local Electricity distribution company/electricity board/ State Electricity Regulatory Commission for data on electricity consumption.
• Municipalities for electricity consumption in its facilities.
• Reports on energy audits of municipal services.

1.4 surveys for understanding energy use patterns & efficiency of use

Data collection from secondary sources (as described in 1.1 above) may not provide a complete information on energy consumption. Information on aspects such as, energy consuming appliances, consumption patterns, consumer preferences, efficiency of use, etc can be gathered through sample surveys. Sample surveys may cover aspects such as:

• Information on energy appliances/equipments used.
• Energy performance indicators or efficiency of utilization
• Reliability and cost of energy services/fuel supply
• Consumption patterns and consumers preferences
• Experience with use of renewable energy systems
• Design and construction practices for different types of buildings having an impact on energy consumption

1.5 Preparation of energy baseline report

Based on the collected secondary and primary data, energy baseline would be prepared for each sector. As far as possible the secondary data should be collected for at least 5 previous years, which helps in understanding the trends and help in predict sectoral growth rates.

Good data is essential for energy planning and as the number of sources of data is large, it is not easy for the consultant to collect all the data in a limited time period. In order to facilitate data collection, it is advisable that the Municipal Corporation/SNAs should organize a meeting (or inception workshop) of all concerned departments/institutions at the beginning of the project. In such a meeting the consultant can make a presentation on the data requirements and Municipal Corporation can identify right agencies that would provide data to the Consultant. Municipal Corporation and MNRE
should also write letters to all concerned agencies introducing the project, with a request for providing data.

2. Demand Forecasting for 2013/2023

This step involves predicting the energy demand for 5 year and 10 year periods. To estimate the demand, growth in energy use in different sectors needs to be established. These growth rates are established based on immediate past trends and future growth plans. Thus, the consultant would have to study various growth plans which may impact energy use in the city. These include:

- City development plans
- JNNURM master plan
- Electricity infrastructure/utility plans
- Industry and business forecasts by local chambers of commerce and industry
- Planning Commission documents

Based on the past time-series data and information on growth plans, growth rate in energy demand for different sectors can be estimated. These growth rates are used for making future projection of energy demand in each sector for year 2018 (five year) and 2023 (10 year).

3. Sector wise strategies

This step involves carrying out techno-economic feasibility of different renewable energy and energy efficiency options for each sector and making a priority listing of the options.

3.1 Renewable Energy

A renewable energy resources assessment should be done to identify the potential renewable energy sources for the city. This would include
assessment of solar radiation, wind power density and availability, biomass resources and municipal/industrial wastes.

The next step would be listing of all potential renewable energy technology options. An indicative list of renewable energy technologies/systems is given below.

a) **Solar energy**

**Thermal systems**

i) Solar water heating systems  
ii) Solar cookers (Box and dish type)  
iii) Scheffler cookers for indoor cooking  
iv) Solar steam generating systems  
v) Solar drying/air heating systems  
vi) Solar refrigeration and air conditioning plants  
vii) Solar concentrators for process heat applications

**Photovoltaic Systems**

i) Solar lanterns  
ii) Solar home lighting systems  
iii) Solar generators  
iv) Street light solar control systems  
v) Solar hoardings  
vi) Solar street light/garden lights  
vii) Solar traffic lights  
viii) Solar blinkers  
ix) Road studs  
x) Solar power packs  
xi) Building integrated photovoltaic  
xii) SPV power plants for decentralization applications  
xiii) Roof top plants for replacing DG gensets  
xiv) Solar charging stations

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b) Biomass & Waste to Energy Projects

i) Power projects based on Municipal and Urban Waste and also on industrial waste through combustion/bio-methanation technologies.

ii) Power projects based on methane available from STPs

iii) Bio-mass gasification and co-generation projects in industries

iv) Biomass gasifies based crematoriums

v) Projects on methane utilization for thermal& electrical applications in industries

c) Wind turbines for power generation

d) Micro-hydel plants

e) Solar passive architecture in buildings/housing complexes

Major components of solar passive architecture are orientation of building, sun shades, double glazed windows, smart glazing window overhangs, thermal storage wall/roof, roof painting, ventilation, evaporative cooling, day lighting, wind towers, earth air tunnelling, construction materials etc. Incorporation of specific components will depend in which climatic zone the building is being constructed.

A sector-wise techno-economic analysis of potential renewable energy technologies should be done. Both, decentralized and centralized options should be considered.

The goal will be that renewable energy should be able to reduce at least 5% of the projected total demand of conventional energy at the end of five yeras.

3.2 Energy Efficiency (EE) and Demand side management (DSM)

While renewable energy technologies would provide clean energy, EE and DSM measures would help in reducing the energy demand. An indicative list of EE and DSM measure for different sectors is shown below:
a) Municipal sector

- Water pumping: Generally, there is a potential of 15-25% energy savings in the municipal water pumping systems.
- Street lighting: Energy savings are possible with efficient lighting and control systems

b) Commercial and institutional buildings

- Lighting: Use of efficient lighting and control systems
- HVAC: Use of efficient HVAC systems
- EE in new buildings: Energy savings are possible by following the guidelines ad given in Energy Conservation Building Codes (ECBC)
- Storage: Thermal storage for peak demand reduction

c) Residential

- Lighting: Use of efficient lighting (e.g. LED, CFL and T5) and control systems
- Appliances: Use of BEE star rated appliances
- EE in new housing: Simple guidelines could be made/building bye-laws can be amended to achieve energy savings

d) Industrial

- Lighting: Use of efficient lighting and control systems
- Energy efficiency in motors, furnaces, boilers, etc.

A sector-wise techno-economic analysis of potential energy efficiency and DSM measures should be carried out.
**Stakeholders Consultations**

Stakeholders ‘consultation is a very important step in master plan preparation. Two stakeholders’ consultations are suggested (excluding the inception workshop) – one immediately after the analysis of sector-wise strategies; and one towards the end to discuss the draft master plan. The participants can include elected representatives, local research and academics institutions, resident welfare associations, industries and corporate organizations, NGOs, SNA, etc. Stakeholders committee formed under JNNURM scheme could also be consulted.
Annexure –II

Indicative guidelines for preparing Master Plan & organizing other activities for City to be developed as a ‘Solar City’

A. Master Plan

1. Projection for energy demand and supply for 10 years
   i) Sector wise
   ii) Total

2. Base line of energy utilization & GHG emissions
   i) Residential
   ii) Commercial/Industrial
   iii) Institutional
   iv) Municipal Services
   v) GHG emission

3. Energy Planning (Sector-wise)
   i) Resources
   ii) Options for energy savings & demand reduction
   iii) Supply side option based on renewable
   iv) Techno-Economic of energy conservation & measures

4. Year-wise goals of savings in conservation energy through demand side management & supply side measures based on renewable

5. Action Plan for achieving the set goals & expected GHG abatements. This will include capacity building and awareness generation.

6. Budget estimates and potential sources of funding from respective sources (both public and private)

Note:

Before finalization, the Master Plan would be discussed in a Stakeholders Consultation Workshop having representation from elected representatives, local research and academic institutions, resident welfare associations, industries and corporate organizations, NGOs, SNA, etc. The master Plan will set a goal of minimum 10% reduction in projected total demand of conventional energy at the end of five
years to be achieved through energy saving from energy efficiency measures and generation from renewable energy installations.

B. Other activities

1. Details to be provided on ‘Solar City Cell’ and ‘Solar City Stakeholder Committee’ to be set up for implementation of the Master Plan.
2. Details of training programme/ workshops/ business meet etc. To be provided which will be organized for implementation of the Master Plan.
3. Details of publicity & awareness campaign to be provided.
Annexure – III

Indicative measures to be taken by City Council/ Administration for developing their city/ town as ‘Solar City’

1. To create a “Solar City Cell” within the City Administration/ Council this will be fully responsible for city planning and implementation of projects towards making it a “Solar City”.
2. To conduct energy auditing of Govt./ Public sector buildings, water pumping and street lightings in the city at regular interval and take necessary steps towards conservation of electricity. Other establishments also to be encouraged for the same.
3. To reduce electricity consumption in street light/ garden lights, traffic lights, blinkers, hoarding etc. By using energy conservation & renewable energy devices.
4. To promote National Rating System for construction of energy efficient Green Buildings in particular to commercial and institutional buildings.
5. To amend building bye-laws for making the use of solar water heating systems mandatory in certain category of buildings.
6. To provide rebate in property tax through Municipal Corporations/ Municipalities & in electricity tariff though Utilities/ Electricity Boards to the users of solar water heaters especially in domestic sector.
7. To issue G.O as regards to construction of energy efficient solar building at least in Govt. /Public sectors in accordance with ECBC :2006 and follow up its implementation rigorously.
8. To comply to MSW Rules 2000 notified by the MoEF and set up projects of suitable capacity for generating energy from the waste collected from the city/town.
9. To organize rigorous publicity, and also the training programme/ business meets for various stake holders e.g. architects, engineers, builders & developers, financial institutions, NGOs, technical institutions, manufactures/ suppliers, RWAs etc. So as to involve them actively in meeting the objective of solar city.

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10. To generate necessary funds from State Govt. and other funding organizations for achieving the objective of making the city as “Solar City”. Benefits of the schemes of Govt. of India will also be taken in meeting the objectives.

11. To achieve targets set by the City Council/ Administration for reducing consumption of electricity through renewable energy and energy conservation devices during five years of implementations for developing their city as Solar City.

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Annexure –IV

Renewable energy devices/ systems/ projects & energy conservation measures that can help to bring about reduction in consumption of conventional energy

Renewable energy devices/ systems/ projects

a) Solar water heating systems
b) Solar cookers (Box and dish type)
c) Scheffler cookers for indoor cooking
d) Solar steam generating systems
e) Solar drying/air heating systems
f) Solar refrigeration and air conditioning plants
g) Solar concentrators for process heat applications
h) Solar lanterns
i) Solar home lighting systems
j) Solar generators
k) Street light solar control systems
l) Solar hoarding
m) Solar street light/ garden light
n) Solar traffic lights
o) Solar blinkers
p) Road studs
q) Solar power packs
r) Building integrated photovoltaic
s) SPV power plants for decentralization applications
t) Power projects based on Municipal and Urban Waste and also on industrial waste through combustion/ bio-methanation technologies.
u) Power projects based on methane available from STPs
v) Bio-mass gasification and co-generation projects in industries
w) Biomass gasifies based crematoriums
x) Project on methane utilization for thermal & electrical applications in industries
y) Wind turbines for power generation

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Energy conservation/ measures

i) LEDs/ CFL instead of incandescent bulbs
ii) LED traffic lights
iii) Electronics chokes and fan regulators
iv) Sensors for automatic on/off of street lights
v) Automatic speed regulating fans/ motors
vi) Plugging of leakages in the water supply system and use of efficient pumps and motors
vii) Energy efficient electrical appliances such as fans, refrigerators, air conditioners, coolers, room heaters, water pumps etc.
viii) Use of insulating materials and low-energy/ energy-efficient building materials e.g. fly ash bricks, hollow bricks, stabilized mud blocks, etc. In building construction.

Solar passive architecture in buildings/ housing complexes

Major components of solar passive architecture are orientation of building, sun shades, double glazed windows, smart glazing window overhangs, thermal storage wall/roof, roof painting, ventilation, evaporative cooling, day lighting, wind towers, earth air tunnelling, construction materials etc. Incorporation of specific components will depend in which climatic zone the building is being constructed.

Signature
Name:
Designation:
M:
Date:
Place:
Witness
1.
2.

Signature
Name:
Designation:
Municipality:
Date:
Place:
Witness
1.
2.

Signature of Authorised Signatory -
FORM 10: BANK GUARANTEE FORMAT

PERFORMANCE BANK GUARANTEE

1. In consideration of the Renewable Energy Agency, Puducherry, Bungalow No.2, AFT Premises, Cuddalore Main Road, Mudaliarpet, Puducherry-605004 (hereafter called “the REAP”) having agreed to exempt M/s. ............................................................... (hereinafter called “the Contractor(s)”) from the demand, under the terms and conditions of work order No. F.No.................................................. dated ............... made between Renewable Energy Agency, Puducherry and for ..........................................................................................................................................................................................

..........................................................................................................................................................................................

(hereinafter called “the said Agreement”) of Security Deposit for the due fulfillment by the said Contractor(s) of terms and conditions contained in the said Agreement, on production of a Bank guarantee for Rs...................... (Rupees..............................), we ......................... (Bank name and address) referred to as “the Bank” at the request of M/s. ................................................................. (Contractor) do hereby undertake to pay to the REAP an amount not exceeding Rs.................... (Rupees................... .......................... only) against any loss or damage caused to or suffered or would be caused to or suffered by the REAP by reason of any breach by the said Contractor(s) of any of the terms of conditions contained in the said Agreement.

2. We hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the REAP stating that

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the amount mentioned is due by way of loss or damage caused or breach by
the said Contractor(s) of any of the terms and conditions contained in said
Agreement or by reason of the contractor(s)’ failure to perform the said
Agreement. Any such demand made on the bank shall be conclusive as regards
the amount due and payable by the Bank under guarantee. However, our
liability under this guarantee shall be restricted to an amount not exceeding
Rs.......................... (Rupees.......................... only).

3. We, undertake to pay to the REAP any money so demanded notwithstanding
any dispute or disputes raised by the Contractor(s)/Supplier(s) in any suit or
proceeding pending before any court or Tribunal relating thereto our liability
under these presents being absolute and unequivocal. The payment as made
by us under this bond shall be valid discharge of our liability for payment
thereunder and the Contractor(s)/Supplier(s) shall have no claim against us for
making such payment.

4. We, further agree that the Guarantee herein contained shall remain in full force
and affect during the period that would be taken for the performance of the
said Agreement and that it shall continue to be enforceable till all the dues of
the REAP under or by virtue of the said Agreement have been fully paid and its
claims satisfied or discharges or till Renewable Energy Agency, Puducherry
certifies that the terms and conditions of the said Agreement have been fully
and properly carried out by the Contractor(s) and accordingly discharges this
guarantee. Unless a demand or claim or intimation of extension of period under
this guarantee is made on us writing on or before _________________(the expiry
date) we, shall be discharged from all liabilities under this guarantee therefore.

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5. We further agree with the Government that the REAP shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Agreement or to extend time of performance by the said Contractor(s) from time or to postpone for any time or from time to time any of the powers exercisable by the REAP against the said Contractor(s) and to forebear or enforce any of the terms and conditions relating to the said agreement and we shall not be relieved from our liability by reason of any variation, or extension being granted to the said Contractor(s) or for any forbearance, act omission on the part of the REAP or any indulgence by the REAP to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This Guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s)/Supplier(s).

7. We lastly undertake not to revoke this guarantee during its currency except with the previous consent of the REAP in writing.

8. Dated the __________ day of __________ ___ for ______________________ (indicate the name of the Bank.)

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ANNEXURE-II

Government of India
Ministry of New and Renewable Energy

Development of Master Plans for Solar Cities

Instructions/Suggestions for Preparation of Master Plan

1. The Master Plan should be prepared as per details contained in the programme on development of Solar Cities issued vide No. 5/10/2010-11/ST dated 24th January 2011 available on website of the Ministry www.mnre.gov.in, and a separate guidelines for preparation of Master Plans issued by the Ministry (copy may be downloaded by the bidder for reference).

2. The Master Plan should broadly contain the following:


- Sector wise data on energy consumption (electricity, petroleum products, coal, biomass, etc) for residential, commercial, institutional, industrial and municipal sectors should be collected.

- The data should be collected through primary sources by interaction/visits with related departments i.e., electricity, transport, agriculture, industry, education, municipal corporations, state nodal agency of renewable energy, tourism etc.

- Suitable formats/questionnaire should be developed and the first hand sufficient data should be collected from concerned sectors through personal surveys for understanding the energy consumption patterns, future demand & efficiency of use etc.

- Energy baseline report should be prepared with reference to the base line year 2012 (31.12.2012) indicating the load profile, peak demand, gap between demand and supply etc.

[B] Demand Forecasting for 2018/2023

- The existing sources i.e., City development plans, JNNURM master plan, Electricity infrastructure/utility plans, Industry and business forecasts by local chambers of commerce and industry, Planning Commission documents, BEEs City Plans, should be exploited to collect the relevant information.

- Based on the past time-series data and information on growth plans, growth rate in energy demand for different sectors can be estimated
[C] Sector wise Strategies

- Carry out techno-economic feasibility of different renewable energy and energy efficiency options for each sector city specific.
- Make a priority list of the options applicable for the sector in the city.

[D] Renewable Energy Options

- RE resources assessment- solar radiation, wind power density and availability, biomass resources and municipal/industrial wastes to identify the potential for the City.
- Listing of potential renewable energy technology options

(a) Solar Energy (Thermal)

Solar water heating systems, Solar cooking at community/commercial places, - Solar steam generating systems, -Solar drying/air heating systems, Solar refrigeration and air conditioning plants, -Solar concentrators for process heat applications etc.

(b) Solar Energy (Photovoltaic)

Solar home lighting systems, Solar generators, Street light solar control systems, Solar advt. hoardings, Solar street light/garden lights, Solar traffic lights, Solar blinkers, Road studs, Solar power packs, Building integrated photovoltaic, Solar power plants for decentralization applications, Solar Roof top plants for replacing DG gensets, Solar charging stations, solar inverter etc.

(c) Solar passive architecture in buildings/housing complexes

(d) Waste to Energy Projects based on Municipal and Urban Waste, Industrial waste, Methane available from STPs, kitchen waste,

(e) Biomass based projects

Biomass gasification, co-generation, combustion, liquefaction, biofuels etc. Biomass gasifier based crematoriums.

(f) Wind Energy

Small aero generators, hybrid systems with spv, biomass, wind pumps etc,

(g) Any other Renewable Energy Systems and devices

[B] Energy Efficiency Measures

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3. **Priority Areas/Indicative Renewable Energy options for the Master Plan**

The sector wise details should be provided in the Master Plan. Few sectors and the commensurate renewable options to be included in the Master Plan are given below.

<table>
<thead>
<tr>
<th>Sector</th>
<th>Renewable Energy Options</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetable Markets</td>
<td>Solar Lanterns for Road Shops, Market Waste based Plants, Solar lightings, Solar cold storages etc.</td>
</tr>
<tr>
<td>Sewage Treatment Plants</td>
<td>Biogas Generation Plants, Power Generation from Biogas, Biogas Cooking, Solar lightings etc.</td>
</tr>
<tr>
<td>Roads</td>
<td>Solar Street Lighting Systems, Road Studs, Solar Traffic Signals, Solar Street Light Controls etc.</td>
</tr>
<tr>
<td>Transport</td>
<td>Battery Operated Vehicles, Biodiesel based Buses/Vehicles etc.</td>
</tr>
<tr>
<td>Advt. Hoardings</td>
<td>Solar Hoardings, CFL/LED replacement in hoardings</td>
</tr>
<tr>
<td>Hotels</td>
<td>Solar Water Heaters for water preheating (air-conditioning plant, laundry, kitchen, swimming pool), Waste based Plants, Solar Garden Lights, Solar Road Studs, solar streetlights with automatic control,</td>
</tr>
<tr>
<td>Hospitals</td>
<td>Solar Water Heaters (air-conditioning plant, laundry, kitchen, incinerators/autoclaves), Solar Roof Top Power Plants, Solar Lightings, Solar Street Lights, Road Studs</td>
</tr>
<tr>
<td>Restaurants</td>
<td>Solar Water Heaters, Solar Lightings, Solar Cooking, Gasifier Based Cooking</td>
</tr>
<tr>
<td>Schools</td>
<td>Solar Cooking for Midday Meals, Solar Lightings,</td>
</tr>
<tr>
<td>Data Center</td>
<td>Solar lighting, solar air conditioning</td>
</tr>
<tr>
<td>MSW Sites</td>
<td>Suitable Technology for MSW Treatment i.e.,</td>
</tr>
</tbody>
</table>

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4. Master Plans should be commensurate with the implementable proposals on Renewable Energy and Energy Efficiency.

5. It should provide sector wise information on potential for Renewable Energy and Energy Efficiency i.e., schools, industry, hotels, hostels, markets, shopping malls etc..

6. It should provide information on Technology Solutions, RE and EE product information and availability, Financial incentives,

7. The estimated cost of the entire package should be provided.

8. The Master Plan should provide/suggest amendment in building bye-laws for making use of solar water heaters mandatory in the city, if not done.

9. It should also provide Guidelines for implementation by the Municipal corporations and other departments.

10. It should contain the detailed inventory of all existing renewable energy projects/systems in the city.

11. The details of the renewable energy related policies/incentives existing in the City/State level should be provided.

12. Important: The Master Plan should provide good project reports for the few pilot projects to be undertaken immediately by the Municipal corporations, State Nodal Agencies or any other implementing Agency.

13. Close interaction should be maintained by the consultant with the State Nodal Agency Officials

| Industry | Waste heat recovery, process heat recovery, biogas production for thermal and captive power plant, biomass gasification, cogeneration, biomass based power plants, SPV power plants in place of conventional diesel generation, Solar Water Heaters, solar street lights for industry campus with automatic control, solar drying, Solar air conditioning etc. |

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