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Dated: 06.10.2021

# LENDER'S INDEPENDENT ENGINEERING REPORT

OF

## 17.3 MW GRID TIED SOLAR ROOF TOP POWER PLANT

TO BE SET-UP AT  
29 LOCATIONS IN INDIA

COMPANY/PROMOTER  
JYOTIKIRAN ENERGY MUMBAI PVT. LTD.

REPORT PREPARED FOR

■ Corporate Valuers  
■ Business/ Enterprise/ Equity Valuations  
■ Lender's Independent Engineers (LIE)  
■ Techno Economic Viability Consultants (TEV)  
■ Agency for Specialized Account Monitoring (ASM)  
■ Project Techno-Financial Advisors  
■ Chartered Engineers  
■ Industry/ Trade Rehabilitation Consultants  
■ NPA Management  
■ Panel Valuer & Techno Economic Consultants for PSU Banks

JYOTIKIRAN ENERGY MUMBAI PVT. LTD.

TO BE SUBMITTED AT

STATE BANK OF INDIA, SME BRANCH, SOUTH EXTENSION, DELHI

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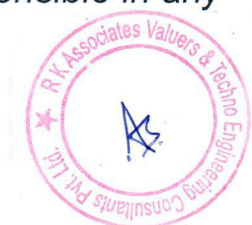
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**PART A****REPORT SUMMARY**

1. **Name of the Project** : 17306 KW Grid Tied Solar Rooftop Photo Voltaic
2. **Project Location** : 29 locations across pan India.
3. **Name of the Borrower Company/  
Promoter** : Jyotikiran Energy Mumbai Pvt. Ltd.
4. **Prepared for Organization** : State Bank of India, SME Branch, South Extension, Delhi
5. **LIE Consultant Firm** : M/s. R.K. Associates Valuers & Techno Engineering Consultants (P) Ltd.
6. **Date of Survey** : Site survey done for majority of the sites on different dates.
7. **Date of Report** : 6<sup>th</sup> October, 2021
8. **Details & documents provided by** : Ms. Shubhangi Mahato (Manager)
9. **Survey in presence of** : Company's representatives
10. **Report Type** : Lender's Independent Engineering Report
11. **Purpose of the Report** : Review, evaluate & comment on project implementation & present status details to facilitate bankers to take credit decision on the Project.
12. **Scope of the Report** : To review Project cost, expenditure and examine the current status of installation, Commissioning of the Project.





- 13. Documents produced for Perusal :**
- a. DPR
  - b. Letter of Allocation
  - c. Sanction letter
  - d. Power Purchase Agreement
  - e. PvSyst Reports of all the sites
- 14. Annexure with the Report :**
- a. Power Purchase Agreement
  - b. Photographs
  - c. PvSyst Reports
  - d. Sanction Letter
  - d. Approval Letter of SPV from SECI



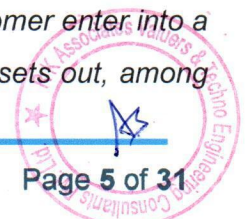
**PART B****INTRODUCTION**

- 1. NAME OF THE PROJECT:** Grid Connected Solar Rooftop Photo Voltaic Solar Power Project to be installed and commissioned at 29 locations across Pan India with the capacity of 17306 KW by Jyotikiran Energy Mumbai Pvt. Ltd. (JEMPL) an SPV of SunSource Energy Private Limited.
- 2. PROJECT OVERVIEW:** SunSource Energy Private Limited (SSEPL) a company incorporated under the provisions of companies Act 2013, dated 18/01/2010. SunSource Energy Private Limited is a solar project development and turnkey execution company, founded by Mr. Adarsh Das and Mr. Kushagra Nandan in 2010.

As per the National Energy Policy which commits the Government to promote electricity generation from renewable energy resources and sets the target of 175 GW to be generated from renewable energies by 2022, which includes 100 GW from Solar, 60 GW from Wind, 10 GW from Bio-Power and 5 GW from Small Hydro Power. Further, in 100 GW targets of Solar, the government has set a target of installing 40 GW of Grid connected rooftop solar capacity in the country. To achieve energy security and for having good optics, it is envisaged to develop Grid Connected Rooftop Solar PV Projects on large scale by utilizing vacant roofs of buildings. Ministry of New and Renewable Energy (MNRE), Government of India desires to implement Grid Connected Rooftop Solar PV Projects on the vacant roofs of Government Buildings/ Offices as a part of its Renewable Energy Initiatives. To pursue the above target, the MNRE introduced the PPP/RESCO model policy setting tariff rates for solar to be arrived on transparent competitive bidding model through PPP route.

*The RESCO model is one of the methods of implementing rooftop solar installations. Under the RESCO model, a renewable energy service company ("**RESCO**"), (i.e., an energy service company that provides energy to consumers from renewable energy sources), develops, installs, finances, operates and owns the rooftop solar power project ("**Project**"), and supplies power generated from the Project to the consumer on whose premises the Project is set up ("**Customer**") or to the grid through net-metering.*

*'Build, Own, Operate and Transfer' (BOOT) is a special kind of RESCO model in which the RESCO constructs, owns, operates, and transfers the ownership of the Project to the Customer after the expiry of a predefined period. The RESCO and the Customer enter into a long-term power purchase agreement ("**PPA**") for an agreed tenure, which sets out, among*





*others, the terms at which the power generated from the Project will be sold to the Customer and the tariff at which the power will be sold. Excess power from the Project (if any) could be sold by the Customer to the distribution utility through net metering system – the net metering regulations differ from state to state.*

*Under the PPA, the RESCO owns the Project and is responsible for its installation as well as its operation and maintenance of the Project throughout the tenure of the Project, and at the end of the PPA term, the ownership of the Project is transferred to the Customer. Thereafter, the Customer may either choose to retain the RESCO for operation and maintenance services or engage a third-party operator.*

*If the entity on whose premises the Project is located does not intend to buy the power generated from the Project and does not entered into a PPA with the RESCO, that entity can either lease the rooftop premises to the RESCO by means of a lease agreement or enter into a license agreement granting the RESCO the right to use the premises for the limited purpose of setting up and operating the Project. The RESCO then operates the Project and exports the energy generated to the local distribution utility at a predetermined feed-intariff (FiT) approved by the State Electricity Regulator under relevant schemes issued by the relevant state.*

The procurement activities in respect of the aforesaid Project on behalf of Ministry of New and Renewable Energy, Government of India has been entrusted to Solar Energy Corporation of India Limited (A Government of India Enterprise) incorporated under the Companies Act, 2013, having its Registered Office at D - 3, 1st Floor, Wing - A, Prius Platinum Building, District Centre, Saket, New Delhi - 110 017 (hereinafter referred to as 'SECI'/'EMPLOYER').

SECI, therefore, invited sealed bids from eligible bidders to participate in Request for Selection (RfS) for Site Survey, Design, Manufacture, Supply, Erection, Testing and Commissioning including Warranty, Operation and Maintenance of Grid Connected Rooftop Solar PV Power System in different Zones of India as per RfS No.SECI/C&P/RfS/MNRE/97.5MW GCRT/R1/IND/082019 dated 29.08.2019 which further amended as per Amendment no. I dated 18.10.2019.

Further, Solar Energy Corporation of India has appointed Sunsource Energy Private Limited for setting up of 97.50MWp Grid Connected Rooftop Solar PV Scheme for government buildings in different zones of India under CAPEX/ RESCO Model, as per the LOA vide

dated: 15/01/2020, Ref No.- SECI/C&P/RfS/MNRE/97.5MW  
GCRT/R1/IND/082019/LOA/35415.

Further in line with the provisions of the tender document SECI has given approval for the incorporation of Project company named M/s. Jyotikiran Energy Mumbai Pvt. Ltd. (JEMPL) an SPV company of M/s. Sunsource Energy Private Limited (SEPL) through letter vide Ref. No. SECI/C&P/RFS/MNRE/97.5MW GCRT/IND/R1/082019/PROJ COMP/36881 dated: 19.03.2020 to undertake and perform the obligations and exercise the rights of the Successful Bidder under the LOA. Projects have been sanctioned as per the different sanction letters all dated: 13.10.2021 by SECI after identification of the sites by M/s Jyotikiran Energy Mumbai Pvt. Ltd.

Sunsoure Energy Pvt. Ltd. has got the allocation of 8000 KW<sub>p</sub> from SECI. However, Jyotikiran Energy Mumbai Pvt. Ltd. has planned to implement total 17306 KW<sub>p</sub> distributed at 29 locations. Project under SECI are eligible for certain incentives. However out of which 21 Projects to be implemented by JEMPL 8 are non SECI Projects which will not be eligible for incentive which are:

1. Marelli Motherson Automotive Lightning India Private Limited
2. Samarth Fablon Private Limited
3. Samarth Ad Protex Private Limited
4. Krishna Ishizaki Auto Limited
5. Schreiber Dynamix Dairies Private Limited
6. Crosslay Remedies Limited
7. Jindal India Limited

Sunsoure Energy Pvt. Ltd. has made an SPV Jyotikiran Energy Mumbai Pvt. Ltd. for setting up the project and Sunsource Energy Pvt. Ltd. has become the Turnkey contractor of all the projects for SPV Jyotikiran Energy Mumbai Pvt. Ltd.

The Scope of the Work for the successful bidder would essentially cover, but not limited to identification and Site Survey of Roof Tops, Site Visit, Solar Potential Assessment, Finalization of Feasibility Report for Identified Locations, Design, Engineering, Manufacture, Supply, Storage, Civil Works, Erection, Testing, Commissioning, Submission of Project Proposals and PCRs in SPIN Portal, ensuring net metering as per the concerned State/ UT Policies, Quality Control of the Grid Connected Solar PV Rooftop Project including





Operation and Maintenance (O & M) of the Project for a period of 05 (Five) Years under PART-A and PART-C and for a period of 25 (Twenty Five) Years under PART-B after Commissioning of Project.

The scope of work under the Letter of Allocation (LOA) shall also include all such items which are not specifically mentioned in the Bidding Documents and/ or your bid but are necessary for the successful completion of the scope under the Contract for the Implementation of 97.5MWp Grid Connected Rooftop Solar PV System Scheme for Government Buildings in different Zones of India under CAPEX/ RESCO Model, unless otherwise specifically excluded in the bidding documents or in this LOA.

Under CAPEX/ RESCO Model, the Project company is eligible for certain incentives as mentioned later in the report.

#### Other Conditions:

The details of Zone-wise allocated capacity along with project cost and/ or tariff as per the following break-up:

Zone No	CAPEX (Part-A)		RESCO (Part-B)		CAPEX (Part-C)	
	Capacity (in kWp)	Project Cost/kWp (in INR)	Capacity (in kWp)	Tariff/kWh (in INR)	Capacity (in kWp)	Project Cost/kWp (in INR)
Zone-1	-	-	2000	3.250	-	-
Zone-2	-	-	2000	3.300	-	-
Zone-3	-	-	4000	3.330	-	-

#### A. PERFORMANCE SECURITY:

- a. Successful Bidder shall furnish the Performance Security for the allocated capacity:

The formula applicable to calculate the PBG amount will be:

- I. For Zone-1, Zone-2 and Zone-3:

PBG amount = (INR 1,200,000) X Allocated Capacity in MWp in a Zone.

- II. For Zone-4:

PBG amount = (INR 3, 180,000) X Allocated Capacity in MWp in a Zone



- b. The PBG shall be forfeited as follows without prejudice to the bidder being liable for any further consequential loss or damage incurred to SECI.
  - I. If the Successful Bidder is not able to identify the projects and submit Project Sanction Documents to the satisfaction of SECI, PBG amount, pro-rata to the capacity for which the Successful Bidder is not able to identify the Projects and submit Project Sanction Documents.
  - II. If the Successful Bidder is not able to commission the projects to the satisfaction of SECI, PBG amount, pro-rata to the capacity not commissioned by the Successful Bidder. However, Hundred Percent (100%) PBG amount furnished for the Sanctioned Capacity, if the Successful Bidder fails to Commission the Projects (s) to the satisfaction of SECI, for the any of the locations, which are notified or not by SECI in the RfS or otherwise and for which Allocation Letter/ Sanction Letter has been issued.
- c. In both the above cases corresponding unidentified/ non-commissioned capacity shall stand cancelled.
- d. The Performance Security shall be valid for a minimum period of 5 years from the date of issuance of Allocation Letter(s) and shall be renewed/ extended till the completion of 5 years (05 Year for RESCO and CAPEX Projects) of O&M period.
- e. In case of RESCO projects (Part-B), the Performance security shall be released after 05 (Five) year of successful O&M from the date of commissioning with the compliance of entire obligations in the contract.
- f. In case the successful bidder is not able to furnish the PBG for 5 years of validity, then PBG with initial validity period of 2 year may also be accepted by SECI provided the successful bidder shall renew/ extend the PBG, 30 days prior the expiry of the same. If the successful bidder does not extend the PBG, the same shall be forfeited by SECI.
- g. The successful bidder/ developer has to successfully demonstrate the performance parameters as mentioned in clause no. 8 of GCC including subsequent Amendment related to PR and CUF.





h. Partial capacity commissioning of the sanctioned project may be allowed.

## B. SCHEDULE FOR COMPLETION OF PROJECT/ SANCTION PERIOD:

S.NO.	MILESTONES	SCHEDULE FOR COMPLETION	PENALTY IN CASE OF NONCOMPLIANCE
1.	Complete a. The roofs identification and survey b. Submission of project sanction documents c. Commissioning of sanctioned Project(s)	Sanctioning has been done. Roof survey has been completed and scheduled for completion by 20/04/2022.	a. In case of delay beyond this scheduled commissioning period, no incentive shall be disbursed to the Successful Bidder/ Developer. b. However, further period of 06 (Six) Months shall be allowed without incentives to the Successful Bidder/ Developer for completion of entire unexecuted allocated capacity. c. In such a condition Penalty/ LD on per day basis calculated for the Performance Security on a 06 (Six) Months period would be levied. d. After 06 months [i.e. total 15 (Fifteen) Months/ 18 (Eighteen) Months, as the case may be, from the date of issuance of LOA], the project will get cancelled and the pro-rata PBG would be forfeited.
2.	Submission of project sanction documents by the bidder to SECI	Zone-1, Zone-2 and Zone-3: Maximum 06 (Six) Months in case of Zone-4: 09 (Nine) Months	If after 09 (Nine) Months/ 12 (Twelve) Months, as the case may be, from the date of issuance of Letter of Allocation

		from the date of issuance of allocation letter which can be extended depending upon the merit of the case.	the successful bidder could not submit Project Sanction Documents, in such case PBG for unsanctioned allocated capacity shall be forfeited.
3.	Time and date stamping photographs of the roofs and location details (Address) with SECI before taking sanction of the project	Before taking sanction of the project.	Project will not be sanctioned

### C. INSURANCE

- The Bidder shall be responsible and take an Insurance Policy for transit-cum-storage-cum erection for all the materials to cover all risks and liabilities for supply of materials on site basis, storage of materials at site, erection, testing and commissioning. The bidder shall also take appropriate insurance including watch and ward during O&M period.
- The Bidder shall also take insurance for Third Party Liability covering loss of human life, engineers and workmen and also covering the risks of damage to the third party/ material/ equipment/ properties during execution of the Contract. Before commencement of the work, the Bidder will ensure that all its employees and representatives are covered by suitable insurance against any damage, loss, injury or death arising out of the execution of the work or in carrying out the Contract. Liquidation, Death, Bankruptcy etc., shall be the responsibility of bidder.

All Projects has been sanctioned by SECI dated: 13/10/2021 with penalty due to delay in taking Project sanction. Original project completion date was 20/10/2021 which has now been revised to 20/04/2022 as per SECI sanction letter. However, company proposes to complete the SECI Project by 01/01/2022.

Penalty will be imposed as follows:

20/04/2022	(General Category zone-1, zone-2, zone-3)	Penalty = ((Performance Security)/180 days)*delayed days
19/07/2022	(Special Category zone-4)	*No incentive will be disbursed for project commissioned after scheduled completion date



As per the details provided by the company, the total project cost of all 29 projects is approx. Rs.70.69 cr. including GST and approx. Rs.10.52 cr. has incurred till 14<sup>th</sup> of September, 2021, as per the information provided to us by the client and no invoice has been provided to us for the same.

Power Purchase Agreement is done with specific consumer company with Jyotikiran Energy Mumbai Pvt. Ltd. as mentioned in Part-H.

Due to Covid constraints and issues in approval from the respective clients, 18 sites were surveyed virtually through live video conferencing and 3 sites were surveyed physically with the help of the company's representatives. Site inspection was carried out mainly to ascertain presence of any obstruction or not and the present status of work on site.

**3. SCOPE OF THE REPORT:** To verify the Project cost, expenditures and examine the commissioning, installation status of Solar Power Plants set-up/ proposed by M/s. Jyotikiran Energy Mumbai Pvt. Ltd.

- *Industry/ sector research and demand & supply trend is out of scope of the report.*
- *Financial feasibility study of the Project is out of scope of the report.*
- *Providing any kind of design report or map is out-of-scope of the report.*
- *Scrutiny of contracts, Agreements and arrangement between the parties from legal perspective is out-of-scope of this report.*
- *Energy yield calculation is out-of-scope of this report.*
- *Location feasibility is ascertained based on the PVSyst Report provided by the client.*

*All the assessment carried out for the Project is done based on the documents and information provided to us and its correlation by the Engineering team through physical and virtual site inspection and various other discussions with the Project proponents and thus forming an opinion out of it.*

*Component wise verification is not carried out but Project installation & commissioning has been verified as a whole.*



*Any kind of technical & economic feasibility of the Project is out-of-scope of this Report. This report is only limited & related to the verification and examination of what has already been setup.*

**4. PURPOSE OF THE REPORT:** To provide fair detailed analysis report to the Bank based on the “in-scope points” mentioned above for facilitating them to take appropriate business decision on the Project.

**5. METHADODOLOGY ADOPTED:**

- a. To gather relevant data/ information/ documents related to Project planning, execution, current status.
- b. Study of Project Planning documents/ LoA/ Sanction Letter to know the scope of work of the company.
- c. To procure additional information, data, documents collection from the company.
- d. Study and analysis of the documents and information obtained from the company.
- e. Virtual site inspection of the sites for ascertaining the status of work and shadow analysis.
- f. Research about the Project/ sector from the sources in the public domain.
- g. Correlation of the provided information against Industry/ sector benchmarks/ trend.
- h. Information compilation, analysis and reporting.





**PART C****PROJECT LOCATION**

Jyotikiran Energy Mumbai Pvt. Ltd. has proposed to set up 29 roof top Solar projects in pan India locations out of which 21 projects are Solar Energy Corporation of India (SECI) projects.

PROJECT LOCATIONS				
SR. NO.	PROJECT NAME	PROJECT LOCATION	SITE ADDRESS	STATE
1	Indian Institute of Science Education and Research (IISER)	Kolkata	Campus Rd. Mohanpur, Kolkata, West Bengal- 741246	West Bengal
2	Damodar Valley Corporation (Koderma Thermal Power Station) KTPS	Koderma	Koderma, Bhanjidihi, Jharkhand-825421	Jharkhand
3	Damodar Valley Corporation (Raghunathpur Thermal Power Station) RTPS	Dumdumi	Raghunathpur, Dist- Purulia, Dumdumi-723133	West Bengal
4	Damodar Valley Corporation (Durgapur Steel Thermal Power Station) DSTPS	Durgapur	Grand Trunk Rd, Andal, West Bengal 713321	West Bengal
5	Pandit Bhagwat Dayal Sharma University of Health Sciences	Rohtak	UH2, PGIMS Road, Dariyao Nagar, Rohtak, Haryana 124001	Haryana
6	ICAR - Central Institute of Agricultural Engineering(CIAE)	Bhopal	Nabi Bagh, Berasia Road, Bhopal - 462038, Madhya Pradesh	Madhya Pradesh
7	ICAR - Indian Institute of Millets Research	Hyderabad	ICAR -Indian Institute of Millets Research, Rajendranagar, Hyderabad - 500030, Telangana	Telangana
8	ICAR - Indian Institute of Rice Research	Hyderabad	ICAR -Indian Institute of Rice Research, Rajendranagar, Hyderabad - 500030, Telangana	Telangana
9	ICAR- National Research Centre on Meat, Hyderabad	Hyderabad	Chengicherla, P.B No. - 19, Boduppal Post, 500092	Telangana
10	ICAR- Indian Institute of Oilseeds Research, Hyderabad	Hyderabad	Rajendranagar, near Prof Jayshankar Agricultural University, Rajendra Nagra Mandal, 500030	Telangana
11	JC Bose University of Science & Technology	Faridabad	NH-2, Sector 6, Mathura Road, Faridabad- 121006	Haryana
12	DVC, Mejia Thermal Power Station	Bankura	Durlabhpur, Bankura, 722183	West Bengal
13	DVC, Mejia Thermal Power Station	Bankura	Durlabhpur, Bankura, 722183	West Bengal
14	DVC, Maithon Project	Dhandbad	Maithon, DVC	Jharkhand
15	DVC, Durgapur Steel Thermal Power Station	Andal	Durgapur Steel Thermal Power Station, DVC	West Bengal
16	ICAR- National Academy of Agricultural Research Management	Hyderabad	ICAR, NAARM Rd, Acharya Ng Ranga Agricultural University, Rajendranagar mandal, Hyderabad, Telangana 500030	Telangana
17	National Institute of Technology, Raipur	Raipur	G.E. Road, Raipur - 492010, Chattisgarh	Chhattisgarh
18	Biju Patnaik University of Technology	Rourkela	Chhend Colony, Rourkela, Odisha 769004	Odisha
19	ICAR - Indian Institute of soil Science	Bhopal	Berasia Rd, Navi Bagh, Bhopal, Madhya Pradesh 462038	Madhya Pradesh
20	Odisha University of Agriculture and Technology, Bhubaneswar	Bhubaneswar	Near Post Office, Unit 8, Surya Nagar, Bhubaneswar, Odisha 751003	Odisha
21	Odisha University of Agriculture and Technology, Bhawanipatna	Bhawanipatna	College of Agriculture, Bahadur Bagicha Pada, Bhawanipatna, Odisha 766001	Odisha
22	Marelli Motherson Automotive Lighting India Private Limited	Pune	Marelli Matherson Automotive Lighting India Private Limited, Unit-2, Oat No. 148-150, Village Ambethan, Taluka Khed, Chakan, Pune - 410501, Maharashtra, India	Maharashtra
23	Marelli Motherson Automotive Lighting India Private Limited	Pune	Marelli Motherson Automotive lighting India Pvt. Ltd. Gate No. 165/1-165/3 Village Ambethan, Taluka Khed, Chakan Pune 410501, Maharashtra, India	Maharashtra
24	Samarth Fabalon Private Limited	Jhalda	Samarth Fablon Pvt. Ltd. Puruliya, Near Aims College, Jhalda, Purulia-723202, West Bengal	West Bengal
25	Samarth Ad Protex Private Limited	Jhalda	Samarth Fablon Pvt. Ltd. Puruliya, Near Aims College, Jhalda, Purulia-723202, West Bengal	West Bengal
26	Krishna Ishizaki Auto Limited	Gurgaon	58th KM, NH-8, Delhi-Jaipur-Highway, Village-Binola, Gurgaon, Haryana	Haryana
27	Schreiber Dynamix Dairies Private Limited	Baramati	E-94, MIDC, Bhigwan Road, Baramati, Maharashtra, 413133	Maharashtra
28	Crosslay Remedies Limited	Ghaziabad	Pushpanjali Crosslay Hospital, W 3, Sector 1, Vaishali, Ghaziabad, 201012 UP	Uttar Pradesh
29	Jindal India Limited	Ranihati	NH-6, Village & Mouza Ranihati, Kulai PO - Biki Hakola, PS - Panchala, District - Howrah, West Bengal - 711322	West Bengal





**PART D****PROJECT CAPACITY**

Individual project wise proposed/ installed capacity is described as under:

PROJECT CAPACITY			
SR. NO.	PROJECT NAME	SECI / NON SECI PROJECT	PROJECT CAPACITY (In Kw)
1	Indian Institute of Science Education and Research (IISER)	SECI Project	606
2	Damodar Valley Corporation (Koderma Thermal Power Station) KTPS	SECI Project	1137
3	Damodar Valley Corporation (Raghunathpur Thermal Power Station) RTPS	SECI Project	951
4	Damodar Valley Corporation (Durgapur Steel Thermal Power Station) DSTPS	SECI Project	248
5	Pandit Bhagwat Dayal Sharma University of Health Sciences	SECI Project	488
6	ICAR - Central Institute of Agricultural Engineering(CIAE)	SECI Project	382
7	ICAR - Indian Institute of Millets Research	SECI Project	235
8	ICAR - Indian Institute of Rice Research	SECI Project	91
9	ICAR- National Research Centre on Meat, Hyderabad	SECI Project	118
10	ICAR- Indian Institute of Oilseeds Research, Hyderabad	SECI Project	131
11	JC Bose University of Science & Technology	SECI Project	266
12	DVC, Mejia Thermal Power Station	SECI Project	241
13	DVC, Mejia Thermal Power Station	SECI Project	795
14	DVC, Maithon Project	SECI Project	268
15	DVC, Durgapur Steel Thermal Power Station	SECI Project	181
16	ICAR- National Academy of Agricultural Research Management	SECI Project	235
17	National Institute of Technology, Raipur	SECI Project	490
18	Biju Patnaik University of Technology	SECI Project	166
19	ICAR - Indian Institute of soil Science	SECI Project	95
20	Odisha University of Agriculture and Technology, Bhubaneswar	SECI Project	182
21	Odisha University of Agriculture and Technology, Bhawanipatna	SECI Project	110
22	Marelli Metheron Automotive Lighting India Private Limited	Non SECI Project	80
23	Marelli Metheron Automotive Lighting India Private Limited	Non SECI Project	598
24	Samarth Fabalon Private Limited	Non SECI Project	1500
25	Samarth Ad Protex Private Limited	Non SECI Project	1500
26	Krishna Ishizaki Auto Limited	Non SECI Project	515
27	Schreiber Dynamix Dairies Private Limited	Non SECI Project	4300
28	Crosslay Remedies Limited	Non SECI Project	400
29	Jindal India Limited	Non SECI Project	998
<b>TOTAL</b>			<b>17306</b>





**PART E****KEY TECHNICAL PARAMETERS & CONFIGURATION**

Key Technical Parameters & Configuration of the projects including the Brand and Model of Module and Inverter and technology used (Multi/ Mono/ Poly Crystalline) is mentioned in the list below:

For 21 projects of Solar Energy Corporation of India (SECI), Jyotikiran Energy Pvt. Ltd. has used Poly-crystalline and for 8 projects other than SECI Mono Crystalline technology is used.

KEY TECHNICAL PARAMETERS & CONFIGURATION				
SR. NO.	PROJECT NAME	KEY TECHNICAL PARAMETERS & CONFIGURATION		
		MODULE BRAND & MODEL	INVERTER BRAND & MODEL	TECHNOLOGY (MULTI/ MONO/ POLY CRYSTALLINE)
1	Indian Institute of Science Education and Research (IISER)	WAAREE ENERGIES LIMITED    WS-335	Ginlong-Solis-10K ~100k	Poly crystalline
2	Damodar Valley Corporation (Koderma Thermal Power Station) KTPS			
3	Damodar Valley Corporation (Raghunathpur Thermal Power Station) RTPS			
4	Damodar Valley Corporation (Durgapur Steel Thermal Power Station) DSTPS			
5	Pandit Bhagwat Dayal Sharma University of Health Sciences			
6	ICAR - Central Institute of Agricultural Engineering(CIAE)			
7	ICAR - Indian Institute of Millets Research			
8	ICAR - Indian Institute of Rice Research			
9	ICAR- National Research Centre on Meat, Hyderabad			
10	ICAR- Indian Institute of Oilseeds Research, Hyderabad			
11	JCBose University of Science & Technology			
12	DVC, Mejia Thermal Power Station			
13	DVC, Mejia Thermal Power Station			
14	DVC, Maithon Project			
15	DVC, Durgapur Steel Thermal Power Station			
16	ICAR- National Academy of Agricultural Research Management			
17	National Institute of Technology, Raipur			
18	Biju Patnaik University of Technology			
19	ICAR - Indian Institute of soil Science			
20	Odisha University of Agriculture and Technology, Bhubaneswar			
21	Odisha University of Agriculture and Technology, Bhawanipatna			
22	Marelli Moterson Automotive Lighting India Private Limited	Trina Solar    TSM-450DE17M(II)	Ginlong Solis    Solis-60K-4G	Mono Crystalline
23	Marelli Moterson Automotive Lighting India Private Limited	WAAREE ENERGIES LIMITED    WS-335	Ginlong Solis    Solis-100K-5G	
24	Samarth Fabalon Private Limited	ZN Shine    ZXM6-NH144-445/M(2094;A1038;A35)	Ginlong Solis    Solis-40K-5G, 100K 5G, 80K 5G, 60K 4G	
25	Samarth Ad Protex Private Limited	ZN Shine    ZXM6-NH144-445/M(2094;A1038;A35)	Ginlong Solis    Solis-40K-5G, 100K 5G, 80K 5G, 60K 4G	
26	Krishna Ishizaki Auto Limited	ELDORA VSP.72.335.05 (GRAND_5 wp)	Ginlong Solis    Solis-50K, 60K 4G	
27	Schreiber Dynamix Dairies Private Limited	Vikram Solar    SOMERA VSMH.72.440.05.PAN	Ginlong Solis    Solis-255K-EHV-5G-NEW	
28	Crosslay Remedies Limited	Trina Solar    TSM-540DE19	Ginlong Solis    Solis-100K-5G	
29	Jindal India Limited	Vikram - SOMERA VSHM.72.440	Solis - 100 k 5G	

**Note: All the above brands and models are MNRE approved models used by the company as per MNRE order No.283/54/2018.**





## PART F

## IRRADIATION &amp; ENERGY YIELD ASSESSMENT

Company has used PVsyst V6.88 to assess energy yield calculation which is the standard Industry practice. The yearly average of main results of irradiation and energy yield from the provided PVsyst is as under:

Sr. No.	Project Name	Global Hor kWh/ m2	DiffHor kWh/m2	T_Amb C	GlobInc kWh/ m2	GlobEff kWh/ m2	Earray MWh	E_Grid MWh	PR	GlobInc kWh/ m2 as per PPA	Difference b/w GlobInc kWh/m2 as per PvSyst and PPA
1	Indian Institute of Science Education and Research (IISER)	1720.2	956.4	26.29	1811	1707.8	718.96	699.76	0.786	1812	1
2	Damodar Valley Corporation (Koderma Thermal Power Station) KTPS	1840.9	916.2	24.34	1912.4	1800.5	1095.7	1058.9	0.772	1812	-100.4
3	Damodar Valley Corporation (Raghunathpur Thermal Power Station) RTPS	1807.7	924.79	26.11	1891.1	1781.6	143	1396.2	0.776	1812	-79.1
4	Damodar Valley Corporation (Durgapur Steel Thermal Power Station) DSTPS	1758.7	937.2	26.35	1826.5	1719.3	363.8	353.35	0.78	1812	-14.5
5	Pandit Bhagwat Dayal Sharma University of Health Sciences	1761	924	25.38	1865.8	1761.7	302.66	288.43	0.765	1995.6	129.8
6	ICAR- Central Institute of Agricultural Engineering(CIAE)	1899.3	862.49	24.95	2049.4	1939.1	628.45	606.1	0.774	1999.8	-49.6
7	ICAR- Indian Institute of Millets Research	1942.9	907.89	25.7	2036.9	1923.1	172.58	166.04	0.77	1995.6	-41.3
8	ICAR- Indian Institute of Rice Research	1944	907.59	25.66	2029.3	1915.6	148.09	142	0.768	1995.6	-33.7
9	ICAR- National Research Centre on Meat, Hyderabad	1966.9	906.39	25.87	1965	1846.5	41.248	39.858	0.757	1995.6	30.6
10	ICAR- Indian Institute of Oilseeds Research, Hyderabad	1943.9	907.59	25.69	1993.3	1878.4	209.27	201.64	0.77	1995.6	2.3
11	JC Bose University of Science & Technology	1743.2	923.2	25.34	1750.7	1641.6	201.68	190.94	0.747	1803.4	52.7
12	DVC, Mejia Thermal Power Station	1777.9	938.6	26.22	1881.2	1775.6	364.48	347.4	0.765	1995.6	114.4
13	DVC, Mejia Thermal Power Station	1777.9	938.6	26.22	1881.2	1775.6	1053.4	1003.9	0.765	1995.6	114.4
14	DVC, Maithon Project	1772.2	927.09	26.11	1879.3	1775.4	420.9	409.19	0.781	1995.6	116.3
15	DVC, Durgapur Steel Thermal Power Station	1758.7	937.2	26.35	1826.8	1719.7	264.78	256.91	0.779	1995.6	168.8
16	ICAR- National Academy of Agricultural Research Management	1943.8	907.59	25.66	2031.3	1917.6	381.48	364.03	0.764	1995.6	-35.7
17	National Institute of Technology, Raipur	1878	872.99	26.36	1950.4	1839.8	453.47	430.75	0.761	1939.8	-10.6
18	Biju Patnaik University of Technology	1849.2	875.9	25.41	1965.6	1855.4	262.42	250.86	0.77	1995.6	30
19	ICAR- Indian Institute of soil Science	1900.1	861.89	24.95	2052.6	1942.1	155.78	147.02	0.75	1995.6	-57
20	Odisha University of Agriculture and Technology, Bhubaneswar	1793.9	933.5	27.11	1869.9	1763	272.24	259.22	0.763	1995.6	125.7
21	Odisha University of Agriculture and Technology, Bhawanipatna	1883.8	861.19	25.85	1983.5	1843.5	172.74	166.99	0.764	1995.6	12.1
22	Marelli Metheron Automotive Lighting India Private Limited	1962.3	890.19	23.35	1923.7	1856	121.4	117.55	0.763	1986.4	62.7
23	Marelli Metheron Automotive Lighting India Private Limited	1962.3	890.19	23.35	1970.8	1866.2	948.2	913.16	0.775	1978.3	7.5
24	Samarth Fabalon Private Limited	1835.4	905.9	25.27	1802.7	1715.2	2170.4	2107.4	0.78	.....	.....
25	Samarth Ad Protex Private Limited	1835.4	905.9	25.27	1812.1	1718.5	1521.9	1471.4	0.781	.....	.....
26	Krishna Ishizaki Auto Limited	1781.9	926.9	25.22	1785.9	1710	739.42	718.07	0.781	.....	.....
27	Schreiber Dynamix Dairies Private Limited	1974.8	945.39	25.17	2068.1	1950.3	7269.3	6968.9	0.784	.....	.....
28	Crosslay Remedies Limited	1723.1	914.4	25.16	1758.4	1688.9	593.42	565.83	0.797	.....	.....
29	Jindal India Limited	1723.4	952.8	26.4	1767.1	1693	1419.5	1371	0.777	.....	.....





**Notes:**

1. As per World Energy Council 2007, the worldwide annual average global horizontal irradiance (GHI) is 170 watts per square meter ( $\text{W/m}^2$ ). However, many regions receive much more. Most of Southeast Asia receives an annual average GHI of 180–230  $\text{W/m}^2$  (equivalent to 1,600–2,000 kilowatt-hours per square meter per year [ $\text{kWh/m}^2$  /year]. This is adequate for a solar PV system, considering that Germany, the global leader in solar PV installed capacity (REN21 2013), receives just over 1,300  $\text{kWh/m}^2$  /year even in the area with highest irradiation (the south of the country).
2. As per GHI Solar resource map of India from Global Solar Atlas 2.0 and National Renewable Energy Laboratory Maps, most of the regions in India falls in more than 4.6  $\text{Kwh/m}^2$  (daily) category which is equivalent to 1680  $\text{kWh/m}^2$  /year.
3. As per different PPAs, the system shall meet the minimum guaranteed generation as per the normalized irradiance levels of the location which is mentioned in the Annexures of PPA and performance ratio shall be minimum 70% at the time of inspection of the initial project acceptance.
4. Accordingly in the above table we have shown the difference of the Global Irradiation on Collector Plane (GlobInc) as per PVSyst report and as what is mentioned in the PPA. Global Irradiation on Collector Plane (GlobInc) is the full irradiance as received ("viewed") by the tilted plane. In most of the above locations, GlobInc as per company's PVSyst report comes out to be more than what is mentioned in PPA which means that system will be able to generate more energy as per its setting, placement, tilt as what is proposed in the PPA but in few of the locations where the last column comes negative it will generate less energy. In those locations company may try with different tilt angles to achieve better energy yield output.





**PART G****PROJECT WISE COMMERCIAL OPERATION DATE**

Commercial Operation Date (COD) of each project mostly the COD of the projects are in year 2022.

COMMERCIAL OPERATION DATE (COD)				
Sr. No.	PROJECT NAME	ORIGINAL SCOD	SCHEDULED COMPLETION DATE WITH PENALTY	PLANNED SCOD BY COMPANY
1	Indian Institute of Science Education and Research (IISER)	20-Oct-21	20-Apr-22	1-Jan-22
2	Damodar Valley Corporation (Koderma Thermal Power Station) KTPS	20-Oct-21	20-Apr-22	1-Jan-22
3	Damodar Valley Corporation (Raghunathpur Thermal Power Station) RTPS	20-Oct-21	20-Apr-22	1-Jan-22
4	Damodar Valley Corporation (Durgapur Steel Thermal Power Station) DSTPS	20-Oct-21	20-Apr-22	1-Jan-22
5	Pandit Bhagwat Dayal Sharma University of Health Sciences	20-Oct-21	20-Apr-22	1-Jan-22
6	ICAR - Central Institute of Agricultural Engineering(CIAE)	20-Oct-21	20-Apr-22	1-Jan-22
7	ICAR - Indian Institute of Millets Research	20-Oct-21	20-Apr-22	1-Jan-22
8	ICAR - Indian Institute of Rice Research	20-Oct-21	20-Apr-22	1-Jan-22
9	ICAR- National Research Centre on Meat, Hyderabad	20-Oct-21	20-Apr-22	1-Jan-22
10	ICAR- Indian Institute of Oilseeds Research, Hyderabad	20-Oct-21	20-Apr-22	1-Jan-22
11	JC Bose University of Science & Technology	20-Oct-21	20-Apr-22	1-Jan-22
12	DVC, Mejia Thermal Power Station	20-Oct-21	20-Apr-22	1-Jan-22
13	DVC, Mejia Thermal Power Station	20-Oct-21	20-Apr-22	1-Jan-22
14	DVC, Maithon Project	20-Oct-21	20-Apr-22	1-Jan-22
15	DVC, Durgapur Steel Thermal Power Station	20-Oct-21	20-Apr-22	1-Jan-22
16	ICAR- National Academy of Agricultural Research Management	20-Oct-21	20-Apr-22	1-Jan-22
17	National Institute of Technology, Raipur	20-Oct-21	20-Apr-22	1-Jan-22
18	Biju Patnaik University of Technology	20-Oct-21	20-Apr-22	1-Jan-22
19	ICAR - Indian Institute of soil Science	20-Oct-21	20-Apr-22	1-Jan-22
20	Odisha University of Agriculture and Technology, Bhubaneswar	20-Oct-21	20-Apr-22	1-Jan-22
21	Odisha University of Agriculture and Technology, Bhawanipatna	20-Oct-21	20-Apr-22	1-Jan-22
22	Marelli Motherson Automotive Lighting India Private Limited	20-Oct-21	Commisioned on 3rd October 2021	
23	Marelli Motherson Automotive Lighting India Private Limited	20-Oct-21	Commisioned on 29th September 2021	
24	Samarth Fabalon Private Limited	30-Jun-22	NIL	1-Apr-22
25	Samarth Ad Protex Private Limited	30-Jun-22	NIL	1-Apr-22
26	Krishna Ishizaki Auto Limited	30-Jun-22	NIL	1-Dec-21
27	Schreiber Dynamix Dairies Private Limited	30-Jun-22	NIL	1-Apr-22
28	Crosslay Remedies Limited	30-Jun-22	NIL	1-Apr-22
29	Jindal India Limited	30-Jun-22	NIL	31-Mar-22





**Notes:**

1. As per LOA dated: 15.01.2020, Project was to be commissioned within 09 (Nine) Months from the date of Issue of allocation letter(s) for Zone-1, Zone-2 and Zone-3 i.e 20/10/2020 as per the sanction letter.
2. However, SECI has given revised scheduled completion date of the Project as 20.04.2022 with penalty. However, company has planned internally to achieve COD of all SECI projects by 01/01/2022.
3. After the date of completion with penalty if the company does not complete the commissioning, the project will get cancelled and the total PBG amount would be forfeited as per the clause no. 6.0 mentioned in the LoA.



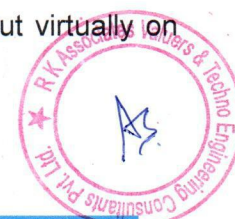
**PART H****CURRENT STATUS OF WORK**

Current status of work of different projects. For the project named Schreiber Dynamix Dairies Private Limited, the PPA is not signed yet, it will be signed by 24<sup>th</sup> of January, 2022, as per the information provided to us by the client.

CURRENT STATUS OF WORK OF PROJECTS		
SR. NO.	PROJECT NAME	CURRENT STATUS OF WORK
1	Indian Institute of Science Education and Research (IISER)	100 kWp MMS Installed
2	Damodar Valley Corporation (Koderma Thermal Power Station) KTPS	No installation done yet
3	Damodar Valley Corporation (Raghunathpur Thermal Power Station) RTPS	No installation done yet
4	Damodar Valley Corporation (Durgapur Steel Thermal Power Station) DSTPS	100 ballasts installed
5	Pandit Bhagwat Dayal Sharma University of Health Sciences	19.675 kWp modules installed till date
6	ICAR - Central Institute of Agricultural Engineering(CIAE)	No installation done yet
7	ICAR - Indian Institute of Millets Research	63.65 kWp modules installed till date
8	ICAR - Indian Institute of Rice Research	40.2 kWp modules installed till date
9	ICAR- National Research Centre on Meat, Hyderabad	100.5 kWp modules installed till date
10	ICAR- Indian Institute of Oilseeds Research, Hyderabad	131.32 kWp MMS Installed
11	JC Bose University of Science & Technology	107 kWp MMS Installed
12	DVC, Mejia Thermal Power Station	No installation done yet
13	DVC, Mejia Thermal Power Station	246 ballasts installed
14	DVC, Maithon Project	No installation done yet
15	DVC, Durgapur Steel Thermal Power Station	No installation done yet
16	ICAR- National Academy of Agricultural Research Management	134 kWp modules installed till date
17	National Institute of Technology, Raipur	120 kWp MMS Installed
18	Biju Patnaik University of Technology	No installation done yet
19	ICAR - Indian Institute of soil Science	No installation done yet
20	Odisha University of Agriculture and Technology, Bhubaneswar	19.43 kWp modules installed till date
21	Odisha University of Agriculture and Technology, Bhawanipatna	30 kWp modules installed till date
22	Marelli Motherson Automotive Lighting India Private Limited	Commissioned on 3 Oct 2021
23	Marelli Motherson Automotive Lighting India Private Limited	Commissioned on 13 Sep 2021
24	Samarth Fabalon Private Limited	Work yet to start
25	Samarth Ad Protex Private Limited	Work yet to start
26	Krishna Ishizaki Auto Limited	333.66 / 514.56 KWp Solar PV modules installed
27	Schreiber Dynamix Dairies Private Limited	PPA not signed yet, will be signed by 25th october
28	Crosslay Remedies Limited	Work yet to start
29	Jindal India Limited	Work yet to start

**Note:**

1. Site survey of Krishna Ishizaki Auto Limited was carried out on 16th of September, 2021, no installation was done at that time of site survey. Now as per the information provided by the company maximum work has been completed till date.
2. Due to Covid restrictions, issues in site approval from the client and no work started on almost all the sites except 2 sites (Crosslay Remedies Limited & Marelli Motherson Automotive Lightning India Private Limited), site inspection was carried out virtually on 18 sites through video conferencing.





3. During the time of virtual site surveys, we have observed the major points like sun direction and the direction of modules facing, presence of any obstacles or high buildings/ towers near or adjacent to the project sites for any shadow assessment on the solar modules.
4. On below site only the work has been done as per details below:
  - a. In virtual site survey of Marelli Mitherson Automotive Lightning India Pvt. Ltd. carried out on 20th September, 2021 with the help of company's representative we found that the plant was completely installed including modules, inverters was working at the time of site survey.
5. Company has planned internally to achieve COD of all SECI projects by 01/01/2022.
6. Photographs of each Project site is attached with the report.



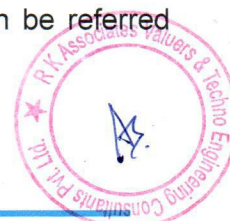
**PART I****POWER PURCHASE AGREEMENT TERMS**

Jyotikiran Energy Mumbai Pvt. Ltd. has carried out Power Purchase Agreement (PPA) with individual parties as list below. Mostly the projects have the PPA for 25 terms and few projects have the PPA of 15 and 20 years as shown in the list below:

POWER PURCHASE AGREEMENT (PPA) TERMS			
SR. NO.	PROJECT NAME	PPA TERMS	
		Tenure (in years)	Tariff
1	Indian Institute of Science Education and Research (IISER)	25	3.33
2	Damodar Valley Corporation (Koderma Thermal Power Station) KTPS	25	3.33
3	Damodar Valley Corporation (Raghunathpur Thermal Power Station) RTPS	25	3.33
4	Damodar Valley Corporation (Durgapur Steel Thermal Power Station) DSTPS	25	3.33
5	Pandit Bhagwat Dayal Sharma University of Health Sciences	25	3.33
6	ICAR - Central Institute of Agricultural Engineering(CIAE)	25	3.30
7	ICAR - Indian Institute of Millets Research	25	3.30
8	ICAR - Indian Institute of Rice Research	25	3.30
9	ICAR- National Research Centre on Meat, Hyderabad	25	3.30
10	ICAR- Indian Institute of Oilseeds Research, Hyderabad	25	3.30
11	JC Bose University of Science & Technology	25	3.30
12	DVC, Mejia Thermal Power Station	25	3.30
13	DVC, Mejia Thermal Power Station	25	3.25
14	DVC, Maithon Project	25	3.33
15	DVC, Durgapur Steel Thermal Power Station	25	3.33
16	ICAR- National Academy of Agricultural Research Management	25	3.30
17	National Institute of Technology, Raipur	25	3.25
18	Biju Patnaik University of Technology	25	3.30
19	ICAR - Indian Institute of soil Science	25	3.25
20	Odisha University of Agriculture and Technology, Bhubaneswar	25	3.25
21	Odisha University of Agriculture and Technology, Bhawanipatna	25	3.33
22	Marelli Motherson Automotive Lighting India Private Limited	15	4.18
23	Marelli Motherson Automotive Lighting India Private Limited	15	3.50
24	Samarth Fabalon Private Limited	20	3.90
25	Samarth Ad Protex Private Limited	20	3.90
26	Krishna Ishizaki Auto Limited	25	4.18
27	Schreiber Dynamix Dairies Private Limited	15	3.46
28	Crosslay Remedies Limited	25	4.15
29	Jindal India Limited	15	4.45

**Notes:**

- Other conditions of the PPAs are different as per each Project which can be referred from the relevant PPA.





**PART J****PROJECT INCENTIVES**

Under CAPEX Model, Sunsource Energy Private Limited will be eligible for the incentives as per the structure tabulated below.

Sl. No.	Achievement vis-à-vis Target Allocation	Incentives for Zone-1, Zone-2 and Zone-3
1	80% and above within the sanctioned period	INR 12,000/- per kW
2	Below 80% and upto 50% (including 50%) within the sanctioned period	INR 7,200/- per kW
3	Below 50% and above 40% (including 40%) within the Sanctioned period	INR 4,800/- per kW
4	Below 40% within the sanctioned period	NIL

**DISBURSEMENT OF INCENTIVE:** Since the Project is in RESCO Model therefore following will be the process for incentive disbursement:

1. For all the projects in any part or zone, the incentive would be released after commissioning of the Project within the project timeline and submission of PCRs in SPIN portal of MNRE and submission of Original Audited Statement of Expenditure (SOE). The Successful Bidder will also make the sites/ premises available for inspection by MNRE/ SECI or its designated team/ agency. Minimum 40% of the allocated capacity has to be installed to avail minimum incentives. Incentive will be disbursed after commissioning of the plants to the satisfaction of SECI, submission of all documents to SECI and within 15 days of receipt of funds from MNRE.
2. Following additional clause shall be read in conjunction with the clauses mentioned in the RfS Documents:
  - a. Demonstration of the desired PR of 75% against commissioning is mandatory for acceptance of the plant. In case inspection of the plant is carried out after end date of commissioning, certificate indicating project completion will be mandatory from rooftop owner to claim incentives.



- b. SECI may consider to release Incentive on case to case basis depending on the actions taken by the Successful Bidder and subject to meeting the following conditions:
- i. The rooftop SPV power plant should be completed as per the Scope of RfS.
  - ii. The rooftop SPV power plant must get CEIG inspection certificate, in case the plant is not exempted from CEIG inspection.
  - iii. Intimation to the concerned DISCOM: All the bidders shall intimate the concerned DISCOMs regarding implementation of grid connected roof top solar PV projects as per the given format in Annexure-M of tender document or Applicable format of DISCOM and submit the copy of same acknowledgement to SECI for the purpose of release of incentive.
  - iv. In case NOC from DISCOM or CEIG certificate is not available, the bidder needs to indemnify SECI by submitting indemnity bond before release of incentives.
  - v. Owner Consent: In case the Successful Bidder/ Project Developer is not the Owner of the Project, Incentive shall be released to Successful Bidder/ Project Developer after written consent of Owner only. For RESCO projects, owner shall be the successful bidder.
- c. The Incentive for the project executed under this scheme shall be provided by the MNRE only and no other incentive can be claimed by the bidder/ rooftop owner from other agencies including State Government/ Ministries under Central Government.





**PART K****PROJECT COST & EXPENDITURE**

Total Project Cost of individual projects including GST provided to use by the client.

PROJECT COST				
SR. NO.	PROJECT NAME	PROJECT CAPACITY (In Kw)	PROJECT COST (in cr.)	TOTAL PROJECT COST/MW (in cr.)
1	Indian Institute of Science Education and Research (IISER)	606	2.91	4.81
2	Damodar Valley Corporation (Koderma Thermal Power Station) KTPS	1137	4.75	4.18
3	Damodar Valley Corporation (Raghunathpur Thermal Power Station) RTPS	951	3.78	3.97
4	Damodar Valley Corporation (Durgapur Steel Thermal Power Station) DSTPS	248	1.19	4.81
5	Pandit Bhagwat Dayal Sharma University of Health Sciences	488	2.09	4.28
6	ICAR - Central Institute of Agricultural Engineering(CIAE)	382	1.60	4.18
7	ICAR - Indian Institute of Millets Research	235	1.01	4.28
8	ICAR - Indian Institute of Rice Research	91	0.46	5.03
9	ICAR- National Research Centre on Meat, Hyderabad	118	0.54	4.60
10	ICAR- Indian Institute of Oilseeds Research, Hyderabad	131	0.77	5.85
11	JC Bose University of Science & Technology	266	1.25	4.70
12	DVC, Mejia Thermal Power Station	241	1.03	4.28
13	DVC, Mejia Thermal Power Station	795	3.57	4.49
14	DVC, Maithon Project	268	1.23	4.60
15	DVC, Durgapur Steel Thermal Power Station	181	0.81	4.49
16	ICAR- National Academy of Agricultural Research Management	235	1.06	4.49
17	National Institute of Technology, Raipur	490	2.20	4.49
18	Biju Patnaik University of Technology	166	0.78	4.70
19	ICAR - Indian Institute of soil Science	95	0.43	4.51
20	Odisha University of Agriculture and Technology, Bhubaneswar	182	0.86	4.70
21	Odisha University of Agriculture and Technology, Bhawanipatna	110	0.55	5.01
22	Marelli Motherson Automotive Lighting India Private Limited	80	0.34	4.23
23	Marelli Motherson Automotive Lighting India Private Limited	598	2.17	3.63
24	Samarth Fabalon Private Limited	1500	5.75	3.83
25	Samarth Ad Protex Private Limited	1500	5.81	3.87
26	Krishna Ishizaki Auto Limited	515	2.25	4.37
27	Schreiber Dynamix Dairies Private Limited	4300	15.61	3.63
28	Crosslay Remedies Limited	400	1.70	4.25
29	Jindal India Limited	998	4.21	4.22

**Note:**

1. The project cost provided to us appears to be in line as per the benchmark cost of Grid Connected Rooftop Solar Photo Voltaic system of Ministry of New & Renewable Energy (MNRE).



Capacity	Benchmark Cost (INR/ kWp) for General Category States (i.e. Zone-1, Zone-2 and Zone-3)
Above 1 kWp and upto 10 kWp	54,000/-
Above 10 kWp and upto 100 kWp	48,000/-
Above 100 kWp and upto 500 kWp	45,000/-

**Since the current Project is in RESCO Model so cost of the Project doesn't matter much.**

**For General Category States/UTs:**

System Capacity range	Upto 1 kW	>1kW upto 2 kW	>2kW upto 3 kW	> 3kW upto 10 kW	>10 kW upto 100 kW	> 100kW upto 500 kW
Benchmark cost (Rs./kW)	51100	46980	45760	44640	41640	39080

**For Special Category States/UTs** (i.e. North-Eastern States including Sikkim, Himachal Pradesh, Uttarakhand, Jammu and Kashmir, Ladakh, Andaman and Nicobar and Lakshadweep islands):

System Capacity range	Upto 1 kW	>1kW upto 2 kW	>2kW upto 3 kW	> 3kW upto 10 kW	>10 kW upto 100 kW	> 100kW upto 500 kW
Benchmark cost (Rs./kW)	56210	51670	50330	49100	45800	42980

Capacity Range*	Benchmark Costs (Rs. per Watt)	
	General Category States/UTs	Special Category States including North-Eastern States including Sikkim, Uttarakhand, Himachal Pradesh, Jammu & Kashmir, Ladakh, Andaman & Nicobar and Lakshadweep Islands**
1 kW	47	52
>1 to 2 kW	43	47
>2 to 3 kW	42	46
>3 to 10 kW	41	45
>10 to 100 kW	38	42
>100 to 500 kW	36	40





## PART L

## INSURANCE POLICIES

As per terms of LoA dated: 15.01.2020, company has to take an Insurance Policy as mentioned in Project Overview in Part A of this report. Accordingly, company has taken following "Erection All Risk Insurance Policy" as per the details below:

S. No.	Project Name	Policy Type/ Name	Policy Period	Policy No.	Sum Insured
1	Indian Institute of Science Education and Research (IISER)	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24566733	27,231,373
2	Damodar Valley Corporation (Koderma Thermal Power Station) KTPS	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24558250	43,910,940
3	Damodar Valley Corporation (Raghunathpur Thermal Power Station) RTPS	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24558327	34,735,614
4	Damodar Valley Corporation (Durgapur Steel Thermal Power Station) DSTPS	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24558409	11,130,710
5	Pandit Bhagwat Dayal Sharma University of Health Sciences,Rohtak	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24558782	19,415,093
6	ICAR - Central Institute of Agricultural Engineering (CIAE)	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24558847	14,817,720
7	ICAR - Indian Institute of Millets Research	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24558932	9,289,875
8	ICAR - Indian Institute of Rice Research	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24559003	4,158,717
9	ICAR- National Research Centre on Meat, Hyderabad	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24559083	4,977,403
10	ICAR- Indian Institute of Oilseeds Research, Hyderabad	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24559150	7,097,846
11	JC Bose University of Science & Technology	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24559764	10,711,417
12	DVC, Mejia Thermal Power Station	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24560031	32,410,519
13	DVC, Mejia Thermal Power Station	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24560076	9,411,624
14	DVC, Maithon Project	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24559977	11,589,178
15	DVC, Durgapur Steel Thermal Power Station	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24559907	7,244,067
16	ICAR- National Academy of Agricultural Research Management	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24560403	9,546,495
17	National Institute of Technology, Raipur	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24560336	20,138,209
18	Biju Patnaik University of Technology,Rourkela, Odisha	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24560285	7,190,746
19	ICAR - Indian Institute of Soil Science,Bhopal	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24559837	5,622,817
20	Odisha University of Agriculture and Technology, Bhubaneswar	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24560205	7,874,691
21	Odisha University of Agriculture and Technology, Bhawanipatna	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24557331	4,900,381
22	Marelli Motherson Automotive Lighting India Private Limited	ERECTION ALL RISK INSURANCE POLICY	12/07/2021 To 27/01/2022	24559837	5,622,817
23	Marelli Motherson Automotive Lighting India Private Limited	ERECTION ALL RISK INSURANCE POLICY		24559907	7,244,067
24	Samarth Fabalon Private Limited	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24557457	53,610,000
25	Samarth Ad Protex Private Limited	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24557548	53,745,000
26	Krishna Ishizaki Auto Limited	ERECTION ALL RISK INSURANCE POLICY	03/08/2021 to 03/02/2022	16869103	20,600,000
27	Crosslay Remedies Limited	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24557661	15,392,000
28	Jindal (India) Limited	ERECTION ALL RISK INSURANCE POLICY	14/09/2021 To 13/03/2022	24556871	39,920,000





**PART M****DISCLAIMER**

1. No employee or member of R.K Associates has any direct/ indirect interest in the Project.
2. This report is prepared based on the copies of the documents/ information which the Bank/ Company has provided to us out of the standard checklist of documents sought from them and further based on our assumptions and limiting conditions. All such information provided to us has been relied upon in good faith and we have assumed that it is true and correct in all respect. Verification or cross checking of the documents provided to us has not been done at our end from the originals. If at any time in future, it is found or came to our knowledge that misrepresentation of facts or incomplete or distorted information has been provided to us then this report shall automatically become null & void.
3. This report is a general analysis of the project based on the scope mentioned in the report. This is not an Audit report, Design document, DPR or Techno-financial feasibility study. All the information gathered is based on the facts seen on the site during survey, verbal discussion & documentary evidence provided by the client and is believed that information given by the company is true best of their knowledge.
4. All observations mentioned in the report is only based on the visual observation and the documents/ data/ information provided by the client. No mechanical/ technical tests, measurements or any design review have been performed or carried out from our side during Project assessment.
5. Bank/FII should ONLY take this report as an Advisory document from the Financial/ Chartered Engineering firm and it's specifically advised to the creditor to cross verify the original documents for the facts mentioned in the report which can be availed from the borrowing company directly.
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7. This Report is prepared by our competent technical team which includes Engineers and financial experts & analysts.
8. This is just an opinion report and doesn't hold any binding on anyone. It is requested from the concerned Financial Institution which is using this report for taking financial decision on the project that they should consider all the different associated relevant & related factors also before taking any business decision based on the content of this report.





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Place : New Delhi  
Date : 06.10.2021  
Note : This report contains 45 pages

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**SURVEYED BY: NA**

**PREPARED BY: PE Team**

**REVIEWED BY: MA**

**For R.K Associates Valuers & Techno  
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