

**Capital Expenditure Report
for
the Proposed Project of
2GW Solar Panel, 2GW Solar Inverter and
2GWh Lithium-ion Battery
Manufacturing Facility
in the
State of Madhya Pradesh,
India**



FUJIYAMA POWER SYSTEMS LIMITED

Registered Office: 53 A/6, Rama Road Industrial Area
Satguru Ram Singh Marg, Near NDPL Grid Office
Kirti Nagar, Delhi 110015

By:

SUNRISE ENGINEERS
A1-31/32, Batra Street, Sant Nagar
Burari, Delhi 110084

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DISCLAIMER

Date: 05, March, 2025

Sunrise Engineers has prepared this project report on 05.03.2025 for the setting up of a new manufacturing plant. This manufacturing facility is expected to increase production capabilities by 2 GW, i.e. 2 GW each for solar panels and solar inverters and 2 GWh for Lithium-ion batteries ("**Proposed Project**") of Fujiyama Power Systems Limited (the "**Company**") having its registered office at 53A/6, Rama Road Industrial Area, Satguru Ram Singh Marg, Near NDPL Office, Kirti Nagar, Delhi – 110015, at Ratlam, Madhya Pradesh, on a best judgment basis.

While all reasonable care has been taken in its preparation, details contained in this report have been compiled based on information provided by the Company. We have also examined and reviewed all the quotations, along with any other documents or information required for the project execution.

This Project Report is for information and for inclusion (in part or full) in any documents issued by the Company in connection with the proposed Initial Public Offering of its equity shares (the "**Offer**"), including the draft red herring prospectus, red herring prospectus and the prospectus of the Company intended to be filed by the Company with the Securities and Exchange Board of India ("**SEBI**"), the stock exchanges where such equity shares are proposed to be listed, the Registrar of Companies, National Capital Territory of Delhi and Haryana at New Delhi (the "**RoC**") and any other material which the Company may issue in relation to the Offer (collectively, "**Offer Documents**"). This Report can be relied upon by the Company, the book running lead managers ("**BRLMs**") and the legal advisors appointed by the Company and the BRLMs, in relation to the Offer.

I, on behalf of Sunrise Engineers, hereby consent to the inclusion of this Project Report as part of "*Material Contracts and Documents for Inspection*" in connection with the Offer and have no objection with the Company uploading the Project Report on its website and sharing the Report with any regulatory, statutory or judicial authority. Further, I have no objection with the BRLMs uploading this Project Report on the repository portal of the stock exchanges / SEBI as required pursuant to the SEBI circular bearing reference no. SEBI/HO/CFD/CFD-TPD-1/P/CIR/2024/170 dated December 5, 2024 and the subsequent requirements of the Stock Exchanges / SEBI, as applicable.

I further consent to be named as an "expert" as defined under Section 2(38) of the Companies Act, 2013 read with Section 26(5) of the Companies Act, 2013 to the extent of information from the Project Report proposed to be included in the Offer Documents, as the case may be.

I hereby confirm that I am an independent chartered engineer, with no direct or indirect interest in relation to the Company, its promoter, promoter group, its group companies, its directors, its key managerial personnel or its senior management, its officers, its shareholders, its officers, its employees, its agents, its representatives or directors of the group companies of the Company except for provision of professional services in the ordinary course of our profession and that no such party is a 'related party' in relation to me in terms of the Companies Act, 2013 read with rules notified thereunder, each as amended, or the applicable accounting standards under applicable law, and that no circumstance subsists that would materially impact confirmations and findings as expressed in this Report. Further, I am not interested in the formation, promotion or management of the Company.

I further confirm that I have, where required, obtained requisite consent or approval that may be required from any governmental authority or other person, in relation to any information used by us in the Project Report.

I further confirm that the information contained in the Project Report is true, correct, complete, adequate and not misleading in any respect and without omission of any matter that is likely to mislead, and adequate to enable investors to make a well-informed decision.

I further confirm that I will not withdraw this consent until the date of the listing of the Equity Shares. I agree to keep the information shared with us regarding the Offer and to prepare this Report, which is not publicly available strictly confidential.

I confirm that I will immediately communicate any changes in writing in the above information to the

SUNRISE ENGINEERS

Company, BRLMs until the date when the Equity Shares that are allotted and transferred in the Offer, commence trading on the Stock Exchanges. In the absence of any such communication from us, the BRLMs and the legal counsels, each to the Company and the BRLMs, can assume that there is no change to the above information until the Equity Shares commence trading on the Stock Exchanges pursuant to the Offer.

All capitalized terms not defined herein shall have the meaning ascribed to them in the Offer Documents.

Yours Faithfully,

For and on behalf of **Sunrise Engineers**



Name: Anil Kumar Singh
Designation: Chartered Engineer
Date: 05.03.2025

EXECUTIVESUMMARY

Project Highlights:

Company	Fujiyama Power Systems Limited (“Company”)
Constitution	Public Limited Company
Registered Office Address of the Company	53A/6, Rama Road Industrial Area, Satguru Ram Singh Marg, Near NDPL Grid Office, Kirti Nagar, Delhi – 110015, India
Reg. / CIN No.	U31909DL2017PLC326513
Date of Incorporation	November 29, 2017
Proposed Project Site Address	Plot No.11, Industrial Area Nivesh Kshetra, Tehsil Ratlam, District Ratlam, Madhya Pradesh, India
Business & Products	The Company is engaged in the manufacturing and supply of products in the rooftop solar segment and power electronics domain. The product portfolio of the Company along with their respective capacity range consists of the following: Solar power generation systems: • Solar panel (40 Wp - 670 Wp) • Hybrid solar inverter (1 KVA - 50 KVA) • Off-grid inverter (0.6 KVA - 20 KVA) • On-grid inverter (1 KW - 136 KW) • Online solar PCU (10 KVA -120 KVA) • Solar management unit (0.48 KW – 1.2 KW) • Lithium-ion battery (1.2 KWh - 48 KWh) • Tubular lead acid battery (40 Ah - 300 Ah) Power back-up solutions: • Online UPS (0.5 KVA - 120 KVA) • Inverter (1 KVA - 5 KVA) Power supply solutions: • Hybrid charger controller unit (0.5 KWh - 16.5 KWh) • EV charger (298 W - 1080 W) • Marine charger and engine start charger (240 W – 3 KW)
Scope of the Capital Expenditure Report	To assess the capital cost for setting up the Proposed Project to be executed by the Company.



Summary of the cost of the Proposed Project			
Proposed estimated cost			
Sr. No.	Particulars	Status	Estimated Cost (in ₹ million)
1.	Consultancy	Proposed	18.89
2.	Building Construction and Civil Work	Proposed	357.42
3.	Purchase of machineries	Proposed	1591.65
4.	Utilities	Proposed	506.51
5.	IT Infrastructure	Proposed	5.31
6.	Freight	Proposed	123.01
7.	Miscellaneous	Proposed	95
8.	Contingencies	Proposed	22.12
9.	Total Project Cost		2719.91
⁽¹⁾ The estimated cost also includes currently applicable taxes and duties excluding customs duty, as mentioned below. ⁽²⁾ The quotations for certain machinery are in foreign currency, such as USD. For all imported machinery, our Company has assumed an exchange rate of ₹ 87 = USD 1 as of February 25, 2025.			



CHAPTER 1 – BRIEF BACKGROUND OF THE COMPANY

The Company, operating under the brands "UTL Solar" and "Fujiyama Solar", is a manufacturer of products and solution provider in the rooftop solar industry, including on-grid, off-grid, and hybrid configurations. The business of the Company started in 1996 as a proprietorship concern in the name of UTL Electronics (India). In 2008, the Promoters of the Company, Pawan Kumar Garg and Yogesh Dua, formed a partnership firm named 'Fujiyama Power Systems'. Upon incorporation of the Company in 2017, the business of the partnership firm was subsequently transferred to the Company in 2018. The Company began operations with manufacturing of inverters and power electronics. Over time, it expanded its product portfolio to include solar panels, solar inverters, lithium-ion and tubular batteries, online solar PCUs, EV chargers, solar management units, and charge controllers, offering a comprehensive range of products in the solar energy and power electronics sector.

The Company has a dedicated research and development ("R&D") team for product development and innovation. The Company has a patented Rapid Maximum Power Point Tracking ("rMPPT") technology which is a specialized technology used in solar inverters to optimize the energy harvested from solar panels. The Company has also developed other products like online solar PCUs, hybrid solar inverter, on-grid and off-grid inverters with inbuilt battery. As on the date of the Report, the Company has filed four patent applications with the Indian Patent Office, Ministry of Commerce & Industry, Government of India, which are under process.

The Company's channel partner network consists of over 480 distributors, 3,600 dealers, and 1,000 exclusive Shoppe outlets across 23 states and 3 union territories in India. The Company maintains nationwide after-sales support and technical assistance through a team of 400 service engineers. The existing manufacturing facilities of the Company are certified under ISO 9001:2015 (Quality Management), ISO 14001:2015 (Environmental Management) and ISO 45001:2018 (Occupational Health and Safety). The Company also utilizes renewable energy generated through the solar plant installed at its manufacturing premises to meet part of its operational requirements.

The following table sets forth the details of the Company's operational manufacturing facilities at Parwanoo, Himachal Pradesh; Greater Noida, Uttar Pradesh, and Bawal, Haryana, for the manufacturing of solar inverters, solar panels, lead acid and lithium-ion batteries and other products (collectively, the "Facilities"), as set out hereunder:

Manufacturing Facility	Location	Products Manufactured
Parwanoo Facility	Khasra No. 182/1,182/2,182/3, Vill. Naryal, Near Sec. 4 Barrier, Parwanoo – 173220, Himachal Pradesh, India	• Solar Inverters (off-grid and Hybrid type) • Online Solar Power Conditioning Unit • Hybrid charge controller unit • UPS
Greater Noida Facility	51,52, Sector Ecotech-1, Ecotech Extn-1, Greater Noida, Gautam Buddha Nagar – 201310, Uttar Pradesh, India	• Solar panels • Solar Inverters (On-grid, off-grid and hybrid type) • E-Rickshaw chargers • Lithium-ion batteries
Bawal Facility	Sector 6, Industrial Estate, Plot/Shed No. 5 & 14, IMT Bawal, Phase 1, Bawal, Rewari – 123501, Haryana, India	• Lead acid batteries • Solar panels

These Facilities include manufacturing units, storage warehouses for finished goods and raw materials .The product portfolio of the Company along with their respective capacity range consists of the following:

- (1) Solar power generation systems:
 - Solar panel (40 Wp - 670 Wp)
 - Hybrid solar inverter (1 KVA - 50 KVA)
 - Off-grid inverter (0.6 KVA - 20 KVA)
 - On-grid inverter (1 KW - 136 KW)
 - Online solar PCU (10 KVA - 120 KVA)
 - Solar management unit (0.48 KW – 1.2 KW)
 - Lithium-ion battery (1.2 KWh - 48 KWh)
 - Tubular lead acid battery (40 Ah - 300 Ah)
- (2) Power back-up solutions:
 - Online UPS (0.5 KVA - 120 KVA)
 - Inverter (1 KVA - 5 KVA)
- (3) Power supply solutions:
 - Hybrid charger controller unit (0.5 KWh - 16.5 KWh)
 - EV charger (298 W - 1080 W)
 - Marine charger and engine start charger (240 W – 3 KW)

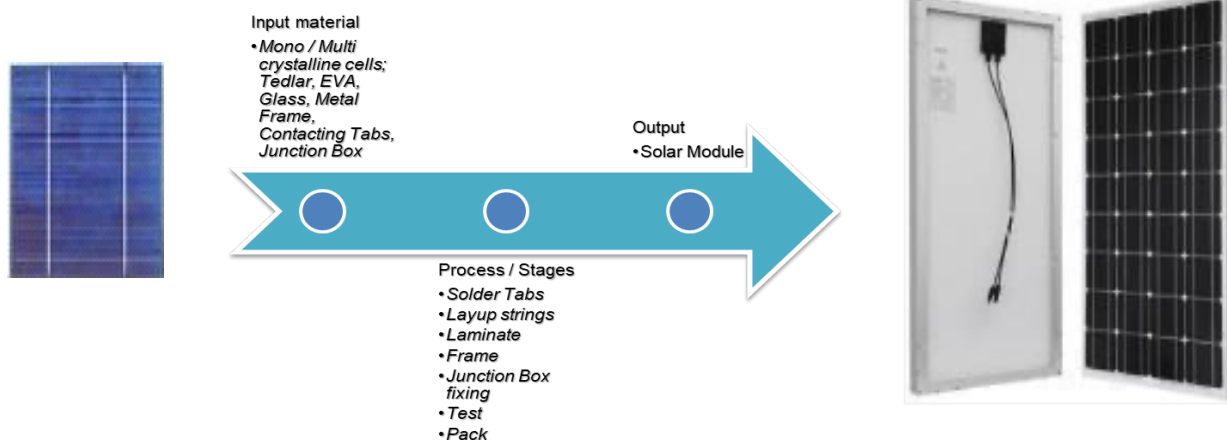


CHAPTER 2– MANUFACTURING PROCESSES OF THE COMPANY

The manufacturing processes of the product portfolio of the Company for: (1) solar panel; (2) solar inverter; and (3) Lithium-ion batteries have been described below:

(1) Solar Panel Manufacturing:

Process flow for manufacturing of solar panels

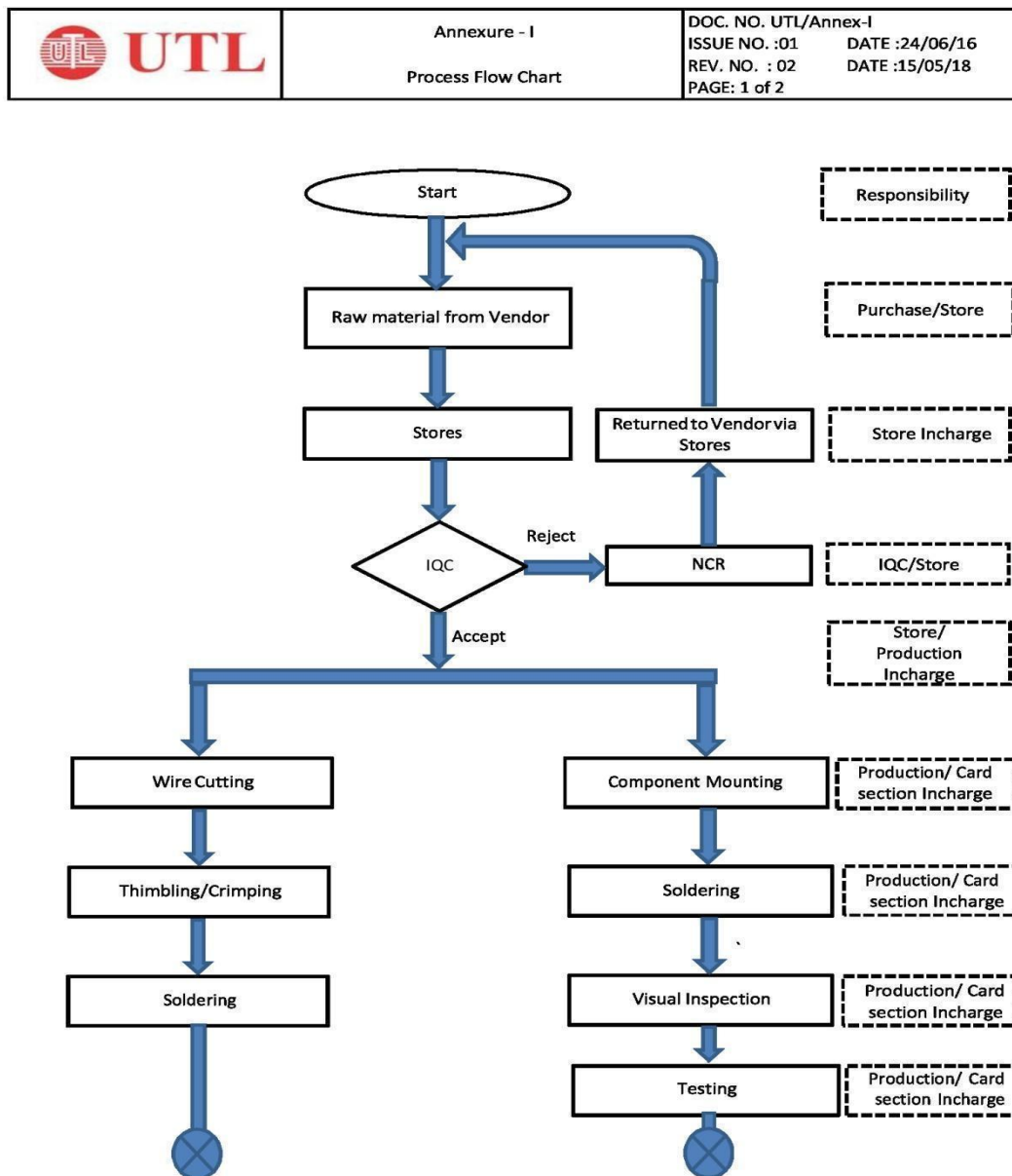


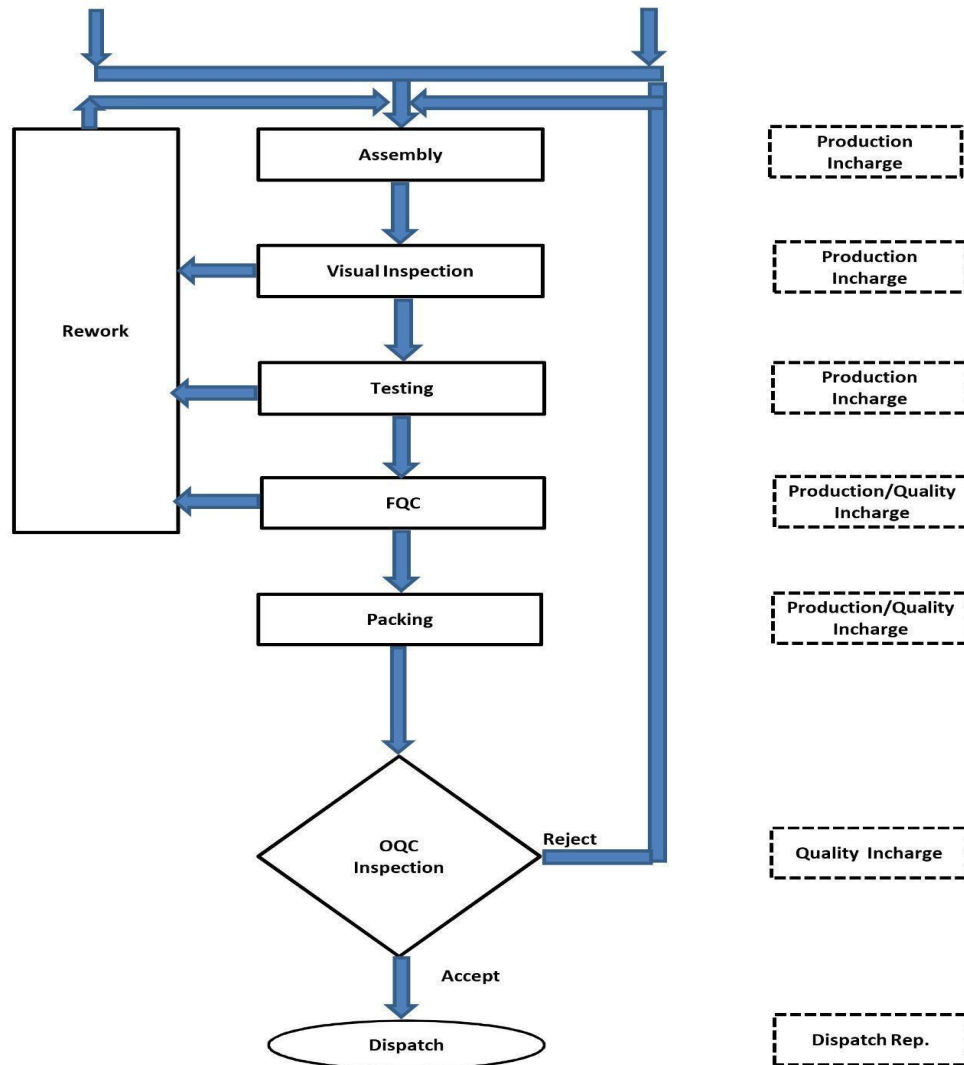
1. **Cell Cutting:** The standard solar cells are divided into two halves using Laser cutting, creating two smaller cells from one. This process is carefully executed to avoid any stress or damage to the cells during cutting.
2. **Tabber and Stringer:** In this stage, the solar cells are welded individually with copper ribbons. The cells are connected in series to form strings, with the entire welding process being automated for consistency and precision.
3. **Robotic Layup:** Robotic systems are used for precise placement of the solar cells onto the panel substrate. The automation ensures accurate alignment, reduces manual handling, and optimizes the layout for maximum efficiency and performance.
4. **Auto-Bussing:** Automatic bussing performs the induction soldering of the interconnections between the strings, including automatic loading/unloading, centering of the panel and ribbon placing. The induction soldering is compatible with any bus bar/wires number.
5. **Electroluminescence (“EL”) Testing:** It is a non-invasive method used to identify microcracks. This step helps detect any faulty cells that can be removed prior to lamination, as they cannot be replaced afterward.
6. **Lamination:** The pre-laminate sandwich is sent to the laminator, which performs vacuuming and cross-linking. In the vacuuming phase, air and moisture are removed from the sandwich. The EVA (Ethylene vinyl acetate) is then cross-linked during the holding stage and cooled. The final product of this process is a laminated module.
7. **Framing:** A solar panel frame is a structural component that supports and secures the photovoltaic cells, helping maintain the panel's integrity and longevity. It is used to mount the panels on module mounting structures.

8. **Sun-simulator Testing:** It is a process used to evaluate the performance of solar panels under controlled, reproducible conditions that mimic sunlight. In this testing, a solar simulator provides artificial sunlight in a laboratory environment, allowing manufacturers to assess the efficiency, power output, and overall quality of the panels.
9. **Insulation Resistance Testing:** The module's insulation resistance is tested to ensure there are no leakage currents and that the panel meets safety standards.
10. **Final Quality Inspection:** A comprehensive inspection checks for visual defects, proper alignment, and overall module performance to ensure quality standards are met.

(2) Solar Inverter Manufacturing:

Process flow for manufacturing of solar inverters



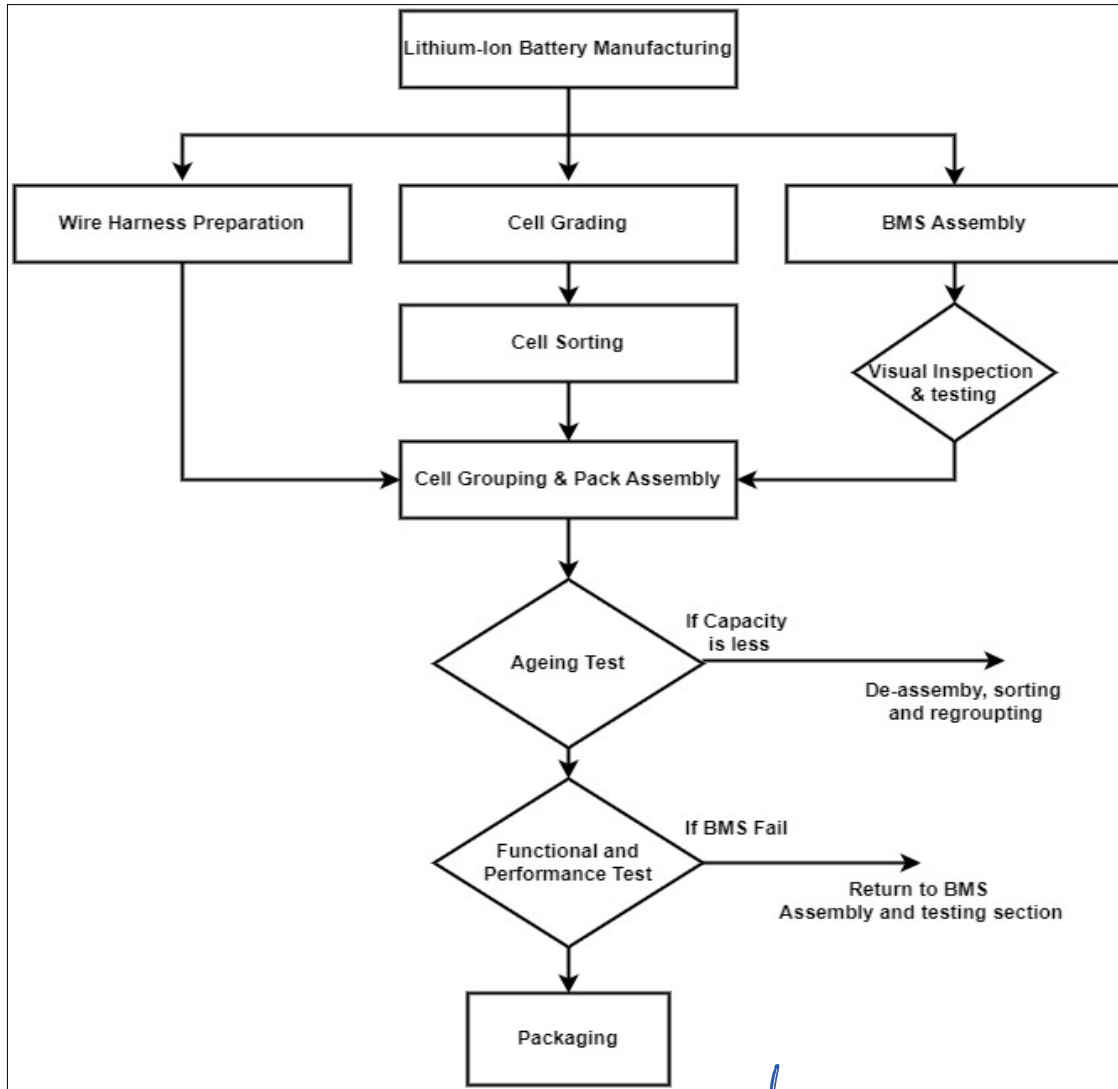


1. **Incoming Quality Control and Sub-Assembly Preparation:** Raw materials are inspected for quality to ensure they meet specified standards. Approved materials are moved to storage, while rejected materials are returned to suppliers. Pre-assembly tasks such as wire harness preparation and thimble punching are completed in the Sub-assembly area to reduce time consumption during the main assembly process.
2. **PCB Assembly and Testing:** Components are mounted onto the printed circuit board ("PCB") using surface mount technology ("SMT") and automated reflow soldering. Each PCB is tested for functionality against predefined models and technical parameters. Non-compliant cards are sent for rework.
3. **Firmware Programming and Installation:** The firmware is programmed into the inverter's microcontroller or digital signal processor ("DSP"). This software enables key operations such as DC-to-AC conversion, voltage regulation, and safety features like overvoltage protection.
4. **Power Electronics and Heat Sink Mounting:** Core power components, including insulated-gate bipolar transistors ("IGBT"), inductors, and transformers, are mounted. Heat sinks and thermal pads are installed to dissipate heat effectively, ensuring the inverter can operate efficiently without overheating.

5. **Mechanical Assembly:** Enclosures are mounted to protect internal components. Cabinets are equipped with features like access doors, ventilation ports, and sealing to safeguard against environmental factors.
6. **User Interface Installation:** Display panels, control buttons, and communication ports (e.g., Wi-Fi, RS485) are integrated into the enclosure.
7. **System Assembly and Testing:** Tested PCBs, power components, and sub-assemblies are connected together to form the complete inverter unit. The assembled units undergo visual inspections and electrical parameter testing. Defective units are reworked and retested.
8. **System Testing:** Inverters are subjected to extreme conditions, including high/low temperatures, humidity, and vibration, to verify durability. Burn-in testing involves operating the inverter continuously under varying loads to identify any potential defects or early-stage failures.
9. **Final Quality Check:** A comprehensive final inspection evaluates electrical, functional, and visual parameters. Serial numbers are affixed to units passing this stage based on their model and specifications.

(3) Lithium-Ion Battery Manufacturing:

Process flow for the manufacturing of Lithium-ion batteries



1. **Incoming quality control of Cells and Cell Grading:** Cells are inspected for quality during the incoming quality control (“IQC”) process. Grading is done based on key parameters like voltage, and capacity to ensure only high-quality cells is used.
2. **Cell Sorting:** After grading, cells are sorted into different categories based on their IR (Internal Resistance) Value, ensuring uniformity in the battery pack. Cells with similar performance metrics are grouped together for optimal operation.
3. **Grouping Cells and Pack Assembly:** Cells with the same internal resistance and capacity are grouped together. This is important for balancing the cells, ensuring that each cell in the pack performs similarly and maintains longevity. Spot welding is used to electrically connect the cells using metal tabs. The Battery Management System (“BMS”) is installed to monitor and manage the battery's charge, discharge, and balancing functions. Other accessories like fuses, negative temperature coefficient (“NTC”) thermistors for temperature monitoring, and miniature circuit breakers (“MCB”) for overload protection are also mounted. The necessary wiring is completed, ensuring all cells, the BMS, and other components are properly connected
4. **Testing on Ageing Machine:** The battery pack is tested on an ageing machine, which simulates real-world usage over an extended period. This test ensures the pack's performance is stable and reliable under different conditions and detects any potential issues.
5. **Battery Management System and Functionality Testing:** The BMS and the overall functionality of the battery pack are tested. This includes checking the BMS for proper communication, charge and discharge control, balancing, and safety features (e.g., overcharge, over-discharge, and temperature protection). Other test includes vibration test, peel test and drop test to ensure the integrity and reliability of the battery pack in actual working condition.
6. **Packaging:** Once testing is complete, the battery pack is carefully packaged. Protective materials are used to prevent damage during storage or transport, ensuring the battery reaches its destination safely and in optimal condition.



CHAPTER 3 – PROPOSED PROJECT

Proposed Project Justification

The Company proposes to expand its presence in the renewable energy sector considering the significant market potential. With an extensive network of channel sales partners across India, including distributors, dealers, and exclusive shoppe partners, the Company manufactures and provides complete rooftop solar solutions comprising solar panels, inverters and batteries. It is focused on expanding its presence in western and southern India while increasing the number of channel partners in these regions.

The establishment of the new manufacturing plant at a strategic location in Ratlam, Madhya Pradesh, will improve logistical efficiency and reduce operational costs, enhancing the Company's ability to serve channel partners and customers. For the Proposed Project, the Company has been allotted land admeasuring 61.505 acres on a long-term lease basis, located at Plot No. 11, Industrial Area Nivesh Kshetra, Tehsil Ratlam 457001, District Ratlam, Madhya Pradesh, by the Madhya Pradesh Industrial Development Corporation Limited ("MPIDC"), pursuant to a lease deed dated December 17, 2024 executed between the MPIDC and the Company, and as more particularly described in the heading "**Land**" below.

The Company intends to utilise a portion of the Net Proceeds from the Issue towards the construction of the manufacturing plant at the Proposed Project, purchase of plant and machinery, development of utilities, establishing of information technology infrastructure, freight cost for the goods and materials, and other miscellaneous and contingencies costs associated with the Proposed Project. This initiative aims to expand the Company's production capabilities, enabling an increase in the production capacity by 2 GW each for solar panels and solar inverters and 2 GWh for Lithium-ion batteries. The expansion is expected to enhance the Company's operational revenue, mitigate supply chain risks and improve profitability.

The break-down of the estimated total cost of the Proposed Project, is set forth below:

Sr. No.	Particulars	Estimated Cost ⁽¹⁾⁽²⁾ (in ₹ million)	Amount already deployed from Internal Accruals as on February 15, 2025 (in ₹ million)	Amount to be deployed from the Net Proceeds (in ₹ million)
1.	Consultancy	18.89	-	18.89
2.	Building Construction and Civil Work	357.42	-	357.42
3.	Purchase of machineries	1591.65	-	1591.65
4.	Utilities	506.51	-	506.51
5.	IT Infrastructure	5.31	-	5.31
6.	Freight	123.01	-	123.01
7.	Miscellaneous	95	-	95
8.	Contingencies	22.12	-	22.12
	Total Cost(1)	2719.91	-	2719.91

(1) The total estimated cost of Project provided above includes applicable goods and services tax ("GST") amounting to ₹ 173.72 million. Customs duty as applicable under the Customs Act, 1962 ("Customs Duty") and GST as applicable under the Integrated Goods and Service Tax Act, 2017 ("IGST") for the import of equipment have not been considered as the Company proposes to avail benefits under the Manufacture and Other Operations in Warehouse Regulations, 2019, under the Customs Act, 1962 ("MOOWR") / Export Promotion Capital Goods ("EPCG") scheme for export of goods, each as notified by the Government of India and amended, and the GST is based on assessable value of goods and services wherever included. Therefore, cost of the imported components does not include any expenditure towards customs and other import duties.



(2) For all imported machinery, our Company has assumed an exchange rate of ₹ 87 = USD 1 as on February 25, 2025.

I. LAND

The details of the land allotted to the Company for the Proposed Project is described in detail below.

The Company has made payment of an aggregate amount of Rs. 181.74 million towards the land allotment and execution of the Lease Deed on December 6, 2024, and December 17, 2024, respectively. The costs associated with the acquisition of the land have been paid by the Company from its internal accruals and will not be paid out of the Net Proceeds.

- The details of the land allotted to the Company on a long-term lease basis are as follows:

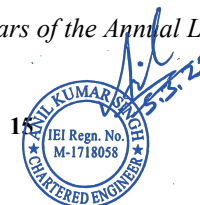
Sr. No.	Particulars	Description
1.	Address	Plot No. 11, Industrial Area Nivesh Kshetra, Tehsil Ratlam 457001, District Ratlam, Madhya Pradesh
2.	Land Area	24.80 hectares
3.	Designated Authority	Madhya Pradesh Industrial Development Corporation
5.	Letter of Allotment	Letter dated December 6, 2024, bearing reference no. MPIDC/RO/Develop/Ujjain/2024/3908, dated December 6, 2024 issued by the MPIDC
7.	Instrument for Land Allotment	Lease Deed dated December 17, 2024, executed between the MPIDC and the Company
8.	Term of Lease Deed	99 years, from December 12, 2024, to December 11, 2123

- A detailed break-up of the land cost of Rs. 166.47 million is as follows:

Sr.No.	Particulars	Cost (in ₹ millions)
1.	Premium Paid	36.60
2.	Annual Lease Rent	0.73
3.	Maintenance Charge	1.99
4.	GST on Annual Lease Rent and Maintenance Charge*	0.49
5.	Security Deposit**	2.19
6.	Development Charges	124.45
7.	Application Processing Fee	0.005
8.	GST on Application Processing Fee*	0.0009
9.	Total	166.47

*GST as applicable at the rate of 18%.

**Security Deposit amount is equivalent to three years of the Annual Lease Rent.



- A detailed break-up of the payment of Rs. 15.28 million towards the registration of the Lease Deed the Registration and Stamps Department, Government of Madhya Pradesh, as made by the Company is set out below:

Sr. No.	Particulars	Cost (in ₹ millions)
1.	Government Stamp Duty	8.26
2.	Registration Fees	6.20
3.	Municipal duty	0.00
4.	Janpad duty	0.00
5.	Upkar	0.83
6.	Exempted stamp duty amount	0.00
	Total	15.28



II. PROPOSED PROJECT COST

The break-down of estimated total cost of the Proposed Project for the following heads is set forth below:

- A. Consultancy
- B. Building Construction and Civil Work
- C. Purchase of Machinery
- D. Utilities
- E. IT infrastructure
- F. Freight
- G. Miscellaneous
- H. Contingencies

A. Consultancy:

The Company has invited quotations from various agencies to provide consultancy for the Proposed Project.

Based on such quotations, the costs associated with Consultancy are:

Sr. No.	Particulars	Cost* (in ₹ millions)
1.	Building structure design and visit	5.31
2	Engineering design - Mechanical electrical and plumbing ("MEP")	2.48
3.	Site management consulting	9.63
4.	Land soil test for area	0.29
5.	Vastu consulting	1.18
	Total	18.89*

**Cost includes GST as applicable*

Detail information on engineering consultancy is given in **Annexure I**.

B. Building Construction and Civil Work:

The Company plans to construct three buildings totalling to an area of approximately 3,00,000 square feet as a part of the Proposed Project. The buildings are dedicated for the manufacturing setup of the solar panels, solar inverters and lithium-ion batteries plant. Administration office area and storage area for finished goods and raw materials will be established in each building for the respective manufacturing setup. Building and civil works for the proposed expansion include designing of foundation drawing, pre-engineering building civil work, installing the pre-fabricated structure including accessories and miscellaneous work. Other than the main buildings mentioned above, the foundation for the diesel generator set, compressor system and rooms for utilities like low-tension panel room and meter room will also be constructed. The detailed scope of work in building construction and civil work is provided in **Annexure II**.



The costs associated with the building construction and civil work comprise as follows:

Sr. No.	Particulars	Cost (in ₹ millions)
1.	Building Construction and Civil Work	357.42*

*Cost includes GST as applicable.

A summary of the description of the building construction and civil work, is as follows:

Sr. No.	Particulars	Area (Approximate) (in sq. feet)
1.	Building for manufacturing plant of solar panels	200,000
2.	Building for manufacturing plant of solar inverters	50,000
3.	Building for manufacturing plant of Lithium-ion batteries	50,000
4.	Administration office area and storage area for the manufacturing lines	Integrated part of the manufacturing buildings
5.	Civil work for Utilities*	10,000
6.	Guard rooms (two)	200

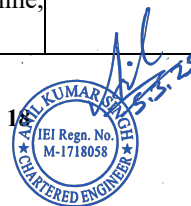
*Construction of meter room, high tension panel room, low tension panel room, fire pool platform for diesel generator set and compressor.

C. Machinery:

The Company has identified the machinery it intends to purchase and install at the Proposed Project each for the manufacturing of solar modules, solar inverters and Lithium-ion batteries. The details of the plant and machinery that will be installed at the Proposed Project and a detailed break up of the costs are provided in **Annexure III**.

The major costs associated with the purchase and installation of plant and machinery at the Proposed Project are as follows:

Sr. No.	Particulars	Cost*# (in ₹ million)
1.	Solar Module manufacturing plant machinery which includes inter alia tabber and stringer, laminating machine, busbar barcode place machine, auto bussing machine, electroluminescence tester & I-V tester.	1061.18



Sr. No.	Particulars	Cost*# (in ₹ million)
2.	Solar inverter manufacturing plant machinery which includes inter alia surface mount device, pick & place machine, solder paste printer, reflow oven, in circuit tester and wave soldering.	280.50
3.	Lithium-ion battery manufacturing plant machinery which includes <i>inter alia</i> cell grading machine, battery ageing machine, internal resistance tester, busbar and welding machine.	249.97
	Total	1591.65

* Customs duty and the GST on the import of equipment have not been considered as the Company proposes to avail benefits under the MOOWR or EPCG schemes of the Government of India for export of goods, each as notified and amended. The GST is based on the assessable value of services wherever included.

(2) For all imported machinery, our Company has assumed an exchange rate of ₹ 87 = USD 1 as on February 25, 2025.

D. Utilities:

The Company intends to procure utilities for each of the manufacturing plants for solar modules, solar inverters and lithium-ion batteries at the Proposed Project location. The various Utilities proposed will remain common for the three manufacturing plants and are as follows:

- (a) Demineralised water plant
- (b) Reverse Osmosis water plant
- (c) Effluent treatment plant
- (d) Sewage treatment plant
- (e) Clean room
- (f) Air compressor and air conditioning system
- (g) Diesel generator set
- (h) Uninterruptible power supply
- (i) Transformers
- (j) High-tension and low-tension distribution panels; and
- (k) Electrical system

The cost associated with the Utilities is given below:

Sr. No.	Particulars	Cost (in ₹ millions)
1.	Utilities for solar panel manufacturing plant, solar inverter manufacturing plant, lithium-ion battery manufacturing plant, as well as common utilities which includes inter alia demineralised water plant, reverse osmosis water plant, effluent treatment plant, sewage treatment plant, clean room, air compressor and air conditioning system, diesel generator set, uninterruptible power supply, transformers, high-tension and low-tension distribution panels and electrical system.	506.51*

* Cost includes applicable GST and freight charges wherever applicable

The details of Utilities that will be installed at the Proposed Project and the detailed break up of which is

provided in **Annexure IV**.

E. IT Infrastructure:

The Company has also invited quotations for establishing an information technology (“IT”) infrastructure for the Proposed Project consisting of the three manufacturing plants, administration building and other building blocks.

The cost associated with IT infrastructure is given below:

Sr. No.	Particulars	Cost (in ₹ millions)
1.	IT Infrastructure which includes inter alia includes design and implementation of IT network and backup, network design, logical design elements, switch configuration and hardware and software	5.31*

* Cost includes applicable GST.

The details of IT Infrastructure that will be installed at the Proposed Project and the detailed break-up of which is provided in **Annexure V**.

Freight:

The Company intends to engage with specialist loading, unloading and freight forwarders for the import of various plant and machinery for the Proposed Project. The details of the scope of work comprises the freight charges, port and customs clearances, unloading, and local movement of the plant and machinery.

The cost associated with the freight charges is given below:

Sr. No.	Particulars	Cost (in ₹ millions)
1.	Freight Charges on account of import of plant and machineries which includes <i>inter alia</i> freight forwarding, clearance, unloading, handling and move in positioning charges for import machinery of solar panels, solar inverter and lithium-ion battery manufacturing line.	123.01*

* Cost includes applicable GST.

The detailed break-up of the costs associated with the freight charges is provided in **Annexure VI**.

Miscellaneous:

The Company has budgeted about Rs. 95 million towards purchase of minor material handling equipment, pre-operative tools and expenses, fire safety systems and consultancy, unquoted insurance of building and machines.

Contingencies:

Contingencies comprise the costs related to, *inter alia*, a) changes in scope of work for consultancy, building construction and civil work, purchase of machinery, utilities, IT infrastructure, freight charges which will be finalised; b) foreign exchange rate variations; and c) taxes and duties etc. The estimated contingency is at 0.85% of the hard cost of the Proposed Project and the contingencies cost is estimated at Rs. 22.12 million excluding the miscellaneous charges of Rs. 95 million.

III. SUBSIDY

The Company intends to apply for subsidy under the Renewable Energy Equipment Manufacturing category of Madhya Pradesh Industrial Promotion Policy, 2025 ("MP Industrial Policy"), which offers various incentives such as capital subsidy, assistance for green industrialization, and patents filling assistance among other things.

The detailed break-up of the aforesaid subsidy available under both the policies under the is set forth below:

S. No.	Particulars	Estimated cost ₹ in million)	Subsidy (Rs in millions)	Estimated cost (₹ in million) (Post Subsidy) *
1.	Consultancy expenses	18.89	-	18.89
1a	Building structure design and visit	5.31		5.31
1b	Engineering design –mechanical, electrical and plumbing	2.48		2.48
1c	Site management consulting	9.63		9.63
1d	Land soil test for area	0.29		0.29
1e	Vastu consulting	1.18		1.18
2	Building construction and civil work	357.42		357.42
3	Machinery	1,591.65		
3a	Solar module manufacturing plant machinery which includes inter alia tabber and stringer, laminating machine, busbar barcode place machine, auto bussing machine, electroluminescence tester and I-V tester.	1,061.18	389.64	1,202.01
3b	Solar inverter manufacturing plant machinery which includes inter Alia surface mount device, pick & place machine, solder paste printer, reflow oven, in circuit tester and wave soldering machine.	280.50		
3c	Lithium-ion battery manufacturing plant machinery which includes inter Alia cell grading machine, battery ageing machine, internal resistance tester, busbar and welding machine	249.97		
4	Utilities - Utilities for solar panel manufacturing plant, solar inverter manufacturing plant, lithium-ion battery manufacturing plant, as well as common utilities which includes inter alia demineralized water plant, reverse osmosis water plant, effluent treatment plant, sewage treatment plant, clean room, air compressor and air conditioning system, diesel generator set, uninterruptible power supply, transformers, high-tension and low-tension distribution panels and electrical system	506.51	106.99	399.52
5	IT Infrastructure - IT infrastructure which includes inter Alia includes design and implementation of IT network and backup, network design, logical design elements, switch configuration and hardware and software	5.31	0.55	4.76
6	Freight Charges - Freight charges on account of import of plant and machinery which includes inter alia freight forwarding, clearance, unloading, handling and move in positioning charges for import machinery of solar panels, solar inverter and lithium-ion battery manufacturing line	123.01	25.52	97.49
7	Miscellaneous expenses - minor material handling equipment, pre-operative tools and expenses, fire safety systems and consultancy, unquoted insurance of building and machines	95.00	-	95.00
8	Contingency cost	22.12	-	22.12
Total		2,719.91	522.70	2,197.21

CHAPTER 4 – PROPOSED PROJECT TIMELINES AND KEY APPROVALS

Project Timelines

The proposed timelines, based on management information and representation, are mentioned hereunder:

Particulars	Estimated Date of Commencement	Estimated Date of Completion
Acquisition of land by way of lease*	November 2024	December 2024 (Completed)
Finalising quotations for the manufacturing plants and machinery	November 2024	December 2024 (Completed)
Consultancy	January 2025	May 2025
Application to assess eligibility under MP Industrial Policy	March 2025	May 2025
Building Construction and Civil Work	February 2025	December 2025
Placing orders for the manufacturing plants and machineries	April 2025	September 2025
Installation of machineries	November 2025	January 2026
IT Infrastructure	January 2026	February 2026
Pilot production of the three manufacturing plants of solar panels, solar inverters and lithium-ion batteries	-	February 2026
Commercial production of the three manufacturing plants of solar panels, solar inverters and lithium-ion batteries	March 2026	-
Application for subsidy under MP Industrial Policy	April 2026	Not Available

**The Company has leased the land for the Project pursuant to a lease deed dated December 17, 2024 with Madhya Pradesh Industrial Development Corporation Limited.*

The Company plans to construct three buildings at the new manufacturing facility, with construction expected to be completed simultaneously. Accordingly, the installation and commissioning of the plant and machinery will also proceed in parallel. As a result, the commercial production is expected to commence simultaneously across the entire facility, ensuring streamlined operations and timely project completion. The table above reflects the timelines for the completion of the entire Proposed Project under this approach.

Key Approvals

Companies engaged in the manufacturing activities in India are regulated by various central, state and local legislations. Additionally, functioning of these units requires the sanction of concerned authorities, at various stages, under relevant legislations and local laws.

With respect to the Proposed Project, the Company would be required to obtain approvals from certain governmental and local authorities, an indicative list of which is mentioned below:

Sr. No.	Approval Description	Approving Authority and Department	Stage at which the approval is required	Status of the approval
1.	Lease of land	Madhya Pradesh Industrial Development Corporation	Prior to commencement of civil works	Completed*
2.	Environmental clearance under the Environment Impact Assessment Notification, 2006, as issued under the Environment Protection Act, 1986	Madhya Pradesh Pollution Control Board / Madhya Pradesh State Environment Impact Assessment Authority	Prior to commencement of civil works	To be applied for at the appropriate stage
3.	Consent to Establish under the Air Act, 1981 and Water Act, 1974	Madhya Pradesh Pollution Control Board	Prior to commencement of civil works	To be applied for at the appropriate stage
4.	Building plan approval	Madhya Pradesh Industrial Development Corporation	Prior to commencement of civil works	To be applied for at the appropriate stage
5.	License to work a factory, as per Factories Act, 1948	Office of Directorate of the Factories, Madhya Pradesh/ Labor Department, Madhya Pradesh	Upon completion of civil works and prior to commencement of commercial production	To be applied for at the appropriate stage
6.	Import Export Code ("IEC")	Directorate General of Foreign Trade, Ministry of Commerce and Industry, Government of India	Prior to undertaking export of goods	To be applied for at the appropriate stage
7.	Manufacturing and Other Operations in Warehouse Regulations / Export Promotion Capital Goods scheme	Directorate General of Foreign Trade, Ministry of Commerce and Industry, Government of India	Prior to commencement of commercial production	To be applied for at the appropriate stage
8.	Approval for usage of power required for construction as well as operation	Electricity Board / Madhya Pradesh Power Distribution Agency, Government of Madhya Pradesh	During the period of construction	To be applied for at the appropriate stage
9.	Drawing approval for electrical installation	Chief Electrical Inspector, Government of Madhya Pradesh	During the period of construction	To be applied for at the appropriate stage

Sr. No.	Approval Description	Approving Authority and Department	Stage at which the approval is required	Status of the approval
10.	Approval for load connection at substation	Chief Electrical Officer, Government of Madhya Pradesh	During the period of construction	To be applied for at the appropriate stage
11.	Approval for usage of water required both during construction and operation	Madhya Pradesh Industrial Development Corporation / Urban Local Bodies / Water Resource Department, Government of Madhya Pradesh	During the period of construction and subsequently during the period of commercial operation	To be applied for at the appropriate stage
12.	Building completion certificate/Occupation certificate	Madhya Pradesh Industrial Development Corporation	Prior to commencement of civil works	To be applied for at the appropriate stage
13.	Fire no-objection certificate	Urban Local Bodies	Prior to commencement of commercial Production	To be applied for at the appropriate stage
14.	Registration under the Building and Other Construction Workers (Regulation of Employment and Conditions of Service) Act, 1996	Directorate of Industrial Safety and Health, Government of Madhya Pradesh, Labour Department, Madhya Pradesh	During the period of construction	To be applied for at the appropriate stage
15.	Consent to Operate under the Air Act, 1981 and Water Act, 1974	Madhya Pradesh Pollution Control Board	Upon completion of construction and before commercial Production	To be applied for at the appropriate stage
16.	License to store and handle hazardous substances	Madhya Pradesh Pollution Control Board	During the period of commercial operation	To be applied for at the appropriate stage
17.	Insurance under the Public Liability Insurance Act, 1991	Directorate of Industrial Health and Safety - Labour department, Government of Madhya Pradesh	During the period of commercial operation	To be applied for at the appropriate stage

**The Company has executed a lease deed dated December 17, 2024 with the MPIDC towards acquisition of the land on a lease basis for the Project.*

Taking into consideration the experience of the Company, and the team which is involved in the Proposed Project, the Company is well placed to apply for and get the required approvals/ licenses/ certifications for the Proposed Project.



CHAPTER 5 – CONCLUSIONS AND RECOMMENDATIONS

Sunrise Engineers has assessed the cost estimates of the Proposed Project for reasonableness and fairness based on the following:

- Specifications provided.
- Proposals invited by the Company and the Budgetary (non-negotiated) Quotations/Proposals received from vendors with the scope of work.
- Similar manufacturing facilities commissioned by the Company.
- Basic engineering for the project.
- Clarifications and representations provided by the Company.

Sunrise Engineers has assessed the cost estimates of the Proposed Project for reasonableness and fairness based on the confirmation that all budgetary quotations/ proposals invited by the Company are related to first hand and brand-new machines/ equipment.

For the building construction and civil works, the Company has invited and received turnkey quotations. GST for quotations received from domestic vendors and service providers are based on the current applicable slab rates of 18% and 28%. GST and Customs Duty have not been considered for imported equipment as the Company proposes to avail benefits under the MOOWR or EPCG schemes of the Government of India.

The Company proposes to procure insurance for those goods which have been quoted without insurance. The cost of insurance has been estimated and included under “*Miscellaneous*” as they are negligible compared to the overall cost.

Certain quotations have been received without freight charges. They have been excluded as they constitute a minimal percentage of overall costs.

We have assessed the cost estimates of the Proposed Project based on reasonableness and fairness and have relied on the signed budgetary quotations and proposals for technical specifications for the Proposed Project’s expenditure programme and the implementation schedule, however, we do not opine on any other conditions of the quotations and proposals.

We estimate that the costs are fair and reasonable. The implementation of the facilities is estimated to be completed in phases by Fiscal 2025 and Fiscal 2026.

We do not have expertise in the laws relating to approvals required and based on prior experience, the list of approvals specifically required for setting up the Proposed Project has been provided.

Based on the detailed discussions with various senior level personnel, we are of the opinion that the Company is capable of executing the Proposed Project within the estimated cost and within the desired timelines.

Yours faithfully,

For and on behalf of Sunrise Engineers

[Authorised Signatory]

Name: Anil Kumar Singh

Designation: Chartered Engineer

Annexure I

A. Consultancy:

1.1. Building Structure Design and Visit

Scope: Design consultancy for all facilities and utilities, including concept design, basic design, detailed design, acting as owner's engineer during procurement, execution, and commissioning, and redrafting as-built drawings.

The Company has received a quotation from Aries Pre Fab Private Limited for the above scope as follows:

Description	Building Structure Design and Visit
Vendor	Aries Pre Fab Private Limited
Date of Quotation	November 20, 2024
Validity of Quote	November 20, 2025
Price.	INR 4.500000 (million)
Taxes and Duties	INR 0.810000 (million)
Freight	Not Applicable
Insurance	Not Applicable
Total Cost	INR 5.31 (million)

1.2. Engineering Design– Mechanical Electrical and Plumbing (“MEP”)

Scope: The scope of work includes planning, designing, and coordinating heating, ventilation and air-conditioning (“HVAC”) systems, electrical power distribution, lighting, and plumbing systems in the proposed unit.

The Company has received a quotation from Aries Pre Fab Private Limited for the above scope as follows:

Description	Design and engineering for MEP
Vendor	Aries Pre Fab Private Limited
Date of Quotation	November 20, 2024
Validity of Quote	November 20, 2025
Price.	INR 2.10 (million)
Taxes and Duties	INR 0.378 (million)
Freight	Not Applicable
Insurance	Not Applicable
Total Cost	INR 2.47 (million)

1.3. Site Management Consultancy



Scope: The scope of work includes:

- Technology and capital equipment sourcing
- Organization structure and capability development plans
- Communication/coordination among project stakeholders
- Project readiness assessment and development of execution methodologies
- Project approvals / clearances / permits submissions
- Regulatory support for policy benefit realisation

The Company has received a quotation from Aries Pre Fab Private Limited for the above scope as follows:

Description	Site Management consultancy
Vendor	Aries Pre Fab Private Limited
Date of Quotation	November 20, 2024
Validity of Quote	November 20, 2025
Price.	INR 8.16 (million)
Taxes and Duties	INR 1.47 (million)
Freight	Not Applicable
Insurance	Not Applicable
Total Cost	INR 9.63 (million)

1.4 Land Soil Test for Area

Scope: Providing services for carrying out land soil test for surface water assessment, ground water assessment and flood analysis for the Proposed Project.

The Company has received a quotation from Aries Pre Fab Private Limited for the above scope as follows:

Description	Land Soil Test for Area
Vendor	Aries Pre Private Limited
Date of Quotation	November 20, 2024
Validity of Quote	November 20, 2025
Price.	INR 0.25 (million)
Taxes and Duties	INR 0.04 (million)
Freight	Not Applicable
Insurance	Not Applicable
Total Cost	INR 0.29 (million)



1.5 Vastu Consulting

Scope: The said consultancy covers making maps as per vastu rules, placement of men, machines, genset, reception, washrooms, canteen, pantry, etc. and/or as desired by the Company.

The Company has received quotations from Aries Pre Fab Private Limited for the above scope as follow:

Description	Vastu Consulting
Vendor	Aries Pre Fab Private Limited
Date of Quotation	November 20, 2024
Validity of Quote	November 20, 2025
Price.	INR 1.000000 (million)
Taxes and Duties	INR 0.180000 (million)
Freight	Not Applicable
Insurance	Not Applicable
Total Cost	1.18 (million)



B. Building and Civil Works

3.1. Construction

Scope: Construction of three separate buildings totalling to an area of approximately 3,00,000 square feet as a part of its Proposed Project as given below:

- Manufacturing setup for Solar Panels in 200000 sq. feet area;
- Manufacturing setup for Solar Inverters in 50000 sq. feet area; and
- Manufacturing setup for Lithium-ion batteries in 50000 sq. feet area.

All the three manufacturing setups will have an integrated administration office area and warehouse for raw materials and finished goods. The scope includes pre-engineering building civil work, supply of fabricated structure, colour coated sheet and other accessories like gutter, down take pipe, turbo air-vent fan, skylights and erection of erection and fixing of sheeting and all installation work. Other than the main building mentioned above, foundation for diesel generator, compressor and rooms for utilities like high-tension and low-tension panel room, meter room and guard room will also be constructed.

The Company has received a quotation from Aries Pre Fab Private Limited for the above scope as follow

Description	Quantity	Area (in square feet)
<i>Buildings - Main Sheds</i>		
2 GW solar panel plant	1	2,00,000
2 GW solar inverter plant	1	50000
2 GWh Lithium-Ion Battery plant	1	50000
Storage area for raw material and finished goods*	3	Integrated with respective manufacturing setup
Administration office area*	3	Integrated with respective manufacturing setup
<i>Civil work for Utilities</i>		
Construction of meter room, high-tension and low-tension panel room, transformer foundation, fire pool platform for dg and compressor**	1	10000
Construction of guard room**	2	200

*Storage area for raw material and finished goods and administration office area will be the integral part of each manufacturing setup of Solar Panel, Solar Inverter and Lithium-ion batteries.

**To be constructed within the Proposed Project area.

3.2. Supply of Building and Civil Works

Scope: Scope of work includes provision of civil foundation drawing supply of prefabricated structure and accessories, civil work pertaining to the building, utilities and erection.

The Company has received a quotation from Aries Prefab Private Limited for supply of building and civil

works as follows:

Description	Civil Works supply
Date of Quotation	November 20, 2024
Validity of Quote	November 20, 2025
Price.	302.90 (Million)
Taxes and Duties*	54.52 (Million)
Freight	Not Applicable
Insurance	Not Applicable
Total Cost	357.42 (million)



Machineries:

The machineries proposed to be procured are as follows:

1. 2GW solar panel manufacturing plant -1 set
2. 2GW solar inverter manufacturing plant - 1 set
3. 2GWh Lithium-ion battery manufacturing plant - 1 set

3.1 Solar Panel Manufacturing Plant

Scope: Includes supply of machineries for the manufacturing line of solar panels for capacity of 2 GW with provision of drawings and layout for machine setup.

The Company has received a budgetary quote from Jiangxi Jsolar Technology Co., Ltd. for supply of machineries for the solar panel plant as follows:

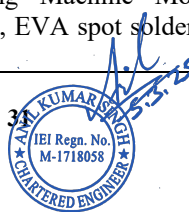
Description	Solar PV Module Manufacturing Plant
Vendor	Jiangxi Jsolar Technology Co., Ltd.
Date of Quotation	November 25, 2024
Validity of Quote	November 25, 2025
Price.	USD 12.20 million
Taxes and Duties*	USD 0.00 million
Freight	Not Included
Insurance	Not Included
Total Cost USD	12.20 million
Total Cost**	INR 1061.18 million

* Customs Duty and Goods and Service Tax for import of equipment has not been considered as the Company proposes to avail benefits under Manufacturing and Other Operations in Warehouse Regulations ("MOOWR") / Export Promotion Capital Goods ("EPCG") scheme of the Government of India

**Exchange rate considered as 1USD = 87 INR as on February 25, 2025.

The main components of the said manufacturing plant are as follows:

Sr. No.	Description	Quantity
1.	Glass loading Machine (High speed)	2
2.	Robot type--Glass barcode place machine	2
3.	Double Roll 1st Eva cutting & Layup Machine	2
4.	MBB(Multi busbar), PV Cell Soldering Stringer AM050K, with integrated NDC cutter, MBB Tab and Stringer soldering machine (Dual track) with 16BB 1/2 kit with micro gap tool, String EL Inspection Integrated PV Auto Bussing Machine Model AM059B, Post soldering vision inspection, EVA spot solder to glass	8



Sr. No.	Description	Quantity
5.	Auto Taping machine	4
6.	Robot type--Busbar barcode place machine	2
7.	Ethylene Vinyl Acetate(EVA) Strip and Patch Place Machine	2
8.	Double Roll 2nd Eva cutting & Layup Machine	2
9.	Double Roll Tedlar Polyester (TPT) cutting & Layup Machine	2
10.	Glass loading Machine for 2nd glass loader	2
11.	2nd glass loader machine (High speed)	2
12.	High temperature cloth place + leadline bending equipment	2
13.	Robot type--Leadline barcode place machine	2
14.	EL(Electroluminescence)+VI(Visual Inspection) +AI(Automatic Inspection) Tester	4
15.	Double Glass Repair Manipulator	8
16.	Double Glass sealing side machine	4
17.	Double Glass Rework station	16
18.	Buffer 20 layers	26
19.	Long side one way conveyor	42
20.	Short side one way conveyor	42
21.	90° Turning Conveyor	40
22.	Pneumatic door	4
23.	Rotary Conveyor	8
24.	Air conveyor line	2
25.	Lifting machine of Laminator	12
26.	27100, fully automatic, double-layer three-chamber laminating machine with upper heating function in first chamber with Chinese Pump	6

Sr. No.	Description	Quantity
27.	Automatic tape tearing machine	2
28.	Automatic Trimming machine	4
29.	Electroluminescence line Scanner (one screen)	2
30.	Automatic inspection for electroluminescence tester one screen and automatic optical inspection both side	2
31.	90° Quality control (QC) Flip	4
32.	Automatic framing and Gluing machine	4
33.	Remove Teflon +busbar straight machine	2
34.	Back panel gluing equipment for Jbox	2
35.	Junction box install machine	2
36.	Automatic Junction-box soldering machine	4
37.	Automatic Junction-box potting machine with 3 head	2
38.	Glue Filling Inspection Machine	2
39.	Loading handler of Curling line	4
40.	unloading handler of Curling line	4
41.	Curing line	4
42.	Junction-box Cover Installation Machine	2
43.	Auto corner filing machine	2
44.	Automatic Robot Loading Testing JIG	2
45.	Automatic Robot unloading Testing JIG	2
46.	Tool Return Line	2
47.	180° Flip Machine	8
48.	Gold module cabinet	2

Sr. No.	Description	Quantity
49.	IV Tester (Top Lighting)	2
50.	HipotTester(3 Layers)	6
51.	Final EL(Electroluminescence)Tester	2
52.	Final Checking Machine	4
53.	Automatic labeling machine	2
54.	Automatic Corner Protector machine	4
55.	Auto sorting system	4
56.	Buffer (After Framing is 12 layers)	20
57.	Long side one way conveyor	36
58.	Short side one way conveyor	22
59.	90° Turning Conveyor	42
60.	Rotary Conveyor	40
61.	Pneumatic door	12
62.	Control Cabinet	8
63.	MES System	2



 ANIL KUMAR
 IEI Regn. No.
 M-1718058
 CHARTERED ENGINEER

3.2 Solar Inverter Manufacturing Plant

Scope: Supply of machines for the manufacturing plant of solar inverters with provision of drawings and layout for machine setup.

The Company has received a budgetary quote from Jiangxi Jsolar Technology Co., Ltd. for the supply of machineries as follows:

Description	Solar Inverter Manufacturing Line
Vendor	Jiangxi Jsolar Technology Co., Ltd.
Date of Quotation	December 3, 2024
Validity of Quote	December 3, 2025
Price.	USD 3.22 Million
Taxes and Duties*	USD 0.00 Million
Freight	Not Included
Insurance	Not Included
Total Cost USD	USD 3.22 Million
Total Cost**	INR 280.50 Million

* Customs Duty and Goods and Service Tax for import of equipment has not been considered as the Company proposes to avail benefits under Manufacturing and Other Operations in Warehouse Regulations (MOOWR) / Export Promotion Capital Goods (EPCG) scheme of the Government of India

**Exchange rate considered as 1USD = 87 INR

The main components of the solar inverter manufacturing line are as follows:

Sr. No.	Description	Quantity
1.	Solder Paste Printer	2
2.	3D Solder Paste Inspection	2
3.	3D Auto Optical Inspection	2
4.	SMD(Surface mount device) Pick & Place Machine	1
5.	SMD(Surface mount device) Pick & Place Machine	1
6.	Reflow Oven - 10+3 Zone N2 (Nitrogen)	2
7.	Automatic Magazine Loader	2
8.	Reject Conveyor	4
9.	Inspection Conveyor	2
10.	Cooling Conveyor	2

Sr. No.	Description	Quantity
11.	Automatic Magazine Unloader	2
12.	Magazine Racks	100
13.	Link Conveyor 0.5 Meter	4
14.	Repair Conveyor (after automatic optical inspection)	2
15.	Auto-Insertion Machine (Radial Machine)	2
16.	Automatic Optical Inspection Machine (Pre Wave)	2
17.	Wave soldering	2
18.	Automatic Optical Inspection Machine (Post)	2
19.	ICT (In Circuit Tester)	4
20.	Automatic Soldering Machine	10
21.	Manual Line 20 meter	2
22.	Assembly Line 32 meter	8
23.	Coating machine: included dispenser, curing oven, inspection conveyor, flipper	2
24.	Stencil Cleaning Machine	1
25.	Paste mixer	1
26.	Reflow Profiler	1
27.	MOI (Magnetic Optical imager)	2
28.	Dry cabinet	1
29.	Baking Oven	1
30.	Vacuum Sealing	1
31.	Wave Soldering	2
32.	Infeed Conveyor	4
33.	Outfeed Conveyor	4
34.	Laser Marker	2

3.3 Lithium-ion Battery Manufacturing Plant

Scope: Supply of machines for the manufacturing plant of lithium-ion batteries with provision of drawings and layout for machine setup.

The Company has received budgetary quote from Jiangxi Jsolar Technology Co., Ltd. for supply of machineries as follows:



Description	Lithium-ion Battery Manufacturing Plant
Vendor	Jiangxi Jsolar Technology Co., Ltd.
Date of Quotation	December 1, 2024
Validity of Quote	December 1, 2025
Price	USD 2.87 million
Taxes and Duties	Not Included*
Freight	Not Included
Insurance	Not Included
Total Cost in USD	USD 2.87 million
Total Cost in INR	INR 249.97 million**

* Customs Duty and GST, as applicable, for import of equipment have not been considered as the Company proposes to avail benefits under the Manufacturing and Other Operations in Warehouse Regulations ("MOOWR") and the Export Promotion Capital Goods ("EPCG") scheme of the Government of India.

**Exchange rate considered as 1 USD = 87 INR.

The main components of the lithium-ion battery manufacturing plant are as follows:

Sr. No.	Machine Name	Component Name	Quantity
1.	Grading Machine 6V100A	Cells Grading Machine 40 Channel	60
2.	6V60A	Cells Grading Machine 32Channel	45
3.	Battery Ageing machine	60V30A 10 Channel	30
4.	Battery Ageing machine	120V100A 8 Channel	25
5.	(6+1 channels) Sorting machine	Sorting cabinet	1
6.		Controller	1
7.		Computer host, software	1
8.		OCV(Open circuit voltage) testing software	1
9.		Internal resistance tester	1
10.		QR code scanner	1
11.	Plasma cleaning for cell Surface	Cell Surface cleaning before Glueing	1
12.	Automatic Compression for steel strip	Squeezing and bundling Cabinets	1
13.		PLC controlling system	1
14.		1T electric cylinder	1
15.		Control system + touch screen	1

Sr. No.	Machine Name	Component Name	Quantity
16.	Transfer line gantry crane	3 meters X 5 meters	1
17.	Welding segment line body	Double layered speed chain Line	25
18.		Pallet elevator	2
19.		Station stopper	14
20.		Station lifting	4
21.		Lamp holder, SOP holder, material tool holder	1
22.		Tray positioning stopper	14
23.		Fixture tray	14
24.		NG translation exclusion and online launch	2
25.		NG transplanting material Truck	2
26.	Polarity detection, addressing, and scanning station	Cabinet	1
27.		CCD visual positioning Module	1
28.		Industrial computer + display	1
29.		Control software system	1
30.		QR code scanner	1
31.	Bus Bar cleaning machine-Laser	100W Laser cleaning machine for BUS BAR	1
32.	Pole laser cleaning station	3-axis welding cleaning Cabinet	1
33.		1000W fiber laser	1
34.		Galvanometer	1
35.		Cold water tank	1
36.		Cleaning software system	1
37.		Industrial computer + display	1
38.		Jacking positioning Mechanism	1



4.0. Utilities:

Utilities are proposed to be deployed in common for the three manufacturing plants of solar panels, solar inverter and Lithium-ion batteries.

The main component of the utilities are as below:

Sr. No.	Description of utilities
1	DM (De-Mineralised) Water Plant
2	RO (Reverse Osmosis) Water Plant
3	ETP (Effluent Treatment Plant) and STP (Sewage Treatment Plant)
4	Pump House 50 ft x 15 ft
5	Clean Room (With Fall Ceiling & Dust Free Flooring)
6	Air Conditioning System A. Chillers B. Pumps C. Cooling Towers D. Air handling Unit E. Chilled Water Piping & Accessories F. Condenser Water Piping & Accessories G. Ducting with All required Accessories
7	Air Compressor System A. Air Compressor B. Air Dryer unit C. Pre line filter D. Post line filter E. Activated carbon line filter F. Vertical Air receiver Tank
8	Diesel Generator Sets A. 1010 KVA DG (Diesel Generator) Sets without Acoustic Enclosure B. 2000 KVA DG (Diesel Generator) Sets without Acoustic Enclosure C. Acoustic Enclosures
9	Industrial Uninterrupted Power Supply (UPS) System A. Online UPS - 500KVA B. Batteries (For 15 minutes backup with each 500KVA)
10	Electrical System A. Transformer - 3500 KVA B. HT (High Tension) panel (1 In -3 Out) C. LT (Low Tension) Panel D. UPS (Uninterruptible power Supply) panel E. Emergency Panel



5.1. Demineralised Water (“DM”) Plant

Scope: Supply installation and Commissioning of DM Water Plant.

The Company has received a quotation from Aries Pre Fab Private Limited for the above scope as follows:

Vendor	Aries Pre Fab Private Limited
Date of Quotation	November 20, 2024
Validity of Quote	November 20, 2025
Price	INR 0.78 (million)
Taxes and Duties	INR 0.14 (million)
Freight	Not Included
Insurance	Not Included
Total Cost	INR 0.92 (million)

5.2. Reverse Osmosis (“RO”) Water Plant

Scope: Supply installation of RO water plant and commissioning.

The Company has received a quotation from Aries Pre Fab Private Limited for the above scope as follows:

Vendor	Aries Pre Fab Private Limited
Date of Quotation	November 20, 2024
Validity of Quote	November 20, 2025
Price	INR. 1.14 (million)
Taxes and Duties	INR 0.20 (million)
Freight	Not Included
Insurance	Not Included
Total Cost	INR 1.34 (million)

5.3. Effluent Treatment Plant(“ETP”) And Sewage Treatment Plant (“STP”)

Scope: Supply installation and commissioning of ETP and STP.

The Company has received a quotation from Aries Pre Fab Private Limited for the above scope as follows:



Vendor	Aries Pre Fab Private Limited
Date of Quotation	November 20, 2024
Validity of Quote	November 20, 2025
Price	INR. 7.50 (million)
Taxes and Duties	INR 1.35 (million)
Freight	Not Included
Insurance	Not Included
Total Cost	INR 8.85 (million)

5.4. Pump House

Scope: Construction of pump house (50 ft x 15 ft) with installation and commissioning of pumps.

The Company has received a quotation from Aries Pre Fab Private Limited for the above scope as follows:

Vendor	Aries Pre Fab Private Limited
Date of Quotation	November 20, 2024
Validity of Quote	November 20, 2025
Price	INR. 1.50 (million)
Taxes and Duties	INR 0.270 (million)
Freight	Not Included
Insurance	Not Included
Total Cost	INR 1.77 (million)

5.5. Clean Room (With fall ceiling and dust free flooring)

Scope: Development of clean room with false ceiling and dust free flooring of area 75000 square feet.

The Company has received quotations from Aries Pre Fab Private Limited for the above scope as follows:

Vendor	Aries Pre Fab Private Limited
Date of Quotation	November 20, 2024
Validity of Quote	November 20, 2025
Price	INR 30.75 (million)
Taxes and Duties	INR 5.54 (million)
Freight	Not Included
Insurance	Not Included
Total Cost	INR 36.29 (million)

5.6. Air Compressor System with Accessories

Scope: Supply installation commissioning of air compressors (Quantity:3), Air Dryer unit(Quantity:3), Pre Line Filters (Quantity:3), Post Line Filters(Quantity:3), Carbon line filters (Quantity:3) and Vertical Air Receiver Tank of 5 m³ (Quantity:1).

The Company has received quotations from Briltech Equipments Private Limited for the above scope as follows:

Vendor	Briltech Equipments Private Limited
Date of Quotation	November 20, 2024
Validity of Quote	November 20, 2025
Price	INR 6.29 (million)
Taxes and Duties	INR 1.10 (million)
Freight	Not Included
Insurance	Not Included
Total Cost	INR 7.39 (million)

5.7. Air Conditioning System

Scope: Supply, installation and commissioning of air conditioning system including chillers (Quantity: 11), condenser pump set (Quantity: 12), primary chilled water pump set (Quantity: 10), secondary chilled water pump set (Quantity:9) cooling tower (Quantity:10), air handling unit (Quantity:45), chilled water piping and accessories, condenser water piping and accessories and ducting with all required accessories.

The Company has received quotations from Green Aircon for the above scope as follows

Vendor	Green Aircon
Date of Quotation	November 21, 2024
Validity of Quote	November 21, 2025
Price	INR 114.82 (million)
Taxes and Duties	INR 20.67 (million)
Freight	Not Included
Insurance	Not Included
Total Cost	INR 135.49 (million)

5.8. Diesel Generator (“DG”) Set

Scope: Supply of 2000 KVA (Quantity: 4), 1010 KVA (Quantity: 1), 415 kV, prime duty, radiator cooled, silent type, SGPL make diesel generator powered with Baudouin Engines and Stamford/Leroy Somer make alternator with supply of acoustic enclosures (Quantity: 5).

The Company has received quotations from Sterling Green Power Solutions Private Limited for the above scope as follows:



Vendor	Sterling Green Power Solutions Private Limited
Date of Quotation	November 21, 2024
Validity of Quote	November 16, 2025
Price	INR 78.85 (million)
Taxes and Duties	INR 14.19 (million)
Freight	Not Included
Insurance	Not Included
Total Cost	INR 93.04 (million)

5.9. Uninterrupted Power Supply (UPS) System

Scope: Supply of 500 KVA high-performance IGBT/PWM based true-on-line double conversion microprocessor controlled uninterrupt power supply system suitable for parallel configuration (Quantity: 8 sets) with lead acid battery for 15 minutes backup (Quantity: 8 sets) along with accessories like inter module connectors, battery racks, 10 meter distance direct current cable, BCB etc.

The Company has received quotations from Riello India Private Ltd for the above scope as follows:

Vendor	Riello India Private Ltd
Date of Quotation	November 20, 2024
Validity of Quote	November 20, 2025
Price	INR 40.00 (million)
Taxes and Duties	INR 14.19 (million)
Freight	Included
Insurance	Included
Total Cost	INR 49.14 (million)

5.10. Electrical systems

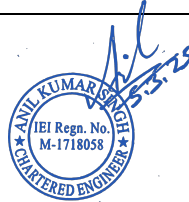
Scope: Supply and Installation of 33 KV/415V, 3500KVA Transformer with OLTC (Quantity: 3), HT panel 33kV-1 incomer, 3 outgoing (Quantity: 1), LT panel (Quantity: 1), cable for HT and LT panels (Quantity: 1), UPS panel (Quantity: 1), Emergency Panel (Quantity: 1), domestic wiring and cable tray with accessories (Quantity: 1) and labour.

The Company has received quotations from Global Electrical & Controls Private Limited for the above scope as follows:



SUNRISE ENGINEERS

Vendor	Global Electrical & Controls Private Limited
Date of Quotation	November 20, 2024
Validity of Quote	November 20, 2025
Price	INR 146.00 (million)
Taxes and Duties	INR 26.280 (million)
Freight	Not Included
Insurance	Not Included
Total Cost	INR 172.28 (million)



6.0. IT Infrastructure

6.1. Information technology (“IT”) infrastructure for the manufacturing plants of solar panels, solar inverter and lithium-ion battery at the Proposed Project site.

Scope:

1. Design and Implementation of IT/OT Network & Backup
2. Network Design
3. Network Requirements Analysis: Requirements Analysis for Operations, Maintenance, IT, and Engineering, requirements, manufacturing process flows, interoperability requirements, functional zones, planned expansions, etc.
4. Logical Design Elements
5. Network Implementation
6. Network Implementation Plan
7. Network Hardware
8. Switch Configurations
9. Physical Infrastructure Installation Services
10. Test Plan Development
11. Commissioning, Start-up, and Acceptance Testing
12. Network Design Package Updates
13. The logical design drawings, VLAN schema, IP Addressing schema, and hardware port maps will be updated to show the final as-built information.
14. Backup Software Implementation
15. Hardware and Software

The Company has received quotations from Calcify IT Solutions Private Limited for the above scope as follow:

Vendor	Calcify IT Solutions Private Limited
Date of Quotation	November 25, 2024
Validity of Quote	November 25, 2025
Price	INR 4.50 (million)
Taxes and Duties	INR 0.81 (million)
Freight	Not Included
Insurance	Not Included
Total Cost	INR 5.31 (million)



Annexure VII

7.0. Freight

Scope: Freight forwarding, clearance, unloading, handling and move in positioning charges for import machinery of solar panels, solar inverter and lithium-ion battery manufacturing line.

The Company has received quotations from Swift Air Transpeed Private Limited for the above scope as follows:

Vendor	Swift Air Transpeed Pvt. Ltd.
Date of Quotation	December 20, 2024
Validity of Quote	December 20, 2025
Price:	INR 104.25 (million)
Taxes and Duties	INR 18.76 (million)
Freight	Not Applicable
Insurance	Not Included
Total Cost	INR 123.01 (million)

*** END OF PROJECT REPORT ***

