



FORUM OF REGULATORS (FOR)

TERMS OF REFERENCE

A Study on “Assessment of achievable potential of New and Renewable Energy resources in different States during the 12th Plan Period, determination of RPO trajectory and its impact on Tariff”

1.0 Introduction:

1.1 The Forum of Regulators (FOR) has been constituted by the Government of India in terms of Section 166 (2) of the Electricity Act, 2003. The Forum consists of Chairperson of the Central Commission and the Chairpersons of the State Commissions. Chairperson of the Central Commission is the Chairperson of the Forum of Regulators and secretarial assistance to the Forum is provided by the Central Commission. The Forum is responsible for harmonization, coordination and ensuring uniformity of approach amongst the Electricity Regulatory Commissions across the country, in order to achieve greater regulatory certainty in the electricity sector.

1.2 FOR has been taking steps towards ensuring that the provisions in the Electricity Act and the policies i.e. National Electricity Policy (NEP) and Tariff Policy are well implemented. The responsibility of promoting cogeneration and generation of electricity from renewable sources of energy has been entrusted on the Appropriate Commission in section 61 and in particular to the state commissions under section 86 (1) (e) of the Electricity Act 2003. Pursuant to this provision of the act, the tariff policy stipulates that the Appropriate Commission shall fix minimum percentage of purchase of power from such sources taking into account the availability of renewable resources in the region and its impact on the retail tariff. Accordingly, various State Electricity Regulatory Commissions (SERCs) have specified the Renewable



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- Energy Purchase Obligations (RPO) for their licensee distribution companies. Specified RPO vary across the states.
- 1.3** In order to accelerate the large-scale deployment of renewable energy, the National Action Plan on Climate Change (NAPCC) envisages dynamic renewable purchase obligation target of 5% at national level for 2010 with annual increase in trajectory over long term so as to reach around 15% RPO target by 2020 at national level.
- 1.4** The Ministry of Power also amended the Para 6.4 (1) which inter alia states that purchase of energy from non-conventional sources of energy should take place more or less in the same proportion in different States and for achieving this objective in the current scenario of large availability of such resources only in certain part of the country, an appropriate mechanism such as Renewable Energy Certificate (REC) would need to be evolved.
- 1.5** In this connection in order to bring in an element of harmony in approach, the FOR had carried out a study to assess the feasible renewable energy potential in different states to enable setting the possible RPO trajectories and its likely impact on consumer tariff. This study had revealed that during the next five years, availability of renewable energy capacity would not be a constraint to meet the National Action Plan on Climate Change (NAPCC) target of 10% by 2015 and around 45000 MW RE generation capacities will be required. Further study report revealed that the pan India incremental impact of increasing RPO by a uniform rate of 1.2% every year from the present level of 4% would not be substantial and the incremental impact was estimated to be less than 1.5 paise per unit which reduces to almost zero in 2015. However, MNRE in its paper on “Renewable Energy in India: Progress, Vision and Strategy”, projected that



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RE capacities at the end of the 12th Plan i.e. FY 2017 would be around 41, 400 MW.

1.6 Currently grid connected RE generation capacities is around 18,654 MW (As on 31.12.2010). Almost 25000 MW capacities required to be added in the next 4 years to achieve 10% target in accordance with the above referred study. According to the MNRE which seems to be impossible looking to the yearly capacity additions took place in last 3-4 years which was around 2000-2500 MW. Even in the FY10-11 against the target set by MNRE of 2972 MW, as on 31-12-2010, 1836 MW capacities added. Therefore, it was felt that an another study on Assessment of achievable potential of New and Renewable Energy resources in different States during the 12th Plan Period, determination of RPO trajectory and its impact on retail Tariff to be carried out.

1.7 For this purpose it is decided to engage a consultant to study these issues with detailed analysis and come out with a comprehensive report achievable potential of renewable energy resources in different States during the 12th Plan Period, determination of RPO trajectory for different states and its impact on retail Tariff.

2.0 Objectives of the study:

2.1 To prepare a comprehensive report to include

- i. Estimation of the potentials of various Renewable Energy sources in different states and overall availability of Renewable resource based electricity in the country;
- ii. Assessment of the projected demand of electricity in the area of the distribution licensee(s) in each state;



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- iii. Determination of the possible trajectory for setting RPOs and its impact on retail tariff.
- iv. Recommendations, based on the above findings, the desirable minimum RPO to be specified by each State Commission.

3.0 Scope of Work:

The Consultant is required to prepare the report by carrying out the study with detailed analysis of achievable potential of various RE technologies in different states and possible RPO trajectory and its impact on tariff. Detailed Scope should include following:

- 3.1 Assessment of existing RPO – targets set by the SERCs and the achievements against the targets.
- 3.2 Highlighting factors responsible for gap between target and achievement.
- 3.3 Assessment of likely capacity additions of RE based power plants during the 12th Plan period based upon discussion with industry players (investors as well as manufacturers), projects announced and projects registered with State Renewable Agencies.
- 3.4 Validation of figures (for likely capacity additions of RE based power plants) through discussion with MNRE, CERC, FOR and other stakeholders (SERCs, State Renewable Agencies and concerned research institutes and organisations in the country.) and suggesting targets (mandatory and desirable targets) for RE capacity additions during the 12th Plan.
- 3.5 Highlighting the challenges that might come in meeting these targets, and providing suggestions on overcoming these challenges.

Setting the possible RPO trajectory

- 3.6 Suggesting RPO trajectory for different states keeping in view the achievable targets during the 12th Plan.

Impact of RPO on Retail Tariff



- 3.7 The consultant should assess the projected demand of electricity in the area of distribution licensee(s) in different states. Keeping in view the likely sources of conventional supply and estimate of pricing thereof, the consultant should determine the impact the RPO obligation would have on retail tariffs.

4.0 Recommendations & Way forward

Based on the findings of the study on each of the above aspects the consultant should make suitable recommendations with regard to the implementation strategy and to the commitment that may be desirable on the part of the State governments to enable their distributions utilities to achieve the set RPO obligations and foster development of RE sources.

5.0 Deliverables and Duration of Assignment

The assignment shall be completed within a period of 90 days from the date of award of consultancy. The Consultant will be required to:

- 5.1 Submit Inception Report at the end of 30 days from the date of award of assignment;
- 5.2 Submit draft report at the end of 60 days from the date of award of assignment followed by a presentation before Forum of Regulators;
- 5.3 Submit a Final Report at the end of 90 days from the date of award of assignment;

6.0 Payment Schedule:

- 6.1 15% advance of the total fee of the study at the time of signing agreement/acceptance of the offer;
- 6.2 15% on submission of the inception report;



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- 6.3 30% on submission of the draft report;
- 6.4 30% on submission of the final report; and
- 6.5 balance 10% on successful completion and acceptance of the final report by the 'FOR'.

7.0 Qualification Criteria:

- 7.1 The Consultant, besides being conversant with the working and role of SERCs and having completed or assisted them at least for 2 assignments on regulatory matters, should have sufficient exposure in the area of renewable energy and done at least one assignment for ERC or any other organisation on renewables.

8.0 Application and Evaluation Criteria:

- 8.1 The format of application is at Annexure-I and Annexure-II.
- 8.2 The Consultant is required to submit four (4) copies of bids for Technical offer (each of which will be treated as original) and one copy of Financial offer, duly sealed in separate envelopes.
- 8.3 Technical component will carry 70% weightage and Finance component 30% weightage.
- 8.4 The bids of the eligible bidders as per Clause 6 will be scrutinized by Consultancy Evaluation Committee (CEC) and shortlisted bidders will be called for interaction with the CEC and their technical performance will be evaluated based on the following criteria:

Technical Parameters	Weights
The Consultants relevant experience for the assignment	0.3
Understanding of the issues and approach to be followed	0.3



The qualifications and experience of the key staff proposed	0.4
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- 8.5 The minimum qualifying marks in the Technical Evaluation is 50% of the total score for technical component.
- 8.6 Only those bidders, who qualify technically as per Clause 7.5, would be considered for Financial Evaluation.
- 8.7 Weight for Financial parameters: Proposal with the lowest cost will be given a financial score of 100 and other proposals given financial scores that are inversely proportional to their prices.
- 8.8 The total score will be obtained by weighting the Technical and Financial scores.
- 8.9 Only successful bidder would be communicated the award of consultancy assignment.
- 8.10 The right to reject any or all bids rests with the FOR Secretariat without assigning any reason.
- 8.11 The 'FOR' and the Consultant both would have option to terminate the contract by giving a notice of one month or the equivalent remuneration in lieu thereof. In such cases, the Consultant shall be paid fees after taking into consideration the part of work completed prior to such foreclosure, termination or cancellation of the engagement as may be decided by the 'FOR', and the decision of the 'FOR' shall be conclusive and binding. The fees so fixed and paid shall be deemed to be final payment in such cases.
- 8.12 The consultant shall abide with the contract as per Annexure-III.



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8.13 /ANNEXURE - I/

DETAILED PROPOSAL FOR STUDY
(TECHNICAL)

Four (4) copies of the proposal along with project summary to be submitted to Secretary, CERC/FOR.

I. GENERAL INFORMATION:

01. Title of the Proposed Study :
02. Name and address of the Organization/ :
Institution
03. Name & Designation of the Key Person :
04. Contact address of the Key Person :
(e-mail/fax/telephone)
05. Net-worth/Turnover of the Organization/ :
Institution



II. TECHNICAL SPECIFICATIONS:

06. i. Department(s) of the organization/Institution(s) where the study will be carried out

ii. Other department(s), if any, which will collaborate in this study

07. Brief review of the state-of-art in the field (National and International)

08. Detailed Approach & Methodology for undertaking the assignment

09. Facilities available for the proposed work in the applicant's organization/institution

10. Previous experience of the proposer in this or related field

11. Biographical sketch of the Study Team

(i) Name

(ii) Designation

(iii) Date of Birth

(iv) Education and Experience

(a) Academic Qualifications

Degree	University	Field(s)	Year



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(b) Experience

Institution	Topic of work done	Period

(v) Field of major interest

(vi) Additional information (if any)

12. Capacity to impart training/transfer of knowledge



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/ ANNEXURE - II /

DETAILED PROPOSAL FOR STUDY
(FINANCIAL)

I. GENERAL INFORMATION:

01. Title of the Proposed Study :

02. Name and address of the Organization/ :
Institution

03. Name & Designation of the Key Person :

04. Contact address of the Key Person :
(e-mail/ fax/ telephone)

05. Net-worth/Turnover of the Organization/ :
Institution

06. Certificate of authorization in case of Institutes/other organizations (Format enclosed at **Appendix-'A'**).



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II. Fee Proposed:

07. Amount of Fee proposed for:

Components	Basis	Amount (in Rs.)
(I) Consultant Charges		
(II) Misc./Others (if any)		
<i>Total</i>		

(RUPEES _____)

Signature of the Principal Investigator /
Head of the Study Team



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/ Appendix-'A' /

CERTIFICATE

The undersigned agree to abide by the conditions of the grants and certify that available facilities for proposed work shall be extended to the investigator/study team.

Signature of Executive Authority
Investigator/of the Organisation

Signature of the Principal
Head of the Study Team

Name and Designation

Name and Designation

Date

Date

Signature of Co-investigator

Name and Designation

Date

Official stamp of

Organization/Institution



AGREEMENT

ARTICLES OF AGREEMENT made on this day of BETWEEN M/s _____ of one part and the Forum of Regulators (herein after called "the FOR") of the other part.

WHEREAS the FOR has engaged the party of the first part to conduct a Study on "Assessment of achievable potential of New and Renewable Energy resources in different States during the 12th Plan Period, determination of RPO trajectory and its impact on Tariff" and the party of the first part has agreed, to conduct the said study and submit the report to the FOR, on the terms and conditions hereinafter contained.

NOW THESE PRESENTS WITNESS and the parties hereto respectively agree as follows:

1. The party of the first part shall complete the assignment as contained in Annexure-I (TOR) within a period of 3 (Three) months commencing from, 2009.
2. The party of the first part shall be paid as under:
 - a) 15% advance of the total fee of the study at the time of signing agreement/acceptance of the offer;
 - b) 15% on submission of the inception report;
 - c) 30% on submission of the draft report;
 - d) 30% on submission of the final report; and
 - e) Balance 10% on successful completion and acceptance of the final report by the 'FOR'.

The total fee for the study has been fixed at Rs.....
(exclusive of taxes, if any).



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3. The schedule of payment shall be as under:

As per clause 2 above.

4. The party of the first part shall not disclose to any unauthorized person any information and data that may be supplied to him by the FOR or by any other organization, under the direction of the FOR. All such documents shall be the property of the FOR or any information that may have come to their knowledge directly or indirectly by virtue of the assignment.

5. The party of the first part undertakes that this assignment shall not be in conflict with their prior or current obligation to other clients nor shall it place them a position of not being able to carry out the assignments objectively and impartially.

6. In case of any default on the part of the party of the first part in completion of the study within the time schedule agreed to between the parties as herein above, the party of the second part shall be at liberty to get the study completed from any other agency at the risk and cost of the party of first part.

7. In case of any differences or disputes between the parties arising out of this Agreement, it shall be referred for arbitration as per the provisions of Arbitration and Conciliation Act, 1996, as amended from time to time. The venue of the arbitration shall be Delhi.

8. The 'FOR' and the Consultant would both have option to terminate the contract by giving a notice of one month or the equivalent remuneration in lieu thereof. In such cases party of the first part shall be paid fees after taking into consideration the part of work completed prior to such foreclosure, termination or cancellation of the engagement as may be decided by the 'FOR', and the decision of the 'FOR' shall be conclusive and binding. The fees so fixed and paid shall be deemed to be final payment in such cases.



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9. In respect of any matter for which no provision has been made in this Agreement, the provisions contained in the general instructions of the Government on the subject of engagement for study shall apply.

In witness whereof the party of the first part and _____ to the FOR on behalf of the FOR have hereto put their hand the day and the year first above written.

Signed by, the party of the first part in the presence of

Signed by, the said to the 'FOR' for and on behalf of the FOR in the presence of