



Short listing of Agencies to conduct technical Study on Electric Vehicle and Charging infrastructure

Expression of Interest (EOI)
Ref No.-BEE/S&L/EV/2017-18

Last Date of Submission:
22/12/2017

Bureau of Energy Efficiency

Ministry of Power, Government of India,
4th Floor Sewa Bhawan, R. K. Puram,
New Delhi – 110066.

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1. Critical Information

1	Availability of EOI Document	08.11.2017
2	Pre-EOI meeting	28.11.2017
3	Last date for submission of EOI	22.12.2017 by 5 PM
4	Venue for opening of EOI	Conference Hall, Bureau of Energy Efficiency 4th floor, Sewa Bhawan, R K Puram New Delhi – 110066 Tel No.:-91-11-26179699
5	E-mail address for queries	1. sdiddi@beenet.in 2. rajeevk@beenet.in
6	Place for Submission of EOI	Bureau of Energy Efficiency 4th floor, Sewa Bhawan, R K Puram New Delhi – 110066 Tel No.:-91-11-26179699
7	Contact Person for Clarification	1. Mr. Saurabh Diddi, Director, Bureau of Energy Efficiency 4th floor, Sewa Bhawan, R K Puram New Delhi – 110066 Tel No.:-91-11-26179699 Email : sdiddi@beenet.in 2. Mr. Rajeev, Project Engineer, Bureau of Energy Efficiency 4th floor, Sewa Bhawan, R K Puram New Delhi – 110066 Tel No.:-91-11-26179699 Email: rajeevk@beenet.in

2. Bureau of Energy Efficiency (BEE)

2.1. About BEE

The mission of Bureau of Energy Efficiency (BEE) is to develop policy and strategies with a thrust on self-regulation and market principles, within the overall framework of the Energy Conservation Act (EC Act), 2001 with the primary objective of reducing energy intensity of the Indian economy. This will be achieved with active participation of all stakeholders, resulting in accelerated and sustained adoption of energy efficiency in all sectors.

The setting up of Bureau of Energy Efficiency (BEE) provides a legal framework for energy efficiency initiatives in the country. The Act empowers the Central Government and in some instances the State Governments to:

- Notify energy intensive industries, other establishments, and commercial buildings as designated consumers.
- Establish and prescribe energy consumption norms and standards for designated consumers.
- Direct designated consumers to designate or appoint certified energy manager in charge of activities for efficient use of energy and its conservation.
- Get an energy audit conducted by an accredited energy auditor in the specified manner and intervals of time.
- Furnish information with regard to energy consumed and action taken on the recommendation of the accredited energy auditor to the designated agency.
- Comply with energy consumption norms and standards, and if not so, to prepare and implement schemes for efficient use of energy and its conservation.
- Prescribe energy conservation building codes for efficient use of energy and its conservation in commercial buildings State Governments to amend the energy conservation building codes to suit regional and local climatic conditions.

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- Direct owners or occupiers of commercial buildings to comply with the provisions of energy conservation building codes.
- Direct mandatory display of label on notified equipment and appliances.
- Specify energy consumption standards for notified equipment and appliance.
- Prohibit manufacture, sale, purchase and import of notified equipment and appliances not conforming to standards.

The Energy Conservation Act, 2001 defines the powers of the State Government to facilitate and enforce efficient use of energy and its conservation. The State Governments have to designate State Designated Agencies in consultation with the Bureau of Energy Efficiency to coordinate, regulate and enforce the provisions of the Act in the State. Thus the State Designated Agencies are the strategic partners for promotion of energy efficiency and its conservation in the country.

2.2. Organization

BEE is a multi-disciplinary body with a sanctioned strength of 19 personnel. Under the provisions of the Energy Conservation Act, 2001, Bureau of Energy Efficiency has been established with effect from 1st March, 2002 by merging into it, the erstwhile Energy Management Centre, being a society registered under the Societies Registration Act, 1860, under the Ministry of Power.

2.3. Functions of BEE

BEE co-ordinates with designated consumers, designated agencies and other organization; recognizes, identifies and utilizes the existing resources and infrastructure, in performing the functions assigned to it under the E.C Act, 2001. The Act provides for regulatory and promotional functions:

The major functions of BEE include:

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- Develop and recommend to the Central Government the norms for processes and energy consumption standards.
- Develop and recommend to the Central Government minimum energy consumption standards and labeling design for equipment and appliances.
- Develop and recommend to the Central Government specific energy conservation building codes.
- Recommend the Central Government for notifying any user or class of users of energy as a designated consumer.
- Take necessary measures to create awareness and disseminate information for efficient use of energy and its conservation.

2.4. The Energy Conservation Act, 2001

The Energy Conservation Act, 2001 (ECA) forms the core of the legal framework put in place by India to promote energy efficiency and conservation. ECA came into force with effect from March 1, 2002. Some important sections of ECA relevant to BEE are:

- Section 1 – Short title, extent and commencement
- Section 2 – Definitions
- Section 3 – Bureau of Energy Efficiency-creation, administration
- Section 12 – Transfer of Assets and Liabilities of Energy Management Center to BEE
- Section 13 – Powers and functions of the BEE
- Section 14 – Power of Central Government to Facilitate and Enforce Efficient use of Energy and its Conservation
- Section 15 -Power of State Government to Facilitate and Enforce Efficient use of Energy and its Conservation
- Section 16 – Constitution of State Energy Conservation Fund

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- Section 17 – Power of Inspection
- Section 18 – Power of Central Government to issue directions
- Section 41 – Restriction on Civil Courts
- Section 42 –Appeal to High Court
- Section 44 – Offences triable by Special Courts
- Section 48 –Authorities under the Act
- Section 26 – Penalties and Adjudication
- Section 30 – Appellate Tribunal for Energy Conservation
- Section 48 – Default by Companies
- Section 52 – Power to obtain Information
- Section 56 – Power of Central Government to make rules
- Section 57 – Power of State Government to make rules
- Section 58 – Power of BEE to make regulations
- Section 62 – Power to remove difficulties

3. Objective of Study

The Energy consumption in India's transport sector was 75 MTOE (Million Tonnes of Oil Equivalent) in 2013, accounted for 14% of total energy consumption. With a growth rate averaging 6.8% per year since 2000, it has become the fastest-growing of all the end-use sectors, with around 90% of the increase coming from oil use in road transport. By 2030, the growth in energy demand from transport continues to outpace growth in all other sectors, and transport fuel demand will reach upto 176 MTOE by 2030 dominated by road transport and this will further rise to 286 MTOE by 2040. The country's light-duty vehicle (LDVs) stock has increased by an average of 19% per year since 2000, rising to an estimated 22.5 million in 2013, with an additional 95 million motorbikes and scooters (two/three-wheelers).

Keeping in view the climate change commitments made by Government of India during the COP21 Summit held at Paris to reduce emission intensity by 33- 35% by 2030 from 2005 levels, it is pertinent to introduce alternative means in the transport sector which can be coupled with India's rapid economic growth, rising urbanization, travel demand and country's energy security. Electric mobility presents a viable alternative in addressing these challenges, when packaged with innovative pricing solutions, appropriate technology and support infrastructure and thus, has been on the radar of Government of India.

Electric mobility will also contribute to balancing energy demand, energy storage and environmental sustainability. Electric vehicles could help diversify the energy needed to move people and goods thanks to their reliance on the wide mix of primary energy sources used in power generation, greatly improving energy security. Thanks to their storage capacity, they could help support the uptake of clean electricity, enabling greater use of variable renewable in electricity production. If coupled with the decarbonization of the power sector, electric vehicles would also provide major contributions to keep the world on track to meet its shared climate goals.

Electric mobility comes with zero or ultra-low tailpipe emissions of local air pollutants and much lower noise, and, by being one of the most innovative clusters for the automotive sector, can provide a major boost to the economic and industrial competitiveness, attracting investments, especially in countries.

The Electric Vehicle industry in India is far behind, with less than 1% of the total vehicle sales. Currently, Indian roads are dominated by conventional vehicles and have approximately 0.4 million electric two wheelers and a few thousand electric cars only. The Indian EV industry has been on the back seat due to various challenges. The main objective of this study is to cope up the challenges faced by prevalence of Electric vehicle in Indian Market.

4. Objective of the EOI and procedure to be adopted for the selection

4.1 This EOI seeks to short list reputed agency to provide detailed study of challenges and solutions for electric vehicle and charging infrastructure in India. The pre- qualification criteria and the criteria to be adopted for the short listing are given at Sections 6.1 & 6.2 of this document.

4.2 A detailed RFP will be sent to the short listed agencies out of which one agency will be selected for implementing the project under the overall supervision of BEE.

5. Scope of Work

- Identify possible Electric Vehicle (EV) charging options such as public charging stations, private charging options, fleet charging stations and battery swapping stations.
- Analyzing Technical, safety and performance standards of EV charging stations in conjunction with the existing standards if any.
- Assess the Indian market (Financially and technically) for type of electric vehicles & charging station.
- Define minimum standards for each of the identified options in terms of:
 - The charging station design and their electrical aspects.
 - Grid connectivity protocols.
 - Distribution network design.
 - Any other electrical / civil / mechanical aspects those are critical to safe and successful operations of the charging options.

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- Identify policies and regulations to be leveraged / strengthened / drafted for enabling charging infrastructure to set up along with scaling up in usage of electric vehicles.
 - Detailed study of electric Vehicle-Grid interaction.
 - Study the readiness of the manufacturing Industries for Electric Vehicles.
 - Identification of latest technology available for Electric Vehicle and charging station.
 - Identification of existing challenges/ barriers for usages of electric vehicles and in setting up the charging station infrastructure in India.
 - International comparison of efficiency metrics of electric vehicles and charging station mechanism in selected countries, comparing the market sizes, trends and its energy performance with inclusion/exclusion of other relevant performance parameters that influence efficiency;
 - Mapping Identification of international and national test procedures, initial comparison of test procedures, and identification of potential issues in test result comparisons.
 - Analysis of knowledge gaps and other research needs to be addressed through benchmarking.
 - Detail out possible options and identify optimal solution in consultation with stakeholders.
- *Draft report shall be submitted for seeking comments/inputs from BEE.

6. Selection Process

6.1. Pre-Qualification Criteria

The Consultant interested in being considered for this task preferably shall fulfill the following criteria:

- Should be a firm/company registered/incorporated in India.
- Should have the work experience in Transportation Sector covering the aspects of standards related to transport and electricity supply.
- Should have a minimum annual turnover of INR 2.00 Crores in the last three (3) years i.e. FY 2014-15, 2015-16 and provisional for 2016-17.
- Should have been profitable for at least two (2) of the last three (3) years.

6.2. Evaluation of Proposals

BEE will evaluate proposals and will give marks to all the successful bidders from preliminary scrutiny on the following basis:

S. No	Category	Max. Marks	Criteria
1	Turnover	5	Turnover >Rs 2 crore & less than 5 crores: 3 Marks Turnover >Rs 5 crores: 5 Marks
2	Team		
	Team Leader (Years of experience in relevant area)	5	Years of Experience between 10-15 years: 2 Marks Years of Experience between 16-20 years: 4 Marks Years of Experience more than 20 years: 5 Marks
	Team Leader (No of Projects)	10	No of projects related to safety, power equipment standard between 1-5: 4 marks No of projects related to safety, power equipment standard between 6-10: 8 Marks No of projects related to safety, power equipment standard more than 10: 10 marks
	Team Strength (with relevant experience)	5	Team between 4-5: 2 Marks Team between 6-8: 3 Marks Team more than 8: 5 Marks
	Team Average Experience (Years)	5	Average Relevant Experience: Σ year of exp/total team strength Avg Exp between 3-5 years: 2 marks Avg Exp between 5-8 years: 3 marks Avg Exp more than 8 years: 5 marks

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	Team Average Experience (Projects)	5	Average Relevant Experience: Σ no of projects/total team strength Avg no. of projects between 3-5 : 4 marks Avg no. of projects between 5-8 : 8 marks Avg no. of projects more than 8 : 12 marks
3	Experience		
	Batteries Standards development	5	Each Project will have 2 marks subject to maximum of 10 marks
	Electric Supply equipment Standards development	5	Each Project will have 2 marks subject to maximum of 10 marks
	International standards in road transport sector Experience	10	Each Project will have 2 marks subject to maximum of 10 marks
	EE Projects	5	Each Project will have 2 marks subject to maximum of 10 marks
4	Approach & Methodology		
	Clarity on Subject	15	Average of marks from all the reviewers (Subjective assessment)
	In-line with BEE requirements	25	Average of marks from all the reviewers (Subjective assessment)
	TOTAL TECHNICAL SCORE	100	

The agencies should provide complete details of their qualifications, experience (including that of their key personnel), financial strength, etc. along with related supporting documents (self attested) in order to establish their credentials vis-à-vis the criteria as mentioned above.

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During the course of evaluation BEE may, if necessary, seek clarifications from the Consultants and / or ask for presentations to be made to the Evaluation Committee with regard to their EOIs

Note: Only Bidders with minimum of 70 marks will be qualified for the submission of detailed proposal.

7. Forms to be submitted

EOI is to be submitted in the following format along with the necessary documents as listed. The EOI shall be liable for rejection in the absence of requisite supporting documents. EOI should provide information against each of the applicable requirements. In absence of the same, the EOI shall be liable for rejection.

7.1. Form 1: Letter Pro-forma

To

**The Secretary
Bureau of Energy Efficiency
Sewa Bhawan, 4th Floor
R.K. Puram, Sector 1
New Delhi 110066
Dear Sir,**

In response to your Invitation for EOIs, vide Ref. No. -----we, the undersigned hereby submit our Expression of Interest for undertaking the assignment. We confirm having read and understood the contents of the Invitation for EOIs, and we fully agree to abide by the terms and conditions as indicated therein. We hereby declare that all the information and statements made in this Proposal are true to the best of our knowledge and belief, and accept that any misrepresentation contained therein may lead to our disqualification.

The Check List (as per your Invitation for EOIs), duly completed, is enclosed herewith.

Enclosed herewith is a Demand Draft for Rs. 6000/- (Rupees one thousand only) in favour of “Bureau of Energy Efficiency”, payable at Delhi, towards the EOI fees.

We hereby confirm that neither our firm (and our partner firms, in the case of a Consortium), nor any of the key professionals as proposed in our EOI, is currently blacklisted / debarred / suspended by any entity of the Govt.

Thanking you,

Yours faithfully

Expression of Interest

(Signature of the Agency)

Name :
Designation :
Seal :
Date :
Place :
Business Address:

Witness:

Signature

Name

Address

Date

Agency:

Signature

Name

Designation

Company

Date

7.2 Form 2: CV of Team Members

Provide CVs of the proposed team for undertaking the current assignment. The CVs to be included in the following format:

FORMAT

1. Name:
2. Proposed Position:
3. Name of Firm:
4. Date of Birth:
5. Nationality:
6. Education (In Reverse Chronology):

Name of Degree	Year	Name of Institution

7. Membership of Professional Associations:
8. Other Training:
9. Countries of Work Experience:

10. Languages

Language	Speak	Read	Read

11. Employment Record:

Firm/Organization	From – To	Designation/Role

12. Projects undertaken

Name of Project	Role in the project	Duration (From – To)	Organization Name	Relevant to Standard of Transportation/ Charging stations	Details of the Assignment

13. Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes me, my qualifications, and my experience. I understand that any willful misstatement described herein may lead to my disqualification or dismissal, if engaged.

_____ Date: _____

[Signature of staff member or authorized representative of the staff]

Day/Month/Year Full name, Signature and designation of authorized representative:

7.3 Form 3: List of Projects implemented by the bidder Organization

Type of Projects	List of Projects
Standards Development for Transportation/ Charging Stations	
International Experience	
Energy Efficiency Projects	
Any Other relevant Project	

Details of all above mentioned these project shall be shown in Form 7 (Prior experience), otherwise those projects will not be considered for evaluation. BEE has complete right to ask for relevant documents such as work order/completion certificate for these projects. Non availability of such document may lead to rejection of bid/contract at any stage of the project.

7.4 Form 4: Prior Experience

[Please indicate at least minimum requirement of assignment directly related to the experience as specified in this document. List of other similar assignments / studies firm feel is important may be furnished in a separate sheet mentioning name of the assignments, year, approx. Value in INR of work etc.]

Name of Consulting Firm:	
Assignment/job name:	
Nature of Assignment:	
Description of Project	
Approx. value of the contract (in Rupees):	
Country:	
Location within country:	
Duration of Assignment/job (months) :	
Name of Employer:	
Address and contact details:	
Total No of staff-months of the Assignment/job:	
Approx. value of the Assignment/job provided by your firm under the contract (in Rupees):	
Start date (month/year):	
Completion date (month/year):	
Name of associated Consultants, if any:	
No of professional staff-months provided by associated Consultants:	
Name of senior professional staff of	

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your firm involved and functions performed.	
Description of actual Assignment/job provided by your staff within the Assignment/job:	

Note: Please attach Letter of Intent or Purchase Order or certificate of successful completion for each project, from the respective Client(s).

Witness:

Signature

Name

Address

Date

Consultant:

Signature

Name

Designation

Company

Date

7.5 Form 5: Comments and Suggestions

[Suggest and justify here any modifications or improvement to the scope of work, tasks to be performed, timeline, deliverables, payment terms etc. to improve performance in carrying out the Assignment. The Agency can suggest deleting some activity or adding another, or proposing a different phasing of the activities. Such suggestions should be concise and to the point.]

(Maximum 2 Pages)

Witness:

Signature

Name

Address

Date

Agency:

Signature

Name

Designation

Company

Date

7.6 Form 6: Approach and Methodology

[Explain your understanding of the objectives of the Assignment/job, approach to the Assignment/job, methodology for carrying out the activities and obtaining the expected output, and the degree of detail of such output. You should highlight the problems being addressed and their importance, and explain the technical approach you would adopt to address them. You should also explain the methodologies you propose to adopt and highlight the compatibility of those methodologies with the proposed approach]

Witness:

Signature

Name

Address

Date

Agency:

Signature

Name

Designation

Company

Date