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File No.: VIS(2024-25)-PL270-232-304 **Dated: 06-09-2024**

LENDER'S INDEPENDENT ENGINEER's REPORT

OF

3.53 MWp (DC) GRID CONNECTED GROUND MOUNTED SOLAR POWER PLANT

PROPOSED TO BE SET-UP AT

VILLAGE GIRRAJSAR, TEHSIL GAJNER, KOLAYAT, DISTRICT-BIKANER, RAJASTHAN

DEVELOPER:

M/S TAN FARMS AND RESORTS PRIVATE LIMITED

- 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

REPORT PREPARED FOR

STATE BANK OF INDIA, SME SOUTH EXTENSION, NEW DELHI

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PART A — REPORT SUMMARY

1.	**Name of the Project**	3.53 MWp Grid Connected Gound Mounted Solar Power Plant
2.	**Project Location**	M/s TAN Farms and Resort Private Limited at Village Girrajsar, Tehsil Gajner, Kolayat, District-Bikaner, Rajasthan
3.	**Seller Company**	M/s TAN Farms and Resort Private Limited
4.	**Buyer**	Jodhpur Vidyut Vitaran Nigam Limited
5.	**Prepared for Organization**	State Bank of India, SME South Extension, New Delhi
6.	**LIE Consultant Firm**	M/s. R.K. Associates Valuers & Techno Engineering Consultants (P) Ltd
7.	**Work Oder Details**	Via E-mail dated 29-07-2024
8.	**Capacity (DC)**	3.53 MW
9.	**Capacity (AC)**	2.52 MW
10.	**Location GPS Co-ordinates**	27°44'24.4"N 72°31'52.8"E
11.	**Current Status**	Project has not started yet.
12.	**Date of Survey**	*Not applicable*
13.	**Date of Report**	06-09-2024
14.	**Details & documents provided by**	Company
15.	**Report Type**	Lender's Independent Engineering Report
16.	**Purpose of the Report**	Review of Project cost, CUF and Irradiation Data, current status to facilitate bankers to take business decision on the Project
17.	**Scope of the Report**	To review Project cost and examine the current status of installation/ Commissioning of the Project
18.	**Documents produced for Perusal**	a. Copy of Power Purchase Agreements (PPAs) b. Copy of Plant Layout c. Copy of PV Syst reports
19.	**Annexure with the Report**	• Benchmark Cost by MNRE • Market Comparables • Global Solar Atlas by World Bank Group

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PART B INTRODUCTION

1. **NAME OF THE PROJECT:** 3.53 MW_{DC} Grid Connected Ground Mounted Solar Power Plant in RESCO Model to be installed at M/s Village Girrajsar, Tehsil Gajner, Kolayat, District-Bikaner, Rajasthan.

2. **PROJECT OVERVIEW:** M/s TAN Farms and Resort Private Limited having registered office at SG-42, Royal Plaza, Central Spine Road, Vidhyadhar Nagar, Jaipur, Rajasthan- 302039, is an "Solar Power Generator or SPG" which was selected as Solar Power Generator for implementation of Solar Power Project under Pradhan Mantri Kisan Urja Suraksha Jevem Utthan Mahabhiyan (PM-KUSUM) Scheme Component C (Feeder Level Solarization).

   As per copy of letter of award JDVVNL/CE(HQ)/SE(RA&C)/RE-DSM/TN-DSM-37/LOANo.283/D.4195 dated 15-03-2024 from Superintending Engineer (RA&C), JDVVNL Jodhpur, M/s Khinv Singh Bhati, Bikaner has received award for design, survey, supply, installation, testing, commissioning, operation & maintenance for 25 years from Commercial Operation Date (COD) of grid connected solar power Plant(s) through RESCO mode, for solarization of agriculture consumers connected on 11 kV feeders of the GSS, under KUSUM Scheme-Component C (Feeder Level Solarization) in JDVVNL against TN-DSM-37 at Girrajsar Sub-station for 2.52 MW (AC) capacity of solar plant.

   Further, M/s Khinv Singh Bhati, Bikaner Incorporated Solar Power Generator (SPG) named as M/s Tan Farms and Resorts Private Limited.

   As per information provided by the company, Power Purchase Agreement is under process. However, draft copy of PPA is shared with us. **M/s TAN Farms and Resorts Private Limited** Shall sign Power Purchase Agreement (PPAs) with **Rajasthan Urja Vikas and IT Services Limited, (Formerly known as Rajasthan Urja Vikas Nigam Limited/ RUVNL)** on behalf of **Jodhpur Vidyut Vitaran Nigam Limited** for Design, Manufacture, Supply, Erection, Testing and Commissioning including Warranty, Operation & Maintenance of ground solar power plant having AC capacity of **2.52 MWp for 25 years** of plant operation/ PPA tenure.

   As per details dated 29th July 2024 shared by the company, the total project cost is estimated at a price of Rs. 13.23 Cr. including duties and taxes. M/s TAN Farms and Resorts Pvt. Ltd. has approached SBI for credit facility to construct these plants who have in turned appointed M/s R.K Associates Valuers & Techno Engineering Consultants Pvt. Ltd. as Lenders Independent Engineer for a specific scope of work.

As per information shared by the company, presently physical work has not started yet. Thus, our scope of work includes only review & comment on total Project cost, CUF and Irradiation Data.

RESCO Model: -

MNRE had 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 enter 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-in tariff (FiT)

approved by the State Electricity Regulator under relevant schemes issued by the relevant state.

3. **SCOPE OF THE REPORT:** To verify and review the Project cost, CUF and Irradiation Data of the Solar Power Plants set-up/ being set-up by M/s TAN Farms and Resorts 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.*
   - *Location feasibility is ascertained based on the PVSyst Report provided by the client.*
   - *Any kind of technical & economic feasibility of the Project is out-of-scope of this Report.*

   All the assessment carried out for the Project is done based on the documents and information provided to us and various other discussions with the Project proponents and thus forming an opinion out of it.

   Project assessment is done in totality and not component wise unless otherwise mentioned.

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. **METHODOLOGY ADOPTED:**
   a. To gather relevant data/ information/ documents related to Project planning, execution, current status.
   b. Study of copy of Project Planning documents/ Agreements to know the scope of work of the company.
   c. To procure, study and analysis of any additional information, data, and documents required/ provided by the company.
   d. Research about the Project/ sector from the sources in the public domain.
   e. Correlation of the provided information against Industry/ sector benchmarks/ trend.
   f. Information compilation, analysis and reporting.

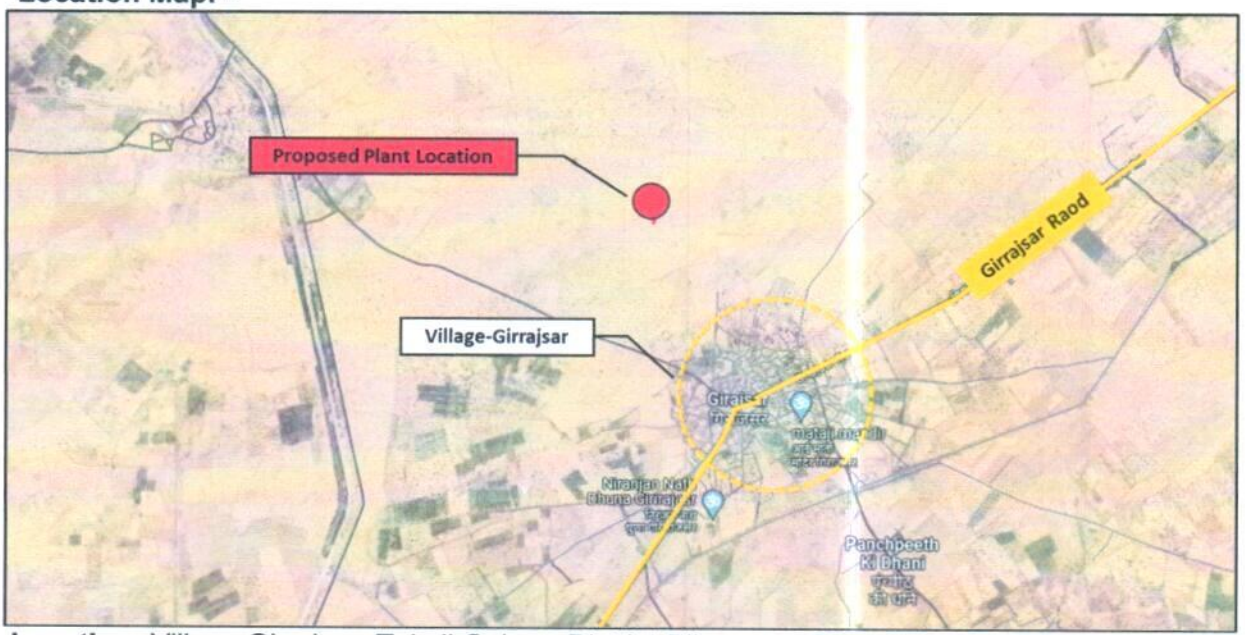
PART C PROJECT DETAILS

As per information provided by the company's management, the proposed project shall be installed on leasehold land. Company has not signed any lease agreement for the land. It is into negotiation with the respective land owners. The proposed land area which shall be acquired for solar plant installation shall be about 10.59 acre. The proposed tentative lease rent is Rs. 32,400/- per acre.

As per the information and copy of documents shared by the management of the company, details of the subject plants have been tabulated below:

S. No.	Offtaker	AC Power (MWp)	DC Power (MWp)
1	Jodhpur Vidyut Vitaran Nigam Limited	2.52	3.53
	Total	**2.52**	**3.53**

Location Map: -



Location: Village Girrajsar, Tehsil Gajner, District-Bikaner **GPS:** 27°44'24.4"N 72°31'52.8"E

Technical parameters/specifications of solar plant to be installed are as follow: -

S. No.	Particular	Specifications
1	No. of Modules	6086
2	Modules Capacity	580 Wp
3	No. of Transformers (IDT)	01 x 2.75MVA
4	Transformers	Tesla Transformers (India) Ltd.
5	No. of Invertors	01
6	Invertor Make	Sungrow
7	Inverter AC Output	3300kVA
8	Inverter AC Voltage (Nominal Output)	660V

Please note that the above details, including make and capacity, are tentative, and subject to change during detailed engineering stage

PART D ENERGY YIELD ASSESSMENT

Company has used PVSyst V7.4.8 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:

Annual production probability (kWh):

S. No.	Plant	As per PVSyst (In kWh/kWp/Year)		Performance Ratio (%)	CUF (%)
		P50	P90		
1	Girrajsar	1,839	1,766	82.66%	19%

Estimated Specific Production (kWh/kWp/Year):

S. No.	Plant	As per PVSyst (In kWh/kWp/Year)	As per Global Solar Atlas (In kWh/kWp/Year)
1	Girrajsar	1839	1728.90

Observations and Remarks:

1. As per above inputs and analysis estimated specific production found to be generating slightly less as specified in PVSyst report.

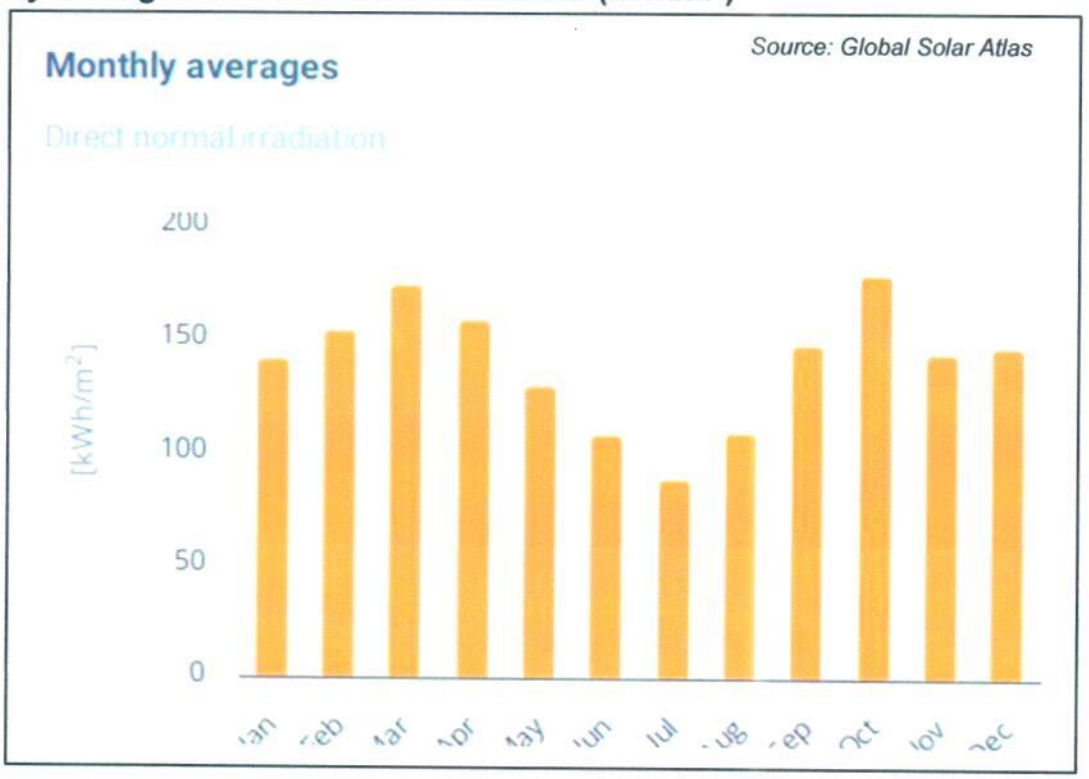
Analysis of Irradiation & PV Output data: In respect to Irradiation & PV Output data, company has provided to us PVSyst Report V7.4.8 in which key Irradiation components and PV Output data is given as enumerated in table below. We have analyzed and compared it with other data source points also such as Solar Resource by Global Solar Atlas of World Bank and ISRO Solar Calculator to confirm its legitimacy as mentioned in table below:

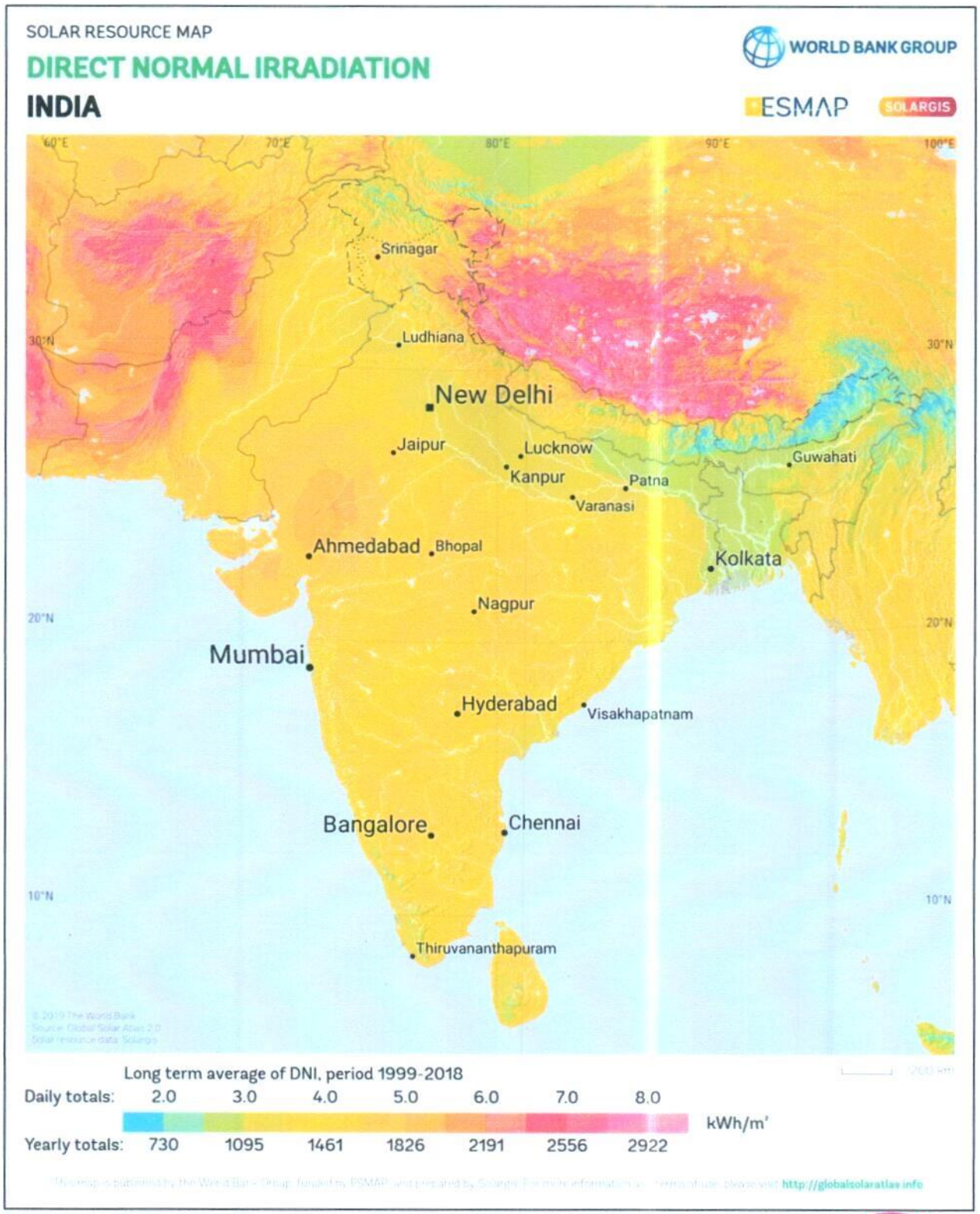
Particulars	As per Global Solar Atlas	As per PVSyst
Global horizontal Irradiation (kWh/m^2)	1997.1	2016.0
Diffuse horizontal Irradiation (kWh/m^2)	885.1	893.0
Direct Normal Irradiation (kWh/m^2)	1685.6	-
Specific Photovoltaic Power Output per year *(kWh/kWp/year)*	1728.9	1839
Annual Global Insolation (ISRO Solar Calculator) (kWh/m2/year)	1600	

Observations and Remarks:

1. As per comparative analysis, PVSyst Irradiation and PV Output data is approximately in line to our analysis from Global Solar Atlas of World Bank and ISRO Solar Calculator with minuscule difference.
2. As per the information provided by the management of the company, the estimated minimum Capacity Utilization Factor (CUF) is **19.00%**.
3. As per details shared by the company, the expected Net Energy Generation is about **5875.33 MWh/year (±5%).** However, actual generation would be affected by weather and maintenance of the plant.
4. As per PVSyst's set programme, plant location is showing as Girrajsar which is same as GPS Co-ordinates provided by the company.

Monthly averages- Direct Normal Irradiation (kWh/m²)





Girrajsar Plant lies above 5.0 daily (1826 annually) Kwh/m².

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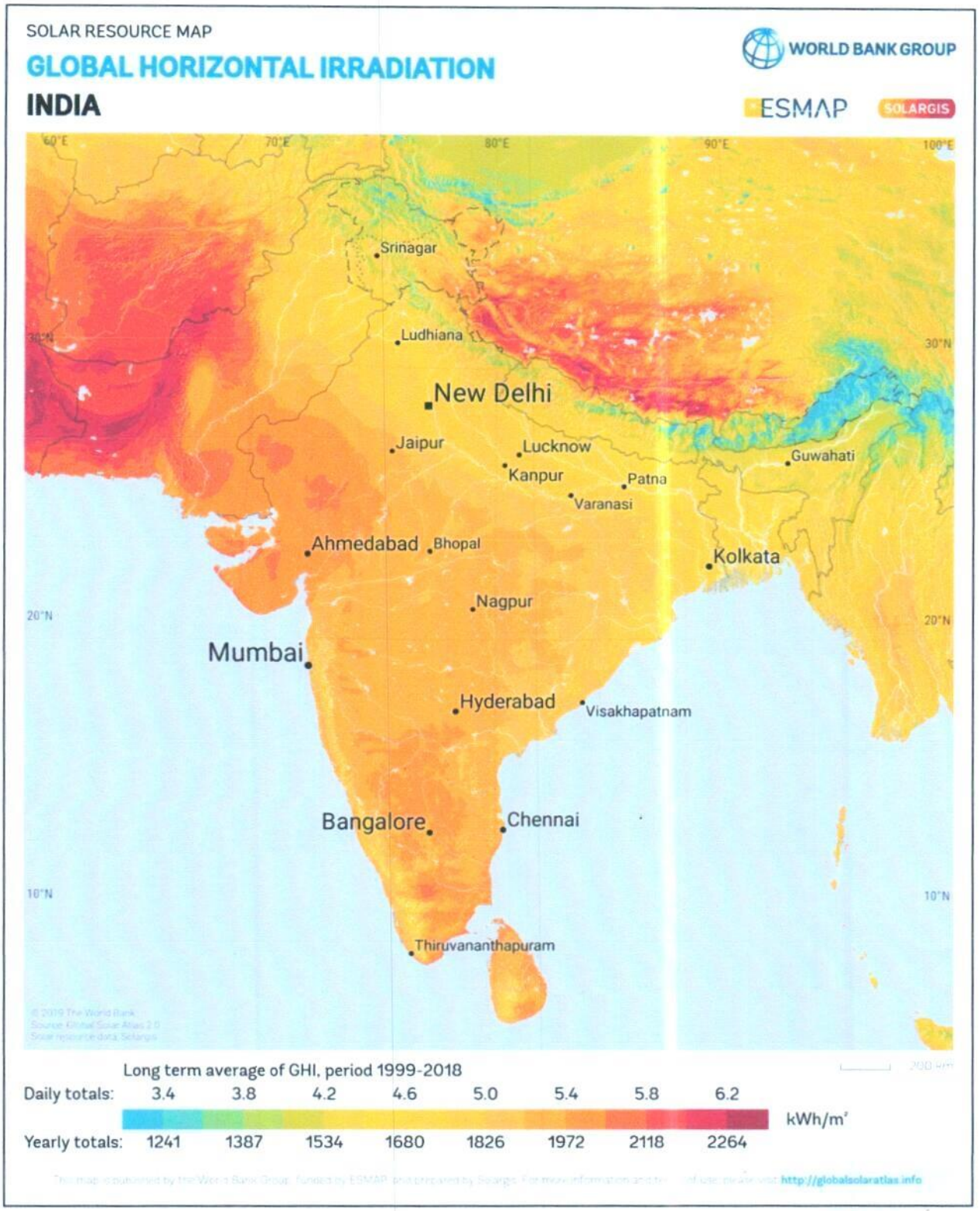
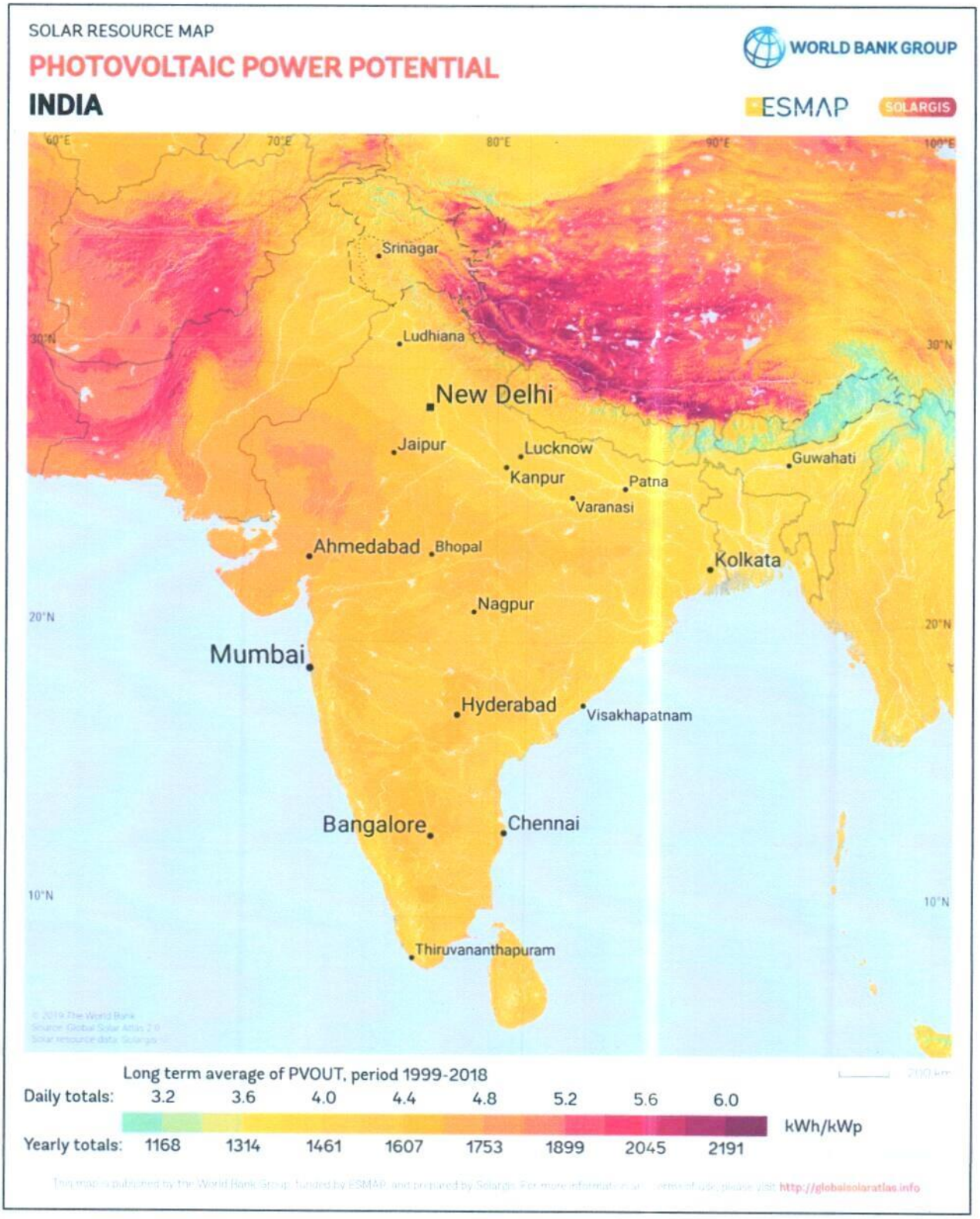


Girrajsar Plant lies above 5.4 daily (1972 annually) Kwh/m².



Girrajsar Plant lies above 4.4 daily (1607 annually) Kwh/m².

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PART E POWER PURCHASE AGREEMENT TERMS

As per the documents provided by the company, the total proposed DC capacity of the solar power plant is 3.53 MWp. As on date, company has received LOA to install the power plant and supply power. Power Purchase agreement is not signed yet. As per information provided by the company's management, the agreement is in process. However, copy of draft PPA is shared with us along with Letter of Award. Details as mentioned in LOA & draft PPA are tabulated below:

S. No.	Particular	AC Capacity (MWp)	Tariff (Rs. /Unit)	Minimum Energy Generation (Million Units)	Tenure
1	Girrajsar (3.53 MW DC)	2.52	2.97	4.194 MU	25 Years
	Total	**2.52**			

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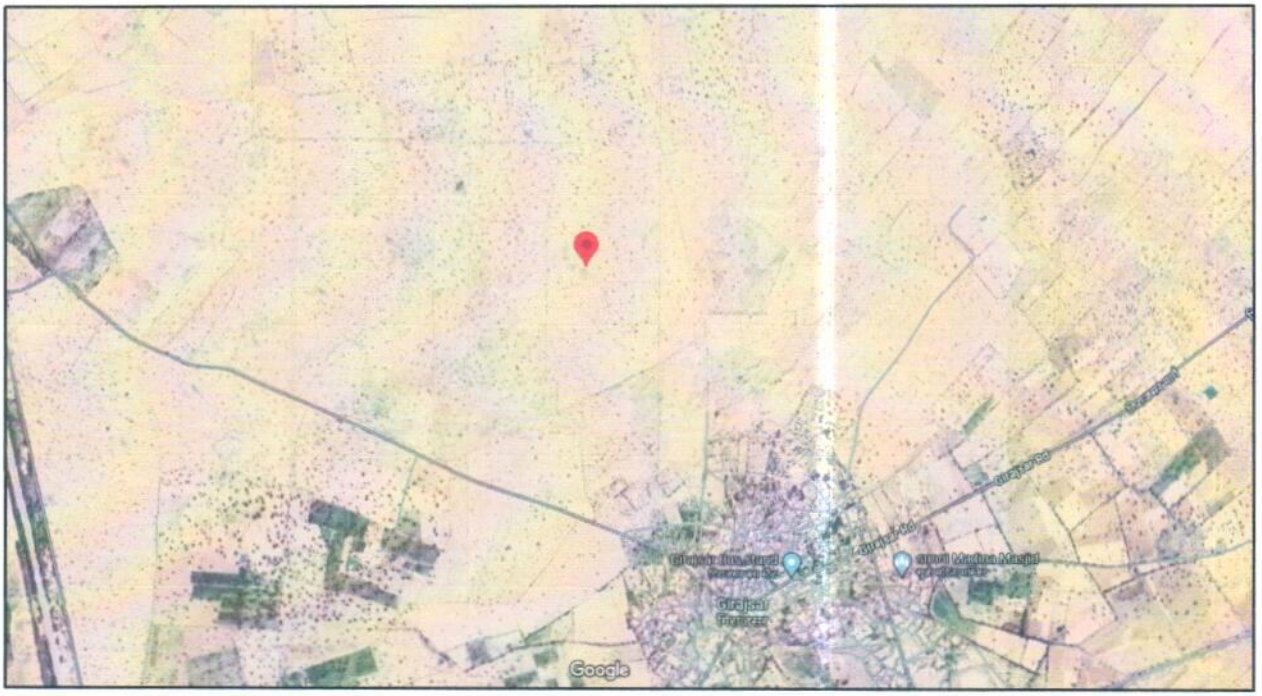
PART F — CURRENT STATUS OF WORK

As per information shared by the company officials, Solar Plant installation work is not begun yet. Therefore, physical inspection of the plant was not conducted from our end. Hence, we have analyzed the plant location area via Google Map for its whereabouts and shading.

Please refer to the image attached below: -



From google imaginary tool, no major shadow or obstruction is found on ground which may block the Direct Sunlight.

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PART G PROJECT COST & EXPENDITURE

1. **PROJECT COST:** As per details shared by the company, the total project cost for installation of 3.53 MW solar project is Rs. 13.23 Cr. including GST.

   As per details provided, company is in process to offload the supply, installation, testing, commissioning of the plant to its subsidiary company named as Avengers Rays Solar Private Limited (ARSPL). Company has shared 02 nos. of quotations from ARSPL for supply of Solar Modules & balance of plant works.

   Details of the same are as follows: -

S. No.	Date	Ref. No.	Particulars	Amount (Inclusive of GST)
1	18-07-2024	Kusum/Supply Contract/001	Supply of Solar Modules for 3.53 MWdc	Rs. 7.00 Cr.
2	18-07-2024	Kusum/Supply and Installation Contract/002	Award for the Balance of Plant Works	Rs. 5.64 Cr.
Total Amount to be paid to Avengers Rays Solar Private Limited				**Rs. 12.64 Cr.**
Total Project Cost				**Rs. 13.23 Cr.**
Per kW Cost				**Rs. 37,479/-**

Scope of work

- Testing & Supply of Solar Modules;
- Supply of all equipment (other than Solar PV Modules) for the 3.53 MWdc Solar Project;
- Make arrangements for infrastructure for development of the Project and for Connectivity with the 33/11 kV sub-station for confirming the evacuation of power by the Scheduled Commissioning date or COD, whichever is earlier, and all clearances related thereto;
- Obtaining all Consents, Clearances and Permits as required and maintaining all documents;
- Designing, constructing, erecting, commissioning, completing and testing the Power Project in accordance with the applicable Law, the Grid Code, the terms and conditions of the LOA, PPA and Prudent Utility Practices;
- Commencement of supply of power up to the Contracted Capacity to JDVVNL no later than the Scheduled Commissioning date;
- Connecting the Power Project switchyard with the Interconnection Facilities at the Delivery Point. Make adequate arrangements to connect the Power Project switchyard with the Interconnection Facilities at Interconnection / Metering / Delivery Point. Laying of dedicated 33 kV line from Solar Power Plant to sub-station, construction of bay and related switchgear & metering equipment at sub-station where the plant is connected to the grid and metering is done;
- Coordinate and dealing with JDVVNL / RUVITL, and other authorities in all respects;
- Ensure the adherence to all applicable rules regarding project registration with the State Nodal Agency (JDVVNL) in line with the provisions of the applicable policies / regulations of the State of Rajasthan;

Observations and Remarks:

a. Project cost calculated on the basis of the Benchmark Cost provided by the MNRE has been tabulated below:

S. No.	Particulars	Benchmark Cost (In Rs. /kW)	Project Capacity (In MW)	Total Project Cost (Excluding GST) (In Rs.)	Total Project Cost (Including ~14% GST) (In Rs.)
1	As per Ministry of New & Renewable Energy	35,886*	3,530	12,66,77,580	14,41,59,086
					~Rs. 14.42 Cr.

**Benchmark cost for 2021-22 Excludes GST*

b. Project cost calculated on the basis of market comparable:

S. No.	Particulars	Including GST Per KW Cost (In Rs.)	Remark
1	Subject project installation cost	37,479	As per Company
Market Research Details			
Market Research			
2	Reference- 1	44,564	Refer Annexures
3	Reference- 2	46,088	
4	Reference- 3	40,000	
5	Reference- 4	38,000	
6	Reference- 5	42,247	

c. The overall project cost is slightly lower than that of Benchmark cost.

d. As per our analysis and market research, the installation cost of Solar Power Plant varies from **Rs. 38,000/- per KW to Rs. 46,088/- per KW**. For the smaller setups the price is higher and for large set-up, price is less.

e. The project cost solely depends upon the project location, contractors profit, type of module and its supporting structures, make, etc.

Note:

- *Project cost is analyzed based on lump sum cost only and not item wise.*
- *Project cost is assessed for the date of this report only and due to price fluctuations, it may vary from time to time.*

2. **EXPENDITURE:** Details of expenses incurred till date are not shared with us. Thus, we cannot comment upon expenditure incurred till date on the project.

PART H — EHSS (ENVIRONMENT, HEALTH, SAFETY, AND SUSTAINABILITY) IMPACT

The impact of an industrial ground solar plant on EHSS (Environment, Health, Safety, and Sustainability) can be significant and positive if implemented and managed responsibly. Here are some key considerations:

PARAMETERS	POSITIVE	NEGATIVE	REMARKS
Environmental Impact	Solar Power comes under renewable energy Project. Solar Power Projects generates clean energy and thus contributes in reducing carbon footprints, as otherwise production of the same amount of energy through conventional methods would have required burning of coal which would have led to emission of greenhouse gases in our environment.	None directly from this Project implementation.	Positive
Health and Safety	Non-polluting Project and doesn't involve any industrial hazardous process.	No health and safety impact as such.	None.
Social Impact	Implementation of Solar Project under RESCO model will help reducing power bills of the Project owner which will have positive economic benefit. Increases local employment. Use of diesel generators may be avoided due to uninterrupted power supply through owned power system and thus further helps in keeping pollution and noise free environment. Renewable energy ultimately reduces carbon footprint and thereby provides better health & environment.	None	Positive
Sustainability	Solar energy is a natural resource providing limitless renewable energy. Moreover, since Solar Projects helps in lowering carbon footprints and thus good for our environment. Therefore, it is sustainable for human health and mother earth.	The only issue with Solar Power Project is its availability during peak power demand where its limitation comes for which battery storage can be the only solution but again mass use of battery storage again give rise to pollution due to its manufacturing and its disposal.	More towards positive.

Note: It is crucial to note that the EHSS impact can be influenced by factors such as the design, construction, and ongoing operation and maintenance of the solar plant. Adhering to industry best practices, complying with regulations, and implementing robust EHSS management systems are essential to maximizing the positive impact and minimizing potential risks.

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PART I TRACK RECORD OF EPC CONTRACTOR

As per information shared by the company, M/s TAN Farms and Resorts Pvt. Ltd. is a subsidiary company of The Aright Group. The Aright Group has extensive experience of executing large utility scale projects. Details of some of projects completed, as per details provided by the group are as follows: -

- In 2016-17, the Group strategically partnered with national and foreign direct investors to conceptualize, fund, execute, and operate a 175 MWdc solar project in the Bhadla Solar Park in Rajasthan. The project had a power purchase agreement with NTPC.
- Company had recently finished development of a 400 MWac/ 550 MWdc Solar Park in Bikaner Rajasthan, in collaboration with Brookfield Renewable.
- The group is currently developing two more solar parks. A 400 MWac/ 550 MWdc Solar Park connected to the Bhadla-III ISTS substation and located in Village-Nokh, District Phalodi, Rajasthan, is being developed in collaboration with Brookfield Renewable, and is slated to be commissioned in August 2025.
- The group is developing another 400 MWac/ 550 MWdc Solar Park in Village-Netawaton ki Dhani, District Bikaner, Rajasthan.

PART J	PHOTOGRAPHS

Since the installation work related to solar panels is yet to start and this is just a Desktop LIE based upon documents provided. Thus, Photographs are not available

PART K — OTHER DOCUMENTS & REFERENCES

Market Comparables:

Annexure-1

3.24MWp Roof/Ground Mounted Solar PV Plant – Commercials.

SN	Description	Qty.	Price
1	Solar Panel: multi/Mono-Si, IEC certification, BIS certification and other relevant standard as per Government	3240kWp	Rs. 7,79,68,800 Including duties and taxes
2	Solar Inverter: String inverter with multiple MPPT provision, Outdoor Mounted, IP65 Protection and all relevant standards as per Government	3240kWp	Rs. 1,15,38,800 Including duties and taxes
3	BOS: Module Mounting Structure, DC Cable, AC Cable, LT Panel, Civil material, Conduit, MCS, RMS, Earthing and Protection Systems, Lightning Arrester, Weather Sensor and monitoring system, Metering Unit, Discom approvals etc.	3240kWp	Rs. 4,33,35,500 Including duties and taxes
4	I&C: Supply of civil material, Installation, testing and commissioning of Solar Power plant as per site requirement	3240kWp	Rs. 1,15,43,350 Including duties and taxes
		3240kWp	Rs. 14,43,86,450 Including duties and taxes

- Freight & Transit Insurance: Inclusive
- **Taxes: GST – as per government norms.**
- **Net-metering fee will be paid by consumer**
- Any change in Tax/ Duties shall be borne by the Purchaser
- Excludes-
  - Any approval
  - Anything out of given BOQ

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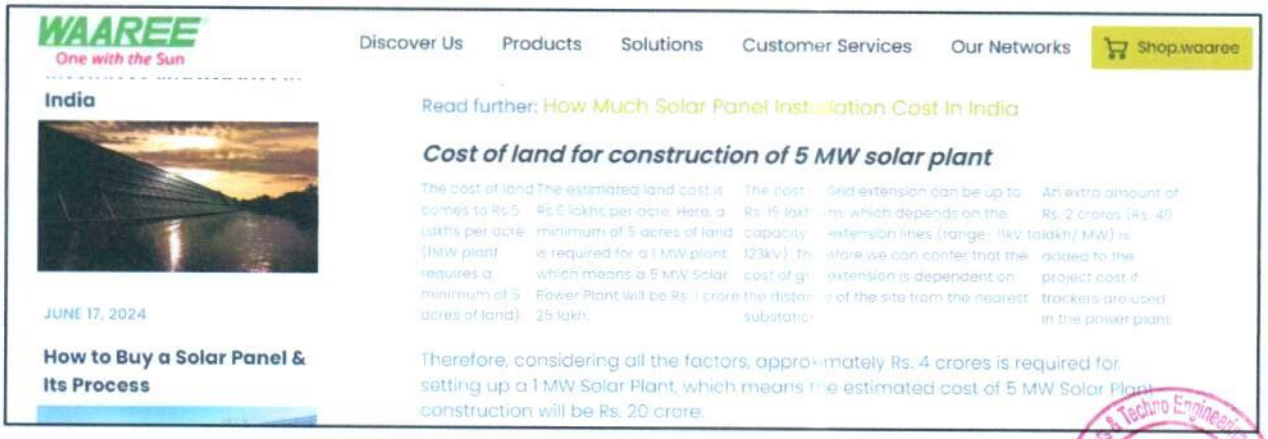
SN	Description	Qty.	Price
1	Solar Panel: multi/Mono-Si, IEC certification, BIS certification and other relevant standard as per Government	1190kWp	Rs. 29,916,000 Including duties and taxes
2	Solar Inverter: String inverter with multiple MPPT provision, Outdoor Mounted, IP65 Protection and all relevant standards as per Government	1190kWp	Rs. 44,32,000 Including duties and taxes
3	BOS: Module Mounting Structure, DC Cable, AC Cable, LT Panel, Civil material, Conduit, MCS, RMS, Earthing and Protection Systems, Lightning Arrester, Weather Sensor and monitoring system, Metering Unit, Discom approvals etc.	1190kWp	Rs. 16,620,000 Including duties and taxes
4	I&C: Supply of civil material, Installation, testing and commissioning of Solar Power plant as per site requirement	1190kWp	Rs. 38,77,174 Including duties and taxes
		1190kWp	Rs. 54,845,174 Including duties and taxes

- Freight & Transit Insurance: Inclusive
- **Taxes: GST – as per government norms.**
- **Net-metering fee will be paid by consumer**
- Any change in Tax/ Duties shall be borne by the Purchaser
- Excludes-
  - Any approval
  - Anything out of given BOQ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India

JUNE 17, 2024

How to Buy a Solar Panel & Its Process

Read further: How Much Solar Panel Installation Cost In India

Cost of land for construction of 5 MW solar plant

The cost of land The estimated land cost is comes to Rs 5 Rs 5 lakhs per acre. Here, a lakhs per acre minimum of 5 acres of land (1MW plant is required for a 1 MW plant, requires a which means a 5 MW Solar minimum of 5 Power Plant will be Rs. 1 crore acres of land). 25 lakh.

The cost Rs. 15 lakh capacity 123kV). Th cost of gr the distan substatio

Grid extension can be up to m, which depends on the extension lines (range: 11kV to lakh/ MW) is afore we can confer that the extension is dependent on of the site from the nearest

An extra amount of Rs. 2 crores (Rs. 40 added to the project cost if trackers are used in the power plant.

Therefore, considering all the factors, approximately Rs. 4 crores is required for setting up a 1 MW Solar Plant, which means the estimated cost of 5 MW Solar Plant construction will be Rs. 20 crore.

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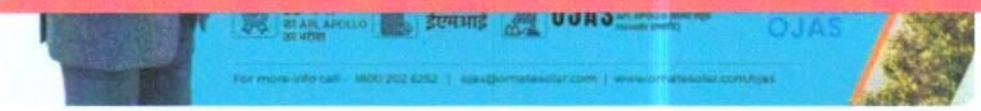
ORNATE Solar

InRoof Solution Our Products



Cost of a 5 MW Solar Plant

The price of your solar plant hinges on various factors like the equipment brand, where it's placed, how the panels are positioned, your roof's style, and the type of installation.

Plus, the system type matters too. For instance, off-grid or hybrid PV setups can be pricier because they need battery backup.

But if we consider the average price of a 5 MW solar plant, it would typically fall in the range of **₹36-39/watt**. So, your total system cost can be anywhere between **₹18-₹19.5 crores**.

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01143536666
www.clean-hedge.com

ANNEXURE B: LAND + INFRASTRUCTURE

PROJECT COST

#	Commercial Particulars	Unit (MWp)	Total INR
1	Supply of 3.3 MWp Solar PV Plant with a fix tilted structure	3.3	13,69,50,000 (excluding GST)

R.K. Associates Valuers & Techno Engineering Consultants Pvt. Ltd.

Data by Global Solar Atlas by World Bank Group

GLOBAL SOLAR ATLAS
BY WORLD BANK GROUP

Girajsar
27.740111°, 072.531333°
Girajsar, Rajasthan, India
Timezone: UTC+05:30, Asia/Kolkata [IST]

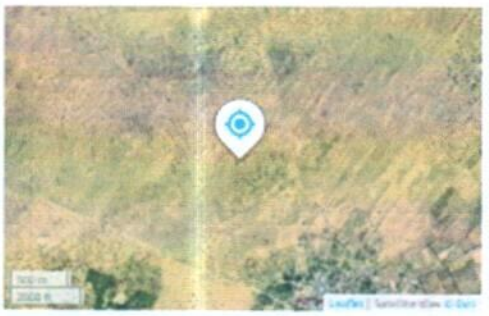
Report generated: 5 Aug 2024

SITE INFO

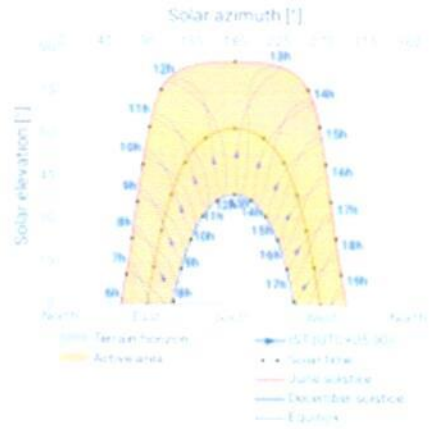
Map data

		Per year
Specific photovoltaic power output	PVOUT specific	1728.9 kWh/kWp
Direct normal irradiation	DNI	1685.6 kWh/m²
Global horizontal irradiation	GHI	1997.1 kWh/m²
Diffuse horizontal irradiation	DIF	885.2 kWh/m²
Global tilted irradiation at optimum angle	GTI opta	2231.0 kWh/m²
Optimum tilt of PV modules	OPTA	30 / 180
Air temperature	TEMP	26.9 °C
Terrain elevation	ELE	N/A

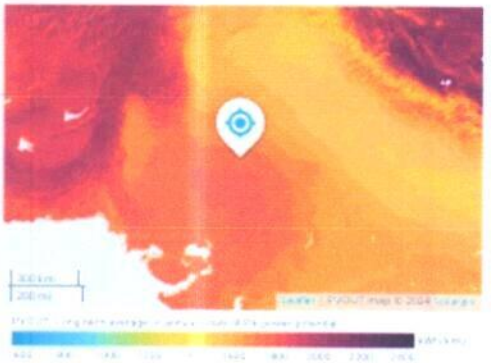
Map



Horizon and sunpath

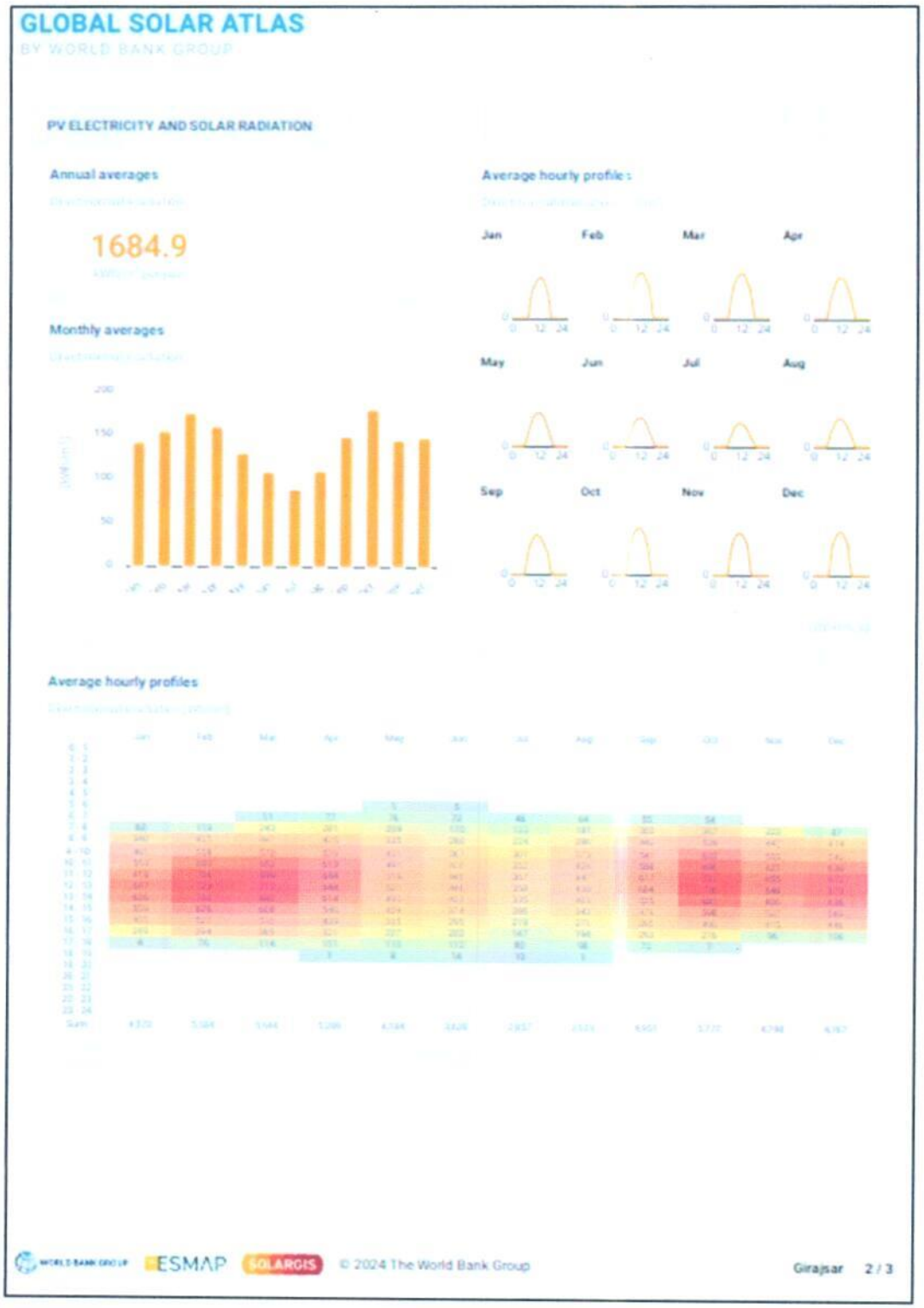


PVOUT map



Girajsar 1 / 3

R.K.Associates Valuers & Techno Engineering Consultants Pvt. Ltd.



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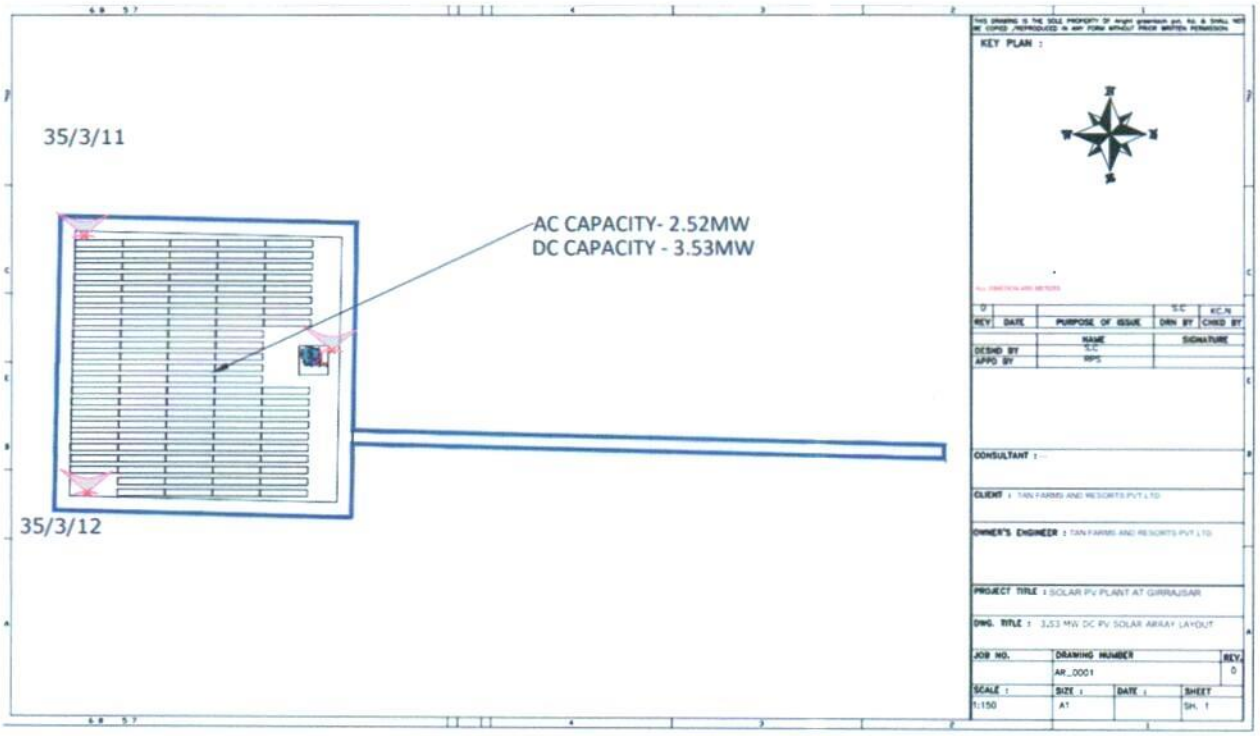
Solar Plant Diagram



RK Associates Valuers & Techno Engineering Consultants Pvt. Ltd.

Draft Copy of PPA

This Power Purchase Agreement is made on the _____day of _____2024 at **Jaipur**.

BETWEEN

M/S Tan Farms and Resorts Private Limited (Company registered under Companies Act 2013) selected as Solar Power Generator for implementation of Solar Power Project with associated 0 kV line under **Pradhan Mantri Kisan Urja Suraksha evem Utthan Mahabhiyan (PM-KUSUM) Scheme Component C (Feeder Level Solarization)**, having registered office / address at SG-42, Royal Plaza, Central Spine Road, Vidhyadhar Nagar, Jaipur, Rajasthan- 302039 (hereinafter referred to as "**Solar Power Generator or SPG**", which expression shall, unless repugnant to the context or meaning thereof, be deemed to include its successors and permitted assigns) as a Party of the **First Part**;

AND

RAJASTHAN URJA VIKAS AND IT SERVICES LIMITED, (Formerly known as **RAJASTHAN URJA VIKAS NIGAM LIMITED/ RUVNL)**, a company incorporated under the companies Act 2013, having Registered / Head Office at Vidyut Bhawan, Jan Path, Jaipur (hereinafter referred to as "RUVITL", is an authorized representative of Rajasthan DISCOMs to effect Bulk Power Purchase on behalf of DISCOMs), as a Party of the **Second Part**;

ON BEHALF OF

JODHPUR VIDYUT VITARAN NIGAM LIMITED a company incorporated under the Companies Act 1956, having its registered office at New Power House Jodhpur (hereinafter referred to as '***JDVVNL***' which expression shall, unless repugnant to the context or meaning thereof, be deemed to include its successors and assignees).

The SPG and RUVITL are individually referred to as 'Party' and collectively referred to as 'Parties'.

WHEREAS:

A. The Ministry of New and Renewable Energy (MNRE) has launched guidelines for feeder level solarization under Component C of PM KUSUM Scheme on 04th Dec 2020.

B. To address land identification, its procurement and associated cost to boost decentralized distributed solar generation under PM-KUSUM Component C (Feeder Level Solarization), Hon'ble Energy Minister of Govt. of Rajasthan launched Saur Krishi Ajivika Yojna (SKAY) on 17.10.2022.

C. The developed portal act as a facilitator where interested farmers / land-owners and SPG can collaborate to arrange land for a solar power plant on RESCO mode in the vicinity (preferably within 5 KMs radius) of identified 33/11 kV substations of Rajasthan Discoms as envisaged under PM-KUSUM Component C (Feeder Level Solarization).

D. JDVVNL initiated a selection process for Solar Power Generator (SPG) to set up 233.34 MW (AC) solar power plant through RESCO mode and procurement of power generated from the solar power plant as per the terms and conditions contained in the RfS NIT No.: JdVVNL/SE(RA&C)/ TN-DSM- 37 dated 14.08.2023.

E. The SPG has been selected for the work of design, survey, supply, installation, testing, commissioning, operation & maintenance for 25 years (unless extended by both the parties on mutual agreement) from COD of grid connected solar power plants through RESCO mode, its associated 0 kV line to connect the plant various 33/11 kV sub- stations and Remote Monitoring System (RMS) of solar power plants for solarization of agriculture consumers connected on 11 kV feeders of **Girrajsar Girrajsar GSS** in JDVVNL

PART L — 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.
6. In case of any default in loans or the credit facility extended to the borrowing company, R.K Associates shall not be held responsible for whatsoever reason may be and any request for seeking any explanation from the employee/s of R.K Associates will not be entertained at any instance or situation.
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.
9. All Pages of the report including annexures are signed and stamped from our office. In case any paper in the report is without stamp & signature then this should not be considered a valid paper issued from this office.

10. Though adequate care has been taken while preparing this report as per its scope, but still we can't rule out typing, human errors, over sightedness of any information or any other mistakes. Therefore, the concerned organization is advised to satisfy themselves that the report is complete & satisfactory in all respect. Intimation regarding any discrepancy shall be brought into our notice immediately. If no intimation is received within 15 (Fifteen) days in writing from the date of issuance of the report, to rectify these timely, then it shall be considered that the report is complete in all respect and has been accepted by the client upto their satisfaction & use and further to which R.K Associates shall not be held responsible in any manner.
11. Defect Liability Period is **15 DAYS**. We request the concerned authorized reader of this report to check the contents, data and calculations in the report within this period and intimate us in writing if any corrections are required or in case of any other concern with the contents or opinion mentioned in the report. Corrections only related to typographical, calculation, spelling mistakes, incorrect data/ figures/ statement will be entertained within the defect liability period. Any new changes for any additional information in already approved report will be regarded as additional work for which additional fees may be charged. No request for any illegitimate change in regard to any facts & figures will be entertained.
12. R.K Associates encourages its customers to give feedback or inform concerns over its services through proper channel at le@rkassociates.org in writing within 30 days of report delivery. After this period no concern/ complaint/ proceedings in connection with the Lender's Independent Engineering Services will be entertained due to possible change in situation and condition of the subject Project.
13. Our Data retention policy is of **ONE YEAR**. After this period, we remove all the concerned records related to the assignment from our repository. No clarification or query can be answered after this period due to unavailability of the data.
14. This Lender's Independent Engineering report is governed by our (1) Internal Policies, Processes & Standard Operating Procedures, (2) Information/ Data/ Inputs given to us by the client and (3) Information/ Data/ Facts given to us by our field/ office technical team. Management of R.K Associates never gives acceptance to any unethical or unprofessional practice which may affect fair, correct & impartial assessment and which is against any prevailing law. In case of any indication of any negligence, default, incorrect, misleading, misrepresentation or distortion of facts in the report then it is the responsibility of the user of this report to immediately or at least within the defect liability period bring all such act into notice of R.K Associates management so that corrective measures can be taken instantly.
15. R.K Associates never releases any report doing alterations or modifications from pen. In case any information/ figure of this report is found altered with pen then this report will automatically become null & void.

FOR INTERNAL USE

FOR R.K ASSOCIATES VALUERS & TECHNO ENGINEERING CONSULTANTS (P) LTD.		
SURVEYED BY	**PREPARED BY**	**REVIWED BY**
NA	Abhinav Chaturvedi	Vishal Singh

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