YDE SA
(SMC-PRIVATE)
LIMITED

BEFORE THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY

APPLICATION FOR SEEKING GENERATION LICENSEE

ON BEHALF OF

YDE SA SMC Private Limited

Dated: 28-11-2020

Submitted By:

Applicant	Legal Consultants
YDE SA SMC Private Limited 1st Floor 140-CCA Phase V DHA, Lahore, Pakistan Phone: +92 423 2020137 www.yellowdoorenergy.com/pakistan	**Saqlain & Husnain** Advocates & Corporate Counsels 65/3 FCC Gulberg IV, Lahore. 0423-5752306 www.snhlawfirm.com

YDE SA
(SMC-PRIVATE)
LIMITED

To,
THE REGISTRAR
NATIONAL ELECTRIC POWER REGULATORY AUTHORITY
NEPRA Tower Attaturk Avenue (East)
Sector G-5/1, Islamabad
Pakistan

SUBJECT: APPLICATION FOR A GENERATION LICENSE

I, Umer Farooq, Chief Executive Officer, being the duly authorized representative of YDE SA (SMC-Private) Limited by virtue of being the single director, hereby apply to the National Electric Power Regulatory Authority for the grant of a generation license to YDE SA (SMC-Private) Limited pursuant to Section 15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997.

I certify that the documents-in-support attached with this application are prepared and submitted in conformity with the provisions of the National Electric Power Regulatory Authority Licensing (Application and Modification Procedure) Regulations, 1999, and undertake to abide by the terms and provisions of the above-said regulations. I further undertake and confirm that the information provided in the attached documents-in-support is true and correct to the best of my knowledge and belief.

A Pay Order in the sum of Rupees 93,472/- (Ninety-three thousand four hundred and seventy-two), being the nonrefundable license application fee calculated in accordance with Schedule II to the National Electric Power Regulatory Authority Licensing (Application and Modification Procedure) Regulations, 1999, is also attached herewith.

Date: 25-11-2020

Umer Farooq
Chief Executive Officer
YDE SA (SMC-Private) Limited

YDE SA
(SMC-PRIVATE)
LIMITED

Checklist for examination of Application for the Grant of Generation License

Serial No.	Information/Documents required under relevant Regulation of 1999	Information/Documents Submitted
1.	Application for Generation License along with Affidavit, authorization from Single Member and Power of Attorney. Regulation 3 (1)	Attached as Annex I
2.	Application Fee. Regulation 3 (3)	Yes
3.	Application in Triplicate. Regulation 3 (4)	Yes
4.	Certificate of Incorporation. Regulation 5 a(1)	Attached as Annex II
5.	Memorandum and Articles of Association. Regulation 5 a (2)	Attached as Annex III
6.	Detailed Profile and CVs of senior management. Regulation 5 b and c	Attached as Annex IV
7.	Copy of Last filed Annual Return. Regulation 3(5)(a)(iii).	YDE SA SMC-Private Limited is incorporated on 21 September 2020. Mr. Umer Farooq is the Sole Director of the Company. Under Section 130 of Companies Act, 2017 a Single Member Company Annual Return is due after one year of its incorporation.
8.	Cash balance held in reserve along with the bank certificates as required pursuant to Regulation 3(5)(d)(i) of the Regulations.	As mentioned, the project will be executed through a 0% interest loan agreement between YDEL (UAE) and YDE SA has been executed and attached along with Account Maintenance Certificate as Annex V.

9.	Expression of Interest to provide credit or financing along with sources and details thereof as required pursuant to Regulation 3 (5) (d) (ii).	It is submitted that project will be funded by the Applicant itself therefore expression of interest to provide credit/finance is not applicable. The Applicant do not propose to sell power to the national grid and not required to have any sovereign guarantee from government therefore this requirement may kindly be waived.
10.	Latest Financial Statement of the company as required pursuant to Regulation 3(5)(d) (iii).	Since YDE SA has been incorporated in Sep 2020 and does not have a financial history, YDE IRP (the holding company of YDE SA) has entered into a loan agreement with YDEL (UAE) for the execution of this project. Financial statements of YDEL are attached as Annex VI.
11.	Profile of Sub-contractors, if any, along with expression of interest of such sub-contractors as required pursuant to Regulation 3 (5) (d) (v).	The company will get the project executed through an EPC Contractor on turnkey basis. The EPC Contractor for this project is Premier Energy which one of Pakistan's fastest growing solar EPC Company. Premier's profile is attached as Annex VII.
12.	Verifiable references with reference to experience of the Applicant and its Sub-contractors as required pursuant to Regulation 3 (5) (d) (vi).	Reference letters are attached as Annex VIII.

13.	Feasibility study of the project as required pursuant to Regulation 3(5)(h) and 3 (6)(A)(a)(16) of the Regulations.	Attached as Annex IX.
14.	Information regarding Infrastructure (roads, rail, staff colony, amenities) as required pursuant to Regulation 3(6)(A)(a)(7) of the Regulations.	This requirement is not applicable for our Project as solar system will be installed at site of the consumers.
15.	Project cost, information regarding sources and amounts of equity and debt as required pursuant to Regulation 3(6)(A)(a)(8) of the Regulations.	Provided above.
16.	ESSA (Environmental and Social Soundness Assessment) as required pursuant to Regulation 3(6)(A)(a)(10) of the Regulations.	This requirement is not applicable as the project is a small-scale (up to 366 kWp DC) solar generation unit to be installed at consumer premises. Solar (PV) generation is clean energy therefore does not create any environmental hazard.
17.	Safety plans, emergency plans as required pursuant to Regulation 3(6)(A)(a)(11) of the Regulations.	Health and Safety Plan is attached as Annex X.
18.	Plant characteristics: generation voltage, power factor, frequency, automatic generation control, ramping rate, control metering and instrumentation as required pursuant to Regulation 3(6)(A)(a)(13) of the Regulations.	The technical details, to the extent applicable to our project, has already been provided with application for grant of Generation License. Other details such as ramping rate etc. are not applicable to our case.
19.	Prospectus: Prospectus as required pursuant to the Regulation 3(5)(i) of the Regulations. The prospectus is prepared in	Attached as Annex XI

	the manner as defined at sub-Regulation (1)(i) of Regulation 2 of the Regulations.	
20.	ESSA: Environmental and Social Soundness Assessment as required pursuant to Regulation 3(6)(A)(a)(10) of the Regulation.	Attached as Annex XII
21.	Control, metering, instrumentation and protection as required pursuant to Regulation 3(6)(A)(a)(14) of the Regulations.	This information is included in the technical schedule as Annex XIII.
22.	Training and development as required pursuant to Regulation 3(6)(A)(a)(15) of the Regulations.	Not applicable. Our Proposed solar (PV) generation units will be will be operated and maintained by our trained and experience staff therefore training etc. to the buyer/consumer is not applicable.

ANNEX I

Application for Generation License along with Affidavit, Authorization from Single Member, Application Fee and Power of Attorney

Application for the Grant of Generation License

1. Background

a. YDE SA (SMC Private) Limited was incorporated on September 21, 2020 under Section-32 of the Companies Ordinance, 1984, with corporate universal identification No. 0158302. The business office of the company is at 1st Floor of building 140-CCA, Phase V DHA Lahore, Pakistan.

b. The Company is a special purpose vehicle of Yellow Door Energy IRP (Private) Limited The ownership of YDE IRP is expected to be transferred to a UAE based firm Yellow Door Energy Limited (YDEL) which implies that YDEL would also become the ultimate owner of YDE SA. YDEL which was founded in 2015 in the UAE and Jordan, with the aim of providing sustainable energy solutions for commercial and industrial businesses. Today, the company has over 110 megawatts of solar projects in the Middle East and South Asia. Among its customers are premier businesses such as Nestlé, Unilever, Carrefour/Majid Al Futtaim, and Landmark Group.

c. Yellow Door Energy IRP (Private) Limited aims to alleviate Pakistan's energy problems by introducing innovative distributed solar and energy management solutions. The Pakistan and the global Yellow Door Energy teams are committed to achieve excellence in every aspect of solar design, construction, and operation & maintenance.

d. The list of the directors, senior management, key technical and professional staff of the Applicant Company is provided as under:-

Name	Designation	Qualification
Umer Farooq	Country Head / VP Investments	M.Sc Financial Management (University of London) B.Sc Computer Science Engineering (UCP, Lahore)
Ameer Hamza	Project Manager	MBA (LSE Lahore) B.Sc Electrical Engineering (FAST-NU Lahore)
Muneeb Rasheed	Project Engineer	B.Sc Electrical Engineering (UET Lahore)
Ali Malik	Structured Finance Manager	MBA –INSEAD BSc. Honors - LUMS

2. Project Rationale

a. Treet Corporation Limited is a subsidiary of Treet Group of Companies which is a one of the largest business groups in Pakistan. The blade manufacturing facility of the Company is situated at Peco Road, Lahore. Currently the electricity requirements of the factory are met by a mix of different sources that includes 11kV connection of 3.2 MW sanctioned load from the local DISCO and 05 diesel generators.

b. Since the manufacturing facility has intensive demand for electricity and has ample unutilized space available on its rooftop, it is ideally suited for a Photovoltaic (PV) plant installation. In view of the aforesaid, YDE SA has proposed and designed 366 kWp DC (300 AC) solar power plant to be installed at roof top of Treet blade manufacturing facility, Lahore. The project will accommodate a 366.52 kWp (DC) Solar PV system with a projected annual production of 548.4 MWh/year. Use of 833 LONGi LR4-72HPH-440M PV Panel as a basis for design will result in an acceptable system weight density of 4-5 lb per sq ft. The system will offset approximately 343.04 tons of carbon dioxide annually.

c. For the aforementioned purpose, the applicant and Treet Corporation Limited have entered into a 11-year Power Purchase Agreement on BOOT (Build Own Operate and Transfer) arrangement. After thorough deliberation and negotiations the parties signed the Power Purchase Agreement on December 05, 2019 under which YDE SA will design, install and operate a solar power plant of 366 kWp DC (300kW AC) and sell the electricity generated to Treet Corporation Limited at an agreed rate.

3. Environmental Benefit

a. Almost all conventional methods of energy generation have varying degrees of adverse environmental impact. These methods have far reaching detrimental effects on the climate, air, water, land and wildlife of the adjacent vicinities. However, Solar PV energy technology provides significant environmental advantages in comparison to the conventional energy sources while contributing to the sustainable development of human activities. Besides slowing down the depletion of natural resources, the main environmental advantage is zero air emissions, waste production and eventual reduction in emissions of greenhouse gases (COx, NOx) and toxic gases (SOx).

b. Solar power plants have zero fuel requirement and hence limit the depletion of natural resources, fossil fuels. Unlike conventional thermal power plants, no water consumption is required for cooling purposes. A very optimized quantity of water is occasionally used for plant maintenance / cleaning. As stated earlier, the proposed system of 366 kWp DC (300 kW AC) will offset approximately 343.04 tons of carbon dioxide annually.

4. Prayer

a. YDE SA has performed an in-depth technical and financial analysis for 366 kWp DC (300 kW AC) solar power plant at rooftop of Treet Corporation Limited. Findings from these

analyses suggest that the proposed site is suitable for installation of PV based power plant with substantial benefits for the environment and promotion of distributed grid in Pakistan.

b. Technical details of the site along with feasibility report have been attached as Section 3 and Section 4 (Schedule I and Schedule II) of this application.

c. As considerable amount of effort and attention to minute details have been put into PV designing and Yellow Door Energy has a diverse experience of solar sector at a global level, YDE SA is confident that if it is allowed to contrast this plant, it will be able to achieve the required results without any problem.

In view of above it is requested that the application of YDE SA may very kindly be processed and placed before the Authority for admission.

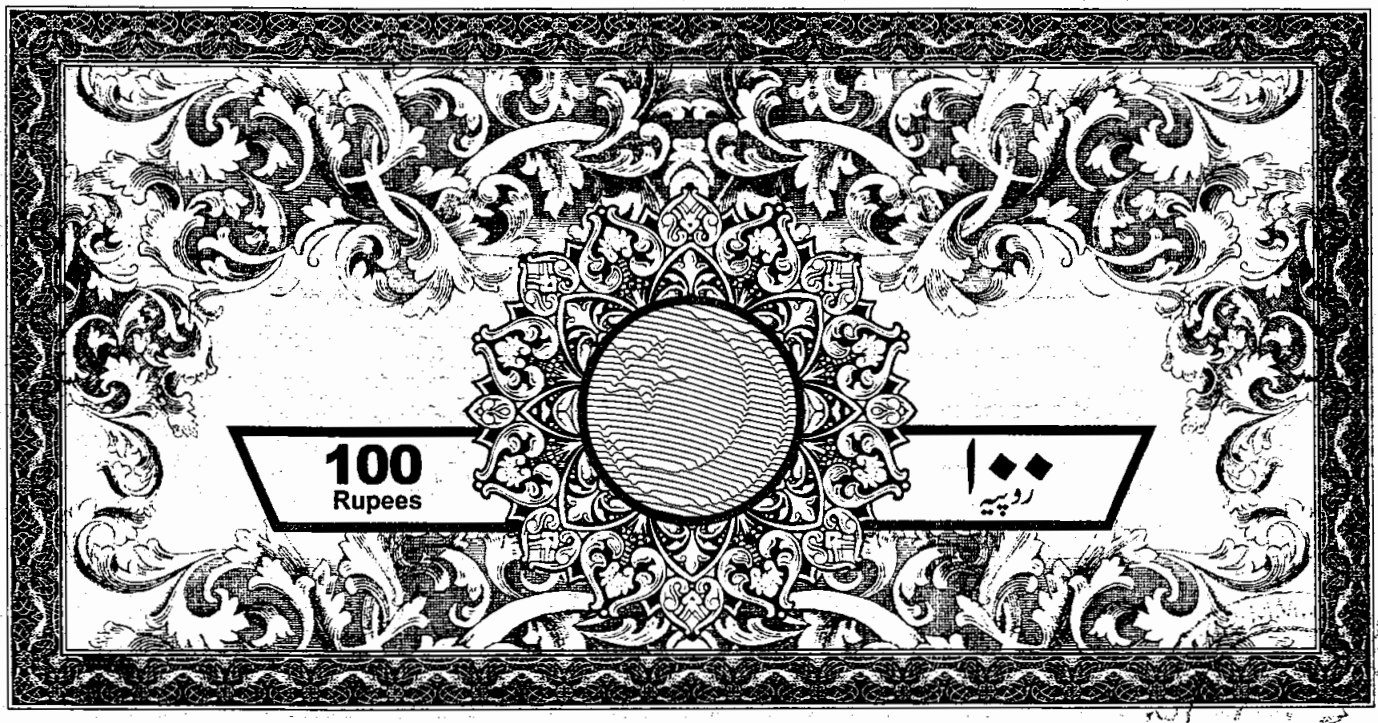
YDE SA further requests the honorable Authority to kindly grant the Generation License for 366 kWp (300 kW AC) solar power plant at Treet Corporation Factory, Peco Road Lahore. In case any further document / information is required then it is requested that same may kindly be communicated to us.

Yours sincerely,

Saqlain & Husnain

Saqlain & Husnain
Advocate and Corporate Counsels
65/3 FCC, Gulberg IV, Lahore
www.snhlawfirm.com

AB502173



BEFORE THE NATIONAL ELECTRIC POWER REGULATORY AUTHORITY

"Applications for seeking Generation License"

ON BEHALF OF

YELLOW DOOR ENERGY PRIVATE LIMITED.

AFFIDAVIT

I, Mr. Umer Farooq, holding CNIC No. 35201-8420461-5, Chief Executive Officer of **YDE SA (SMC-PRIVATE) LIMITED** herby solemnly affirm and declare that the contents of the accompanying Application for Generation License (the "License") is true and correct to the best of my knowledge and belief and the nothing material has been concealed there from.

I also affirm that all further documentation and information to be provided by me in connection with the accompanying application for Generation License will also be true to the best of my knowledge and belief.

YDE SA
(SMC-PRIVATE)
LIMITED

EXTRACT OF THE MINUTE BOOK OF YDE SA (SMC-PRIVATE) LIMITED

"Application for seeking Generation License from NEPRA"

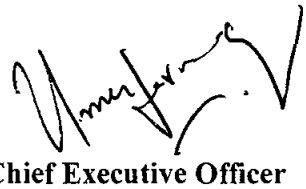
WHEREAS, the **YDE SA (SMC-PRIVATE) LIMITED** (herein referred the "Company") is desirous of applying to the National Electric Power Regulatory Authority (NEPRA) for Generation License in respect of its Generation Facility.

RESOLVED that the Company be and hereby authorizes Mr. Umer Farooq, Chief Executive Officer to file the Application, deposit fees and submit documents/License Applications for Generation of the Company with NEPRA, and any documentation ancillary thereto.

FURTHER RESOLVED that the Company be and hereby authorizes and empowers Mr. Umer Farooq to do all acts and things necessary/incidental for the processing, completion and finalization of the Application as he may deem fit on behalf of the Company.

FURTHER RESOLVED that M/s Saqlain & Husnain Advocates and Corporate Counsels, 65/3, FCC, Gulberg IV Lahore to appear and act for the Company as its counsel in connection with the processing, presentation of the Company's Generation Licence. Further resolved that the said Advocates or any one of them to do all acts and things necessary for the processing, completion and finalization of the Applications with NEPRA.

Certified true copy



Chief Executive Officer

YDE SA
(SMC-PRIVATE)
LIMITED

POWER OF ATTORNEY

We, **YDE SA SMC-Private Limited**, (the **"Company"**), hereby appoint and constitute **M/s Saqlain & Husnain** Advocates and Corporate Counsels to appear and act for us as our advocates in connection with the Licensee Application (the **"Application"**) filed in respect of seeking Generation License under NEPRA laws with the National Electric Power Regulatory Authority (NEPRA).

I/We also authorize the said Advocate or any one of them to do all acts and things necessary for the processing, completion and finalization of the Petition with NEPRA.

For and on behalf of
YELLOW DOOR ENERGY PRIVATE LIMITED

CHIEF EXECUTIVE OFFICER

ACCEPTED

SAQLAIN & HUSNAIN
ADVOCATES & CORPORATE COUSELS
65/3 FCC, GULBERG IV
LAHORE.

ANNEX II

Certificate of Incorporation

A081673

SECP

SECURITIES AND EXCHANGE COMMISSION OF PAKISTAN

COMPANY REGISTRATION OFFICE
LAHORE

CERTIFICATE OF INCORPORATION

[Under section 16 of the Companies Act, 2017 (XIX of 2017)]

Company Registration Office Lahore
SECP
Securities and Exchange Commission of Pakistan

CERTIFIED TO BE TRUE COPY
ADDITIONAL JOINT REGISTRAR OF COMPANIES
COMPANY REGISTRATION OFFICE
LAHORE

Corporate Universal Identification No. 0158302

I hereby certify that YDE SA (SMC-PRIVATE) LIMITED is this day incorporated under the Companies Act, 2017 (XIX of 2017) and that the company is limited by shares.

Given under my hand at Lahore this Twenty First day of September, Two Thousand and Twenty.

Incorporation fee Rs. 266500/- only

Z. Haider
(Syed Zargham Haider)
Joint Registrar

No. ARL/INC 6123

Dated: 21-9-2020

SECP

Company Registration Office Lahore
Securities and Exchange Commission of Pakistan

SECURITIES AND EXCHANGE COMMISSION OF PAKISTAN
Company Registration Office
LAHORE

Company Registration Office Lahore
Securities and Exchange Commission of Pakistan

ACKNOWLEDGEMENT OF FILING
[See-regulation-13 (1)]

No. ADR-I/0158302 1424 **Dated: 21.09.2020**

In the matter of **YDE SA (SMC-PRIVATE) LIMITED - , 1st Floor, 140 CCA Phase V, DHA Lahore Cantt, Lahore, Punjab**

The receipt of the under mentioned document(s) filed, registered and recorded pursuant to the provisions of the Companies Act, 2017 (XIX of 2017), is hereby acknowledged.

1. Application for Company Incorporation 18.09.2020
2. Memorandum of Association dated 18.09.2020
3. Articles of Association dated 18.09.2020

(Syed Zargham Haider)
Joint Registrar
3rd and 4th Floor, Associated House, 7 Egerton Road, Lahore

Fee. Rs. 500 /-

CERTIFIED TO BE TRUE COPY
21/10/2020
ADDITIONAL JOINT REGISTRAR OF COMPANIES
COMPANY REGISTRATION OFFICE
LAHORE.

ANNEX III

Memorandum and Articles of Association

THE COMPANIES ACT, 2017 (XIX of 2017)

(COMPANY LIMITED BY SHARES)
MEMORANDUM OF ASSOCIATION
OF

YDE SA (SMC-PRIVATE) LIMITED

1. The name of the Company is YDE SA (SMC-PRIVATE) LIMITED

2. The Registered Office of the Company will be situated in the Province of Punjab

3. (i) The principal line of business of the company shall be to carry on businesses of solar energy system, its manufacturing through poly silicon and chemical technology, processing, casting, cell manufacturing, module manufacturing and installation thereof and also to install, run, own and manage biomass/waste-to-energy power plant, waste heat power plant, combined cycle power plant and to produce wind, biomass, wave and tidal energy and to deal in all other forms of energy and products or services associated therewith and of promoting the conservation and efficient use of energy and to perform all other acts which are necessary or incidental to the business of electricity generation, transmission, distribution and supply, subject to permission of relevant authorities.

   (ii) Except for the businesses mentioned in sub-clause (iii) hereunder, the company shall engage in all the lawful businesses and shall be authorized to take all necessary steps and actions in connection therewith and ancillary thereto.

   (iii) Notwithstanding anything contained in the foregoing sub-clauses of this clause nothing contained herein shall be construed as empowering the Company to undertake or indulge, directly or indirectly in the business of a Banking Company, Non-banking Finance Company (Mutual Fund, Leasing, Investment Company, Investment Advisor, Real Estate Investment Trust management company, Housing Finance Company, Venture Capital Company, Discounting Services, Microfinance or Microcredit business), Insurance Business, Modaraba management company, Stock Brokerage business, forex, real estate business, managing agency, business of providing the services of security guards or any other business restricted under any law for the time being in force or as may be specified by the Commission.

   (iv) It is hereby undertaken that the company shall not:
   (a) engage in any of the business mentioned in sub-clause (iii) above or any unlawful operation;
   (b) launch multi-level marketing (MLM), Pyramid and Ponzi Schemes, or other related activities/businesses or any lottery business;
   (c) engage in any of the permissible business unless the requisite approval, permission, consent or licence is obtained from competent authority as may be required under any law for the time being in force.

4. The liability of the member is limited.

5. The authorized capital of the company is Rs. 64,000,000 (Sixty Four Million Rupees Only) divided into 640,000 (Six Hundred Fourty Thousand) Ordinary shares of Rs.100 (One Hundred Rupees Only) each.

I, whose name and address is subscribed below, am desirous of forming a company in pursuance of this memorandum of association and agree to take the number of shares in the capital of the company as set opposite my name:

Name and surname (present & former) in full (in Block Letters)	NIC No. (in case of foreigner, Passport No)	Father's/ Husband's Name in full	Nationality (ies) with any former Nationality	Occupation	Usual residential address in full or the registered/principal office address for a subscriber other than natural person	Number of shares taken by each subscriber (in figures and words)	Signatures
Yellow Door Energy IRP (Private) Limited through Yellow Door Energy IRP (Private) Limited through	0153007	Not applicable	Pakistan	Company	1st Floor 140 CCA Phase V DHA Lahore Cantt LAHORE Punjab Pakistan 54792	100	
Total number of shares taken (in figures and words)						100 (One Hundred)	

Dated: the 18 day of Sep 20 20

Witness to above signatures: witness not required since the documents submitted electronically

Signature:

Address

CERTIFIED TO BE TRUE COPY

02/10/2020

ADDITIONAL JOINT REGISTRAR OF COMPANIES
COMPANY REGISTRATION OFFICE
LAHORE.

THE COMPANIES ACT, 2017 (XIX of 2017)

(Company Limited by Shares)

ARTICLE OF ASSOCIATION

OF

YDE SA (SMC-PRIVATE) LIMITED

1. The Regulations as set out in part II of Table A of First Schedule of the Companies Act, 2017 shall be the regulations of **YDE SA (SMC-PRIVATE) LIMITED**

SINGLE MEMBER COMPANY

2. The company is a single member company and as such being a private company limited by shares

   (a) It shall not invite the public to subscribe for any shares of the company;

   (b) The company shall not register any share(s) in the name of two or more persons to hold one or more shares jointly; and

   (c) Number of the members of the company shall be limited to one.

SHARES

3. The liability of the member is limited.
4. Share certificate shall be issued under the seal of the Company and shall be signed by the member director or the non-member director, as the case may be.

DIRECTOR

5. The company shall always have the sole member or in case it is not a natural person its nominee, as a director but it may have such number of other director(s) who fulfil the conditions as specified in section 153 of the Act. Umer Farooq shall be the first director of the Company.

I, whose name and address is subscribed below, am desirous of forming a company in pursuance of this article of association and agree to take the number of shares in the capital of the company as set opposite my name:

Name and surname (present & former) in full (in Block Letters)	NIC No. (in case of foreigner, Passport No)	Father / Husband Name in full	Nationality (ies) with any former Nationality	Occupation	Usual residential address in full or the registered/principal office address for a subscriber other than natural person	Number of shares taken by each subscriber (in figures and words)	Signatures
Yellow Door Energy IRP (Private) Limited through Yellow Door Energy IRP (Private) Limited through	0153007	Not applicable	Pakistan	Company	1st Floor 140 CCA Phase V DHA Lahore Cantt LAHORE Punjab Pakistan 54792	100	
Total number of shares taken (in figures and words)						100 (One Hundred)	

Dated: the 18 day of Sep 20 20

Witness to above signatures: witness not required since the documents submitted electronically

Signature:

Address

Company Registration Office Lahore
Securities and Exchange Commission of Pakistan
SECP

CERTIFIED TO BE TRUE COPY
02/10/2020
ADDITIONAL JOINT REGISTRAR OF COMPANIES
COMPANY REGISTRATION OFFICE
LAHORE

ANNEX IV

Detailed Profile and CVs of senior management

UMER FAROOQ

VP Investments & Country Head

YELLOW DOOR ENERGY

As the Vice President Investments & Country Head of Yellow Door Energy, Umer is leading the expansion of the distributed solar industry in Pakistan. He has been a part of the team that raised $65 million in Series A financing from global investors such as IFC, Mitsui, Equinor, APICORP and Adenium.

Previously Umer has been served as CEO of other entities that specialized in alternate / renewable energy.

16 Years of Experience

EDUCATION

Master of Financial Management, Queen Mary University, London, 2012

Bachelor of Science in Computer Science, University of Central Punjab, 2004

WORK EXPERIENCE

VP Investments & Country Head, **Yellow Door Energy**, Pakistan
2019 – Present

- Signed +3 megawatts of solar assets in Pakistan

CEO, **Enteria**, Lahore, Pakistan
2018 – 2019

CEO, **Intelli Energie,** Lahore, Pakistan
2016 – 2018

CEO / Head of Sales, **GreenIndusTree**
2012 – 2016

Franchise Managing Director, **Mobilink**
2008 – 2011

Muhammad Ali MALIK

ali.malik@insead.edu / alimalik1911@gmail.com
+92 321 940 5151 / https://www.linkedin.com/in/muhammadalimalik/

SUMMARY

Seasoned corporate finance, investment management, and strategy professional with 13+ years of experience in banking, investment funds, real estate, family offices, and manufacturing across Asia. Direct multi-year expertise in execution of debt and equity capital markets deals, financial market products, commercial real estate investments, and investor relations. Before venturing into investment management and transaction advisory, worked for 8 years at Standard Chartered Bank, held a Director position in Wholesale Banking.

EXPERIENCE

HIRA TEXTILES — **Lahore, Pakistan**
Hira is a top-5 exporter of textile products in the country — **2018 – Present**

Strategy Advisor

- Developed the turnaround plan and strategy for a manufacturing concern, including organizational redesign, and handled the implementation of transformation initiatives.
- Drove loan restructuring and enhanced cash flow from operating activities by 25%.
- Secured a new local equity investor for strategic and funding reasons, target $15M range.
- Provided data-driven inputs to critical strategic initiatives that resulted in an 18% improvement in productivity and a 15% reduction in the cost of energy.
- Conducted in-depth business analysis and built the 5-year financial turnaround plan.

AZIMUTH GLOBAL PARTNERS — **Kuala Lumpur, Malaysia**
Azimuth is a boutique real estate investment advisory firm — **2016 – 2018**

Principal

- Led real estate investment underwriting and due diligence, along with on-going asset management of existing cross border real estate investments.
- Launched and ran a £120M UK supermarket fund, successfully raising £50M of equity and securing debt from multiple banks.
- Advised a large Asian pension fund on the acquisition of a prime, Greater London shopping center and structuring of the investment as a JV.
- Devised fund structure, secured initial round of capital, and identified a pipeline of investments.
- Raised equity approximately £70M from Asian Sovereign Wealth Funds for an SPV to be run by advisory group in global commercial property.

VISTA REAL ESTATE FAMILY OFFICE — **Lahore, Pakistan**
A proprietary mid-market real estate investment platform — **2014 – 2016**

Co-Founder - Partner

- Directed investment in education properties, target asset value between $1M to $2.5M, generating a recurring income stream from inelastic demand of educational real estate.
- Deployed capital directly in real estate, built asset under management from $1M to $14M, generating a rental yield of more than 7%.
- Grew company from zero to multimillion-Rupee business, returning IRR>15% to investors.
- Screened, analyzed, and invested in actively-managed (development) and passively-managed (rental) portfolio.
- Negotiated lease agreements with 10+ years term, with options for extension of maturity and addition to floor space, inflation-linked rent increments of at least 10% per annum.

Muhammad Ali MALIK
+92 321 940 5151 / alimalik1911@gmail.com / https://www.linkedin.com/in/muhammadalimalik/

STANDARD CHARTERED BANK — **Malaysia / Singapore**
Standard Chartered is a major emerging market-focused bank — **2010 – 2014**

Director
- Completed 7 debt financing transactions of over $2B across geographies and industries.
- Established relationships with senior management of key Malaysian institutional investors while keeping product partners engaged, generating more than $15M cross-sell revenue.
- Facilitated a large Asian pension fund in a sale-and-leaseback of 12 hospitals across the UK, and originated a £400M long term bullet debt facility to finance the acquisition.
- Executed an equity capital markets deal of $100M for the largest Malaysian Islamic REIT.
- Heavily involved in all phases of transaction execution, including opportunity screening, due diligence, structuring, and documentation, for a range of financing transactions.
- Structured a $340M multi-currency and multi-maturity 5-year term credit facility.
- Presented several transactions to credit risk committees and secured approvals.

STANDARD CHARTERED BANK — **Lahore, Pakistan**
2005 – 2008

Unit Head – SME / Business Planning Manager
- Promoted to team leader within a year, started with 3 members team and took it to 8 bankers, managing the portfolio diligently with no spike in non-performing loans.
- Initiated a cross-sell campaign, achieving annual revenue growth of 75% ($0.8M).
- Mentored relationship managers to optimize business metrics, accomplishing 150% of targets.
- Implemented rationalization across the branch network leading to $1.5M cost saving.

EDUCATION

INSEAD — **Singapore / France**
MBA — **2009 - 2009**
- Awarded INSEAD IAF Diversity Scholarship

Lahore University of Management Sciences — **Lahore, Pakistan**
Bsc Honors, Economics — **2001 – 2005**

ADDITIONAL INFORMATION

Nationality: Pakistani
Languages: Urdu (Native), English (Fluent), French (Basic)
Certifications: CFA Level 1
Interests: Travelling, Volunteering for a cause against child labour

Curriculum Vitae

Name:	**Ameer Hamza**
Address:	House No. 551, Block A State Life Cooperative Housing Society, Lahore, Pakistan.
Email:	ameerhamza_101@live.com
Phone:	+92 346 4402216
Date & place of birth:	January 11, 1992 Lahore, Punjab, Pakistan.
Family Status:	Single
Nationality:	Pakistani

University Education:

2019 - Ongoing Master of Business Administration (Executive)
Lahore School of Economics, Lahore

2009 - 2013 Bachelor of Sciences in Electrical Engineering
National University of Computers & Emerging Sciences (FAST-NUCES), Lahore

Secondary Schooling:

2007 - 2009 F.Sc (Intermediate in Pre-Engineering)
Crescent Model Higher Secondary School, Shadman, Lahore

2007 - 2005 O-Level, Cambridge University
Crescent Model Higher Secondary School, Shadman, Lahore

Work Experience:

Sep 2020 – Present **Project Manager**
Yellow Door Energy
(https://www.yellowdoorenergy.com)

Oct 2015 – Aug 2020 **Assistant Manager Technical**
National Power Parks Management Company Ltd. Lahore
(www.nppmcl.com)

National Power Parks Management Company Ltd. a wholly owned company of the Government of Pakistan through the Ministry of Energy has implemented 02 R-LNG based Combined Cycle Power Project of capacity 1200MW each. The CCGTs have industry leading thermal efficiencies of 62.44% & 61.63% and are equipped with General Electric **Frame 9HA.01** Gas Turbines along with Alstom Steam Turbines.

Contracts Management & Handling:

Participated in negotiation, finalization, execution and monitoring of following Agreements / Regulatory documents:

- Power Purchase Agreement (Central Power Purchasing Agency – Guaranteed)
- Formulated the technical schedules of the Power Purchase Agreement
- Gas Supply Agreement (Sui Northern Gas Pipelines Limited)

- Long-Term Services Agreement (General Electric)
- Tariff Petition, Modification & True-up formulation, filing & follow-up with Regulator
- Outsourcing of Operation & Maintenance of the plant for 12 years through International Competitive Bidding

Construction Phase:

- Assisted and directed all phases of the project from the commencement of the EPC Agreement till Commercial Operations Date
- Participated in Basic Design and Detailed Design Review meetings held at Hangzhou, China
- Spearheaded the forming and finalization of L4 and L6 schedule of the project
- Project progress monitoring (site construction & shipments) and EPC Contract handling with Power Construction Corporation of China
- Progress reporting (presentations and briefs) to the Chief Executive Officer, the Chief Minister of Punjab, Pakistan and Prime Minister of Pakistan's Project Implementation Unit
- In collaboration with GE's technical team formed and monitored the most challenging 90 days' installation and commissioning schedule of General Electric Frame 9HA.01 Gas Turbine
- Formulated the Commissioning Tests Procedures (Pre-Synch and Post-Synch) as required under the Power Purchase Agreement and then participated in conducting and finalizing reports of said Commissioning and Performance Tests.
- Milestones achievement monitoring and subsequent payment release to EPC Contractor
- Revised PC-Is of 1230MW CCPP Haveli Bahadur Shah and 1223MW CCPP Balloki

Operation Phase:

- Supervision of operation phase agreements such as: Operation and Maintenance, Long Term Services Agreement, Gas Supply Agreement and Power Purchase Agreement
- Monitoring and review of Daily Operations Reports furnished by the O&M Contractor to ensure financially viable operations of the plant
- Verification of the Declared Available Capacity (DAC) and energy generation data for invoicing of Energy & Capacity Payments from CPPA(G)
- Coordinating with System Operator (NPCC) and Gas Supplier (SNGPL) to ensure operations as per Annual Production Plan (APP) and Annual Delivery Plan (ADP)
- Leading technical side of the Company in Take-or-Pay dispute under GSA with the Gas Supplier
- Focal person for dealing with the Privatization Commission that is undertaking privatization of the Company

January 2015 - October 2015 **Company Secretary (Additional Charge)**
Nandipur Thermal Power Generation Company Ltd.

- Coordination and filings with SECP to obtain Commencement of Business for the Company.
- Participated actively in the preparation of PC-1 of 1200 MW R-LNG Power Plant at Balloki.
- Organized and recorded almost a dozen Board and it's Committee's meetings within three month.
- Assisted the Chief Executive Officer in all administrative issues / matters pertaining to the Company.
- Spearheaded the Operation & Maintenance outsourcing process by creating the Bidding Document, conducting the International Competitive Bidding and negotiating with the lowest evaluated bidder.

March 2014 - October 2015 **Assistant Manager (Project Management Unit)**
525MW CCPP Nandipur Power Project, Lahore Head Office

- Managed EPC Contract with DongFang International and monitored project progress against the master project schedule.
- Mark-VIe Human Machine Interface (HMI) training from General Electric representative for GE frame 9E Gas Turbine.
- Hands on training at 132 & 220 KV grid station and frame 9E GE Gas Turbines.
- Developed comprehensive knowledge of Combined Cycle Power Plant (CCPP).
- Created the Company structure, Organogram, KSA (Knowledge, Skill, Ability) and TOR for Nandipur Power Company Limited.
- Created the TOR, Composition and Mandate of the Board of Directors of Nandipur Power Company Limited.
- Created Scope of Work and Bidding Document for the hiring of Corporate Legal Advisor and assisted in the overall bidding and bid awarding process.
- Revised the PC-1 of 525 MW Combined Cycle Chichoki Mallian Power Project.

July, 2013 - March 2014 **Trainee Engineer**
525MW CCPP Nandipur Power Project, Gujranwala

Skills & Interests:

Languages:

English (Fluent, IELTS overall band score: 8 out of 9)

Urdu (Fluent)

Punjabi (Basic)

Computer Skills:

MS Office including MS Project, Visio, MATLAB, AutoCAD (Basic)

Volunteer Work:

Interned at WWF-Pakistan from June, 2014 till August, 2014

Collaboration with Aurat (Woman) Foundation International in 2010

Extracurricular:

President at VOICE NUCES Debating Society from Aug, 2012 till June, 2013

Assistant Vice President at VOICE NUCES Debating Society from Aug, 2011 till Aug, 2012

Jr. Editor at HIGHWAY BUZZ (NUCES fortnightly newspaper) from Aug, 2011 till Aug, 2012

Editor at AL-HILAL (Crescent Model Higher Secondary) yearly magazine for year 2009

Represented Pakistan at 34th World University Debating Championship, Chennai India

Several regional and national trophies in Parliamentary debates and Model United Nations (MUNs)

Publication:

Article in The Express Tribune Newspaper: From One Power Policy to Another (An analysis of Pakistan's Power Policies). Available at: https://tribune.com.pk/story/1705399/6-one-power-policy-another/

Hobbies:

Keen interest in music (basic guitar playing skills)

Avid reader of philosophy and psychological fiction

MUHAMMAD MUNEEB RASHEED

Electrical Engineer

Contact: +92-323-6866686
Email: im_Muneeb@hotmail.com
Address: 147 E-1 WAPDA Town, Lahore

OBJECTIVE

To foster the dynamics of personal and organizational growth, via striving for excellence in a challenging and rewarding environment which allows me to utilize and develop the skills I possess and hope to achieve and to enhance my skills in Business & Technology.

SCHOLASTICS PORTFOLIO

2013 - 2017	B.Sc. Electrical Engineering: University of Engineering & Technology, Lahore
2011 - 2013	F.Sc. Pre-Engineering: KIPS College, Lahore
2009 - 2011	Matriculation: Heritage School System

CAREER OVERVIEW

YELLOW DOOR ENRGY **JOB, MAY 2019-**

Key Responsibilities:

- State and assess specifications and PV plants design for compliance with efficient and safe operation
- Assist in EPC, O&M and contracts
- Technical evaluation of contractors-subcontractors
- Fostering culture of innovation by leading product and technology brainstorming sessions
- Guiding the technical projects development
- Direct management of the contractor's design team
- Leading negotiations with suppliers, contractors, and solution providers in Pakistan

INTELLI ENERGIE **JOB, JAN 2018- APR 2019**

Key Responsibilities:

- Provided assistance in technical background for various departments including design, finance, installations, marketing, project management, sales, and survey.
- Assisted staff in the design and development of systems and components; interfaced with engineering staff in order to ensure form, fit and function of designs.
- Ensured cost effectiveness and manufacturability of designs while working with managers.
- Worked on the financial and design side of a PV product launched with the help of a leading bank.
- Collaborated with the engineering staff to produce design sketches and drawings in accordance with applicable standards.
- Reviewed and verified design drawings and other technical documentation prepared by others so as to ensure correctness and accuracy in form, fit and function.

Projects handled:

- **Title:** Design, site survey, equipment selection, clinching deal, procurement, managing installation & aftersales with client
- **Clients:** Many in Pakistan with system capacity ranging from 3KW to 3.2MW
- **Role:** Procurement, handling client and finishing installations.

ORIENT ENERGY SYSTEM **INTERNSHIP, JUNE 2016-JULY 2016**

- Electrical maintenance and monitoring of generator, air ventilation & water cooling parameters in control room

FIVERR

- Provide services to customers related to Electrical Engineering, programming and article writing

ACADEMIC PROJECTS

PLC BASED SMART RESTAURANT **FINAL YEAR PROJECT, 2016-2017**

Key Features

- Food is ordered on HMI screen and chef receives order on his HMI.
- 4 stepper motors are controlled based robot arm to place packages on conveyer belts complete with 180 degree rotation upper arm and lower arm movement and slider. Each motor uses TP timer and counters to count steps for each process being run in that network.
- Jaw of arm had servo motor.
- Conveyer belts and IR sensors are used to deliver food to tables and get utensils and dishes back.
- Optical isolators used isolate motors and PLC inputs and output supplies.
- Darlington pair and H-bridge are used as motor drivers

CUSTOM DESIGNED SOLAR PV SYSTEMS FOR RESIDENTIAL AND COMMERCIAL CUSTOMERS

Key Features

- Designed a PV system for my home and Gourmet bakery after detailed analysis of the load.
- Based on the required power output and backup, battery banks and inverters were conceptualized

THREE PHASE INVERTOR

Key features

- Designed and implemented a three-phase full bridge inverter
- IRF540 MOSFETS were used the gates of which were provided trigger signal by STMF4 micro-controller

TWO-WHEELER SELF BALANCING ROBOT USING STM32F3 MICROCONTROLLER

Key Features

- Balanced a 9 inch tall cart on 2 wheels using STM32F4 gyroscope to control motors.

OBSTACLE AVOIDANCE ROBOT USING ARDUINO

Key Features

- Made a cart that avoids obstacles by using IR sensors and arduino microcontroller.

BJT HIGH POWER VARIABLE AUDIO AMPLIFIER

Key Features

- Designed on Proteus and construction was done
- Built it complete with volume control

MICROPROCESSOR WITHOUT INTERLOCKED PIPELINE STAGES

Key Features

- Made a 32 bit instruction set architecture
- It was designed to perform basic arithmetic operations, storing and loading instructions to and from external memory and to jump addresses.

DUAL POLARITY VOLTAGE SUPPLY

Key Features

- Made a dual polarity voltage supply with the help of rectifiers, transformer and LM-320 Voltage Regulator.

LASER BASED SECURITY SYSTEM USING TIVA

Key Features

- Texas Instruments microcontroller used for turning on search lights based on the input security password and the laser sensed by IR sensors.

HIGHLIGHTS

Technical Skills	Interpersonal Skills
Proteus |Multisim |WINSpice	Analytical Aptitude
Power World Simulator	Delegation
MATLAB Simulink | All Microsoft Products	Decision Making
TIA Portal Logic development for PLC	Team Management
MS Visual Studio & C language	Good problem solving
Keil µVision 5	Leadership Skills
PV Sol|PV Syst | Helioscope| Homer| Visio| Autocad	Priority Management

LEADERSHIP EXPERIENCES

PLC WORKSHOP **(2016)**

- Provided three-day workshop to juniors about the basics of PLC and ladder logic.

DIGITAL MARKETING **(2018-)**

- Basic responsibilities include marketing of the PV product we launched with the bank via Facebook and Google Ads.

REFERENCES

Can be provided on demand

ANNEX V

Loan Agreement

Meezan Bank
The Premier Islamic Bank

Best Bank in Pakistan
Recognized by Pakistan Banking Awards

26TH October, 2020

NEPRA

Account Maintenance Certificate

السلام علیکم ورحمتہ اللہ وبرکاتہ

This is to certify that M/S **YDE SA (SMC-PRIVATE) LIMITED** is maintaining **Meezan Rupee Current Account**, Account No. **0257-0104766834** with us since **15/10/2020.**

Mr. Umer Farooq is the only director of company. As per Bank Record, said Account is operated **singly** by **Mr. UMER FAROOQ** having CNIC #: **35201-8420461-5.**

The above information is provided at the specific request of customer without any risk, obligation and responsibility on the part of Meezan Bank Ltd. Pakistan, its authorized signatories or employees.

Shahrukh Ahmad
Personal Banking Officer

Usman Habib
Operations Manager

Meezan Bank Ltd.
DHA Phase V, Branch
Plot No. 6 - CCA Phase V, DHA Lahore, Pakistan.
Tel: (92-042) 37182334-35 Fax: (92-042) 37182268 www.meezanbank.com

INTER COMPANY LOAN AGREEMENT

THIS INTER COMPANY LOAN AGREEMENT (the "**Agreement**") is made on the 5th of October 2020, (the "Effective Date") by and between:

YELLOW DOOR ENERGY LIMITED, a company organized and existing under the laws of the United Arab Emirates (the "**Lender**"); and

YELLOW DOOR ENERGY IRP (Private) Limited, a company organized and existing under the laws of the Islamic Republic of Pakistan (the "**Borrower**").

The Lender and Borrower are hereby referred to collectively as "Parties" and individually as a "Party".

WHEREAS,

A. The Lender and Borrower desire to establish an intercompany loan arrangement, as described below for the development of the Starlet Project, the purpose deemed necessary by Lender and Borrower.

B. NOW, THEREFORE, THE PARTIES AGREED AS FOLLOWS:

1. LOAN AND REPAYMENT

1.1. Subject to the terms and conditions hereunder, Lender agrees to lend up to an aggregate amount of four hundred thousand United States Dollars (USD400,000)(the "**Maximum Principal Amount**").

1.2. Unless otherwise agreed to in writing by the Parties, the Maximum Principal Amount and any Cash Advances shall be loaned on an unsecured basis.

1.3. At any time while this Agreement is in effect, Borrower may request to borrow from Lender. Each amount actually advanced to Borrower under this Agreement is herein called a "**Cash Advance**" and shall be listed in Exhibit A.

1.4. Borrower shall repay the Cash Advances on the terms set forth herein and such other terms as the Parties may agree. For the avoidance of doubt, any repayment of the Cash Advances shall be on a net basis. Unless otherwise agreed to in writing by the Parties, the Cash Advances shall mature and become payable on the Termination Date.

1.5. The unpaid principal amount advanced hereunder shall accrue simple interest from the date of each Cash Advance until payment in full at a rate equal to 0% per annum.

1.6. All outstanding principal amount advanced hereunder plus all accrued and unpaid interest thereon and all other amounts accrued under this Agreement (collective, the "**Balance**") shall be due and payable on the Termination Date or upon default by the Borrower. Borrower is in default upon any of the following:

1.6.1. Borrower's failure to repay any amount outstanding and owing when due;

1.6.2. Change in control of Borrower, or sale or transfer of all, or substantially all, of Borrower's assets;

1.6.3. Filing of bankruptcy of Borrower; and

1.6.4. Insolvency of Borrower.

In the event of a default, the Lender shall be entitled to the fullest extent permitted by the law, to set off against any amounts due from deposits and/or other indebtedness at any time owing by the Lender to the Borrower.

1.7. Borrower may discharge the obligations it has undertaken hereby at any time by repaying the Balance, without penalty. Borrower may, without penalty, make a partial prepayment of principal plus interest in any amount at any time and may thereby reduce any required future payments.

2. TERM

This Agreement shall be in effect from the Effective Date for a one year term thereafter (the "**Termination date**") unless mutually extended by the Parties. Notwithstanding the forgoing, either Party shall have the right to terminate this Agreement at any time, subject to a minimum of three months written notice issued in advance to the other Party.

3. GENERAL

3.1. This Agreement may be executed in any number of counterparts, each of which when executed and delivered shall constitute an original of this Agreement, but all the counterparts shall together constitute the same agreement. No counterpart shall be effective until each Party has executed at least one counterpart.

3.2. This Agreement is governed by and shall be construed in accordance with the laws of the Dubai International Financial Centre. The courts of the Dubai International Financial Centre shall have the exclusive jurisdiction to deal with any dispute arising from this Agreement.

3.3. This Agreement constitutes the entire agreement and supersedes any other agreement between the Parties relating to its subject matter.

4. NOTICES

4.1. All notices and other communications under this Agreement shall be in writing. All written notices and communications shall be sent by registered or certified mail, postage prepaid, return receipt requested, or by email; or delivered by hand to the Party to whom it is to be served at the address as provided in the outset of this Agreement.

4.2. Each notice and other communication under this Agreement shall be effective or deemed delivered or furnished: (i) if given by mail, on the date such notice or communication is received; (ii) if given by email, when such communication is transmitted to the appropriate number as determined in the outset of this Agreement and receipt is acknowledged; and (iii) if given by hand delivery, when left at the addressee's address as above provided with an acknowledgment of receipt.

IN WITNESS WHEREOF the duly authorized representative of each party on the date which appears first in the outset of this Agreement.

YELLOW DOOR ENERGY LIMITED

By: _____

Name: Jeremy Crane

Title: CEO

YELLOW DOOR ENERGY
Yellow Door Energy Limited
ADGM | UAE
Tel: +971 4 454 3033

YELLOW DOOR ENERGY IRP

By: _____

Name: Umer Farooq

Title: CEO

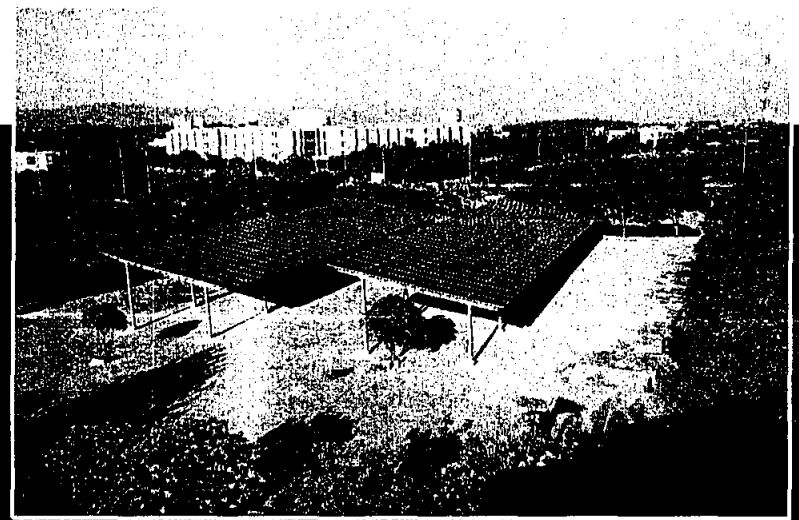
YELLOW DOOR ENERGY
Yellow Door Energy IRP (Private) Limited
PAKISTAN
Director

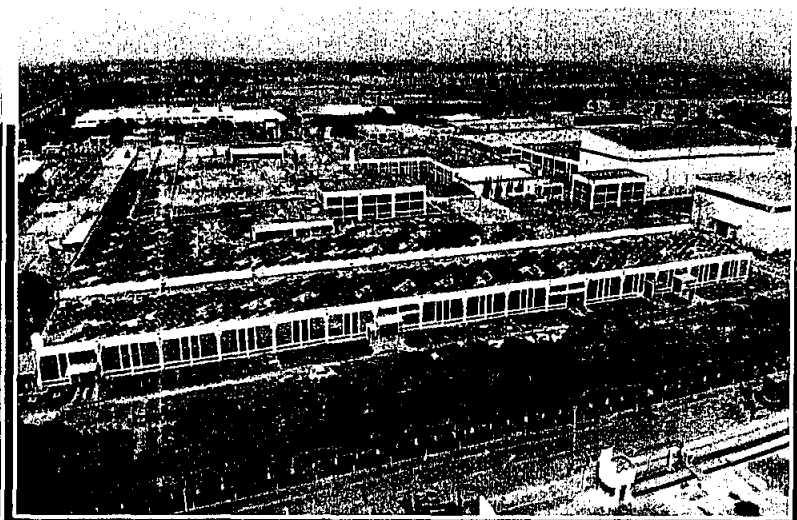
ANNEXURE VII

HISEL ENERGY CORPORATION PROFILE

HiSEL
Power Corporation

Powering the World to a Sunnier Future

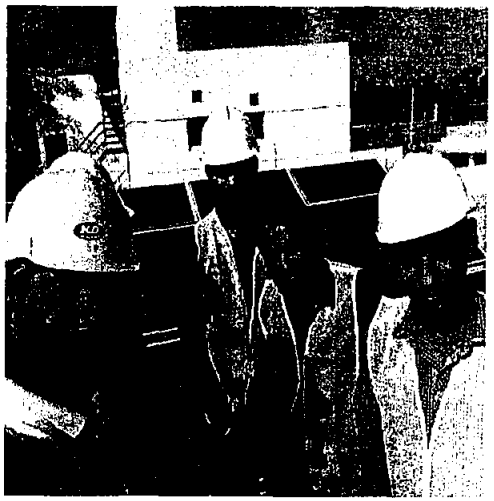




Power that Inspires the World

HiSEL Power Pakistan

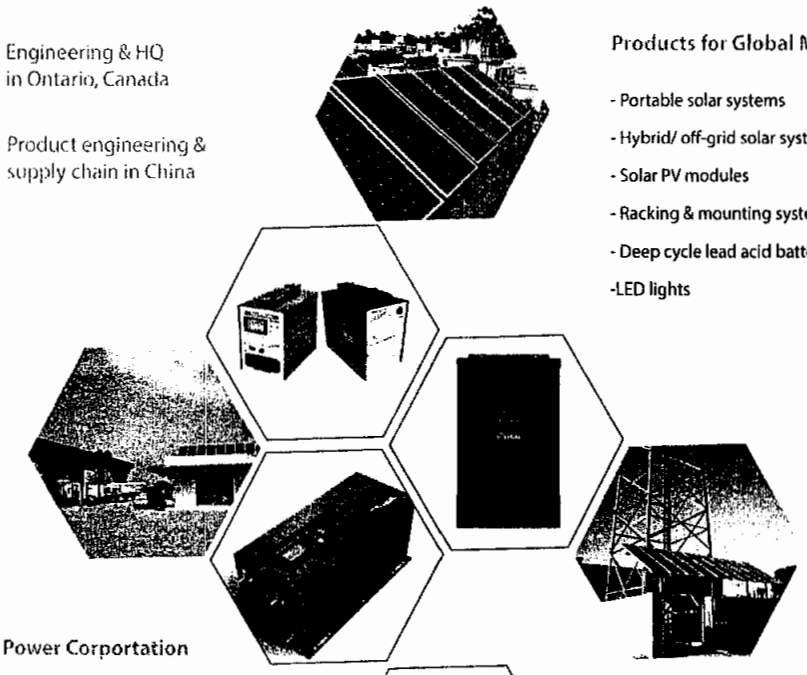
HiSEL Power Pakistan Pvt, Ltd. is a leading solar energy company in Pakistan since 2012. It is owned by HiSEL Power Corporation in Canada and Guangdong Dynavolt Renewable Energy Technology Co. Ltd.



HiSEL Overview

Engineering & HQ in Ontario, Canada

Product engineering & supply chain in China



Products for Global Market

- Portable solar systems
- Hybrid/ off-grid solar systems
- Solar PV modules
- Racking & mounting system
- Deep cycle lead acid batteries
- LED lights

HiSEL Power Corporation

HiSEL Power Corporation is a Canadian renewable energy company with subsidiary operations in China, Pakistan, South Africa and expansion to India and other countries. Through innovative engineering and a diverse supply base, we supply to these international markets cost-effective, high-quality integrated solar systems including photovoltaic panels, batteries and inverters for hybrid and off-grid applications.

Core Business Lines

a. PV system integration and solutions
b. Inverter and micro-grid technologies
c. Energy backup solutions
d. Energy conservation solutions
e. Solar power development

HiSEL Power Corporation

SOLAR SYSTEM
POWER BACKUP
ENERGY CONSERVATION

www.hiselpower.com e-mail: info@hiselpower.com

HiSEL "5S" Strategy and Competencies

Complete product range and integrated photovoltaic solar **Systems**

Practical, customized and standardized **Solutions**

Efficient, cost-effective, comprehensive **Supply** chain

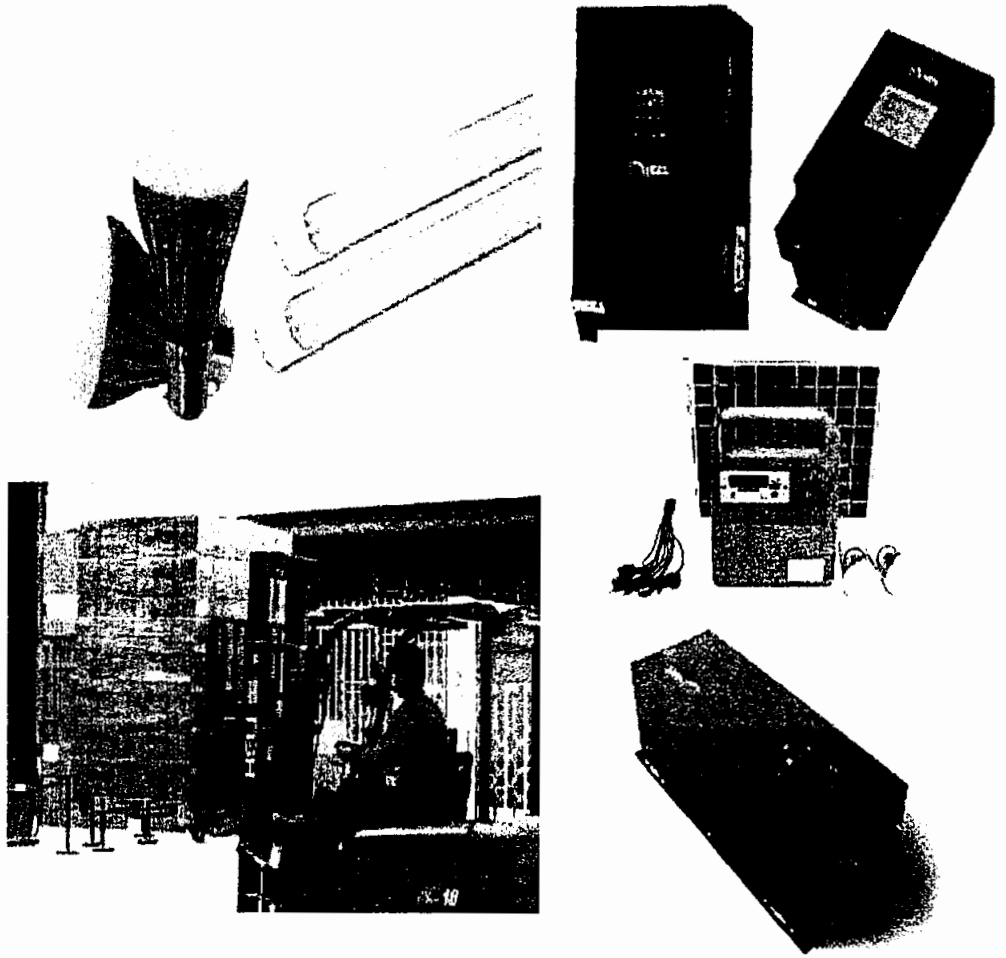
Global distribution network supported by in-market, sufficient **Stock**

Localized technical support and after-market **Service**

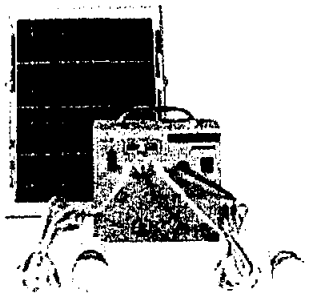
Highly **I**ntegrated **S**olar **E**lectrification **L**eader

HiSEL strives to develop a unique business model based on a set of comprehensive core competencies that can not be easily copied: Canadian brand, in-house product development based on real-time market feedback, efficient supply chain management, global distribution network, localization, in-market sales and support, standardization, portfolio of producing assets, etc

HiSEL Portfolio of Products



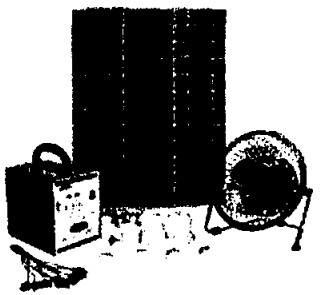
1. Portable Solar Systems



A. DC Systems

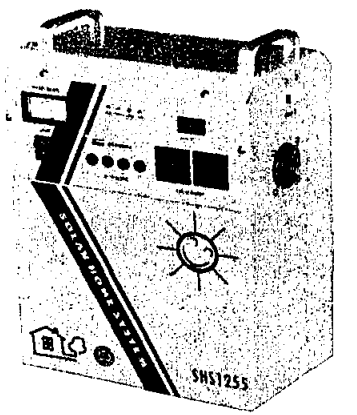
LED bulbs, USB charge ports, and dc fans (optional)
Easy-to-install, user-friendly and maintenance-free

Panel	10W	16W	20W	30W
Battery	7Ah	12Ah	17Ah	24Ah



B. DC & AC Systems

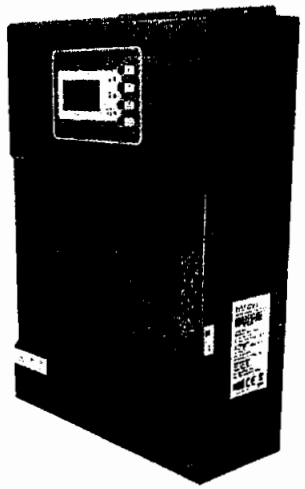
Provide DC & AC outputs
Built-in solar & grid charger for increased backup time
USB port available
Comprehensive protection
Reliable & maintenance-free



SHS1255A	300W	12V45Ah	12V10A

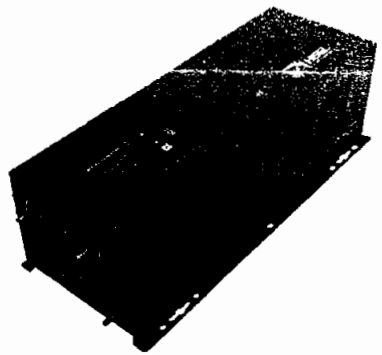
2. Battery Inverters, Inverter/Chargers

A. High-Frequency Series



Bat. Voltage	12V	24V	24V	48V	48V
Grid Input	90~280Vac (applicable for inverter/chargers)				
Output	220V/230Vac				

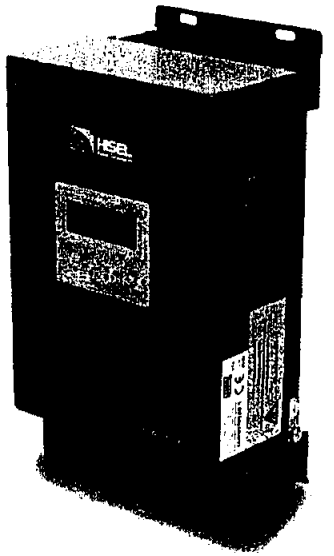
B. Line-Frequency Series



Bat. Voltage	12/24V	12/24V	24/48V	48V
Grid Input	155~265Vac (applicable for inverter/chargers)			
Output	220V/230Vac			

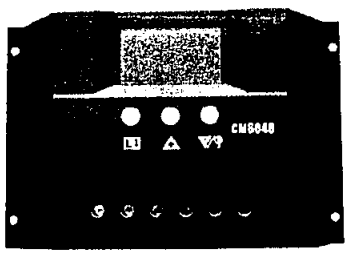
3. Solar Charge Controllers

A. MPPT Series



Bat. Voltage	12/24/48V	12/24/48V
Max. PV Voltage	150Vdc	
Max. PV Power	1700W	3400W

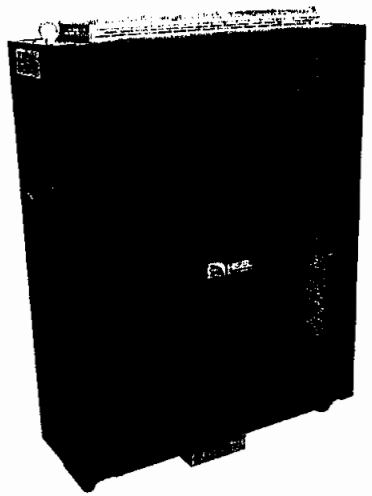
B. PWM Series



Bat. Voltage	12/24V		48V	
Max. Charging Current	30A	30A	50A	50A

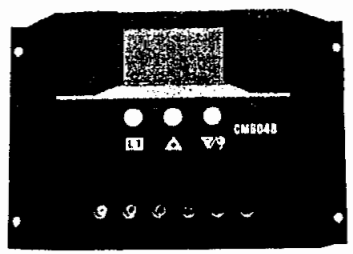
3. Solar Inverter

A. Infini Inverter



Bat. Voltage	12/24/48V
Max. PV Voltage	150Vdc
Max. PV Power	3400W

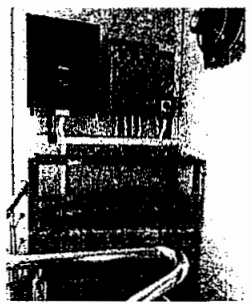
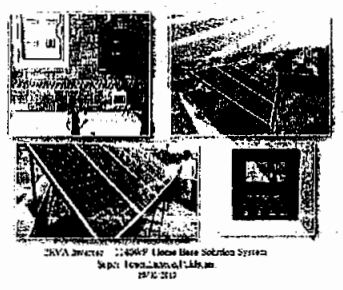
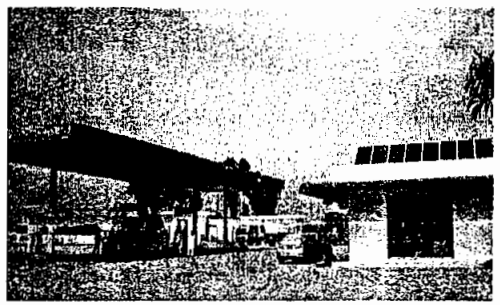
B. PWM Series

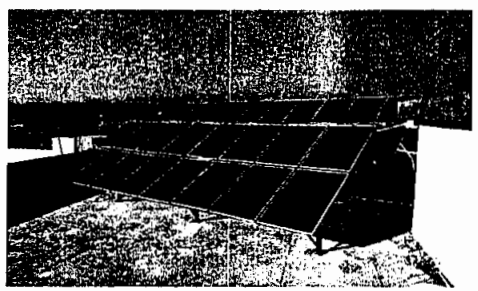
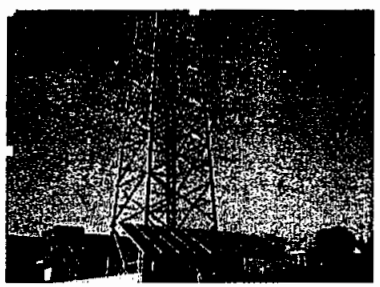
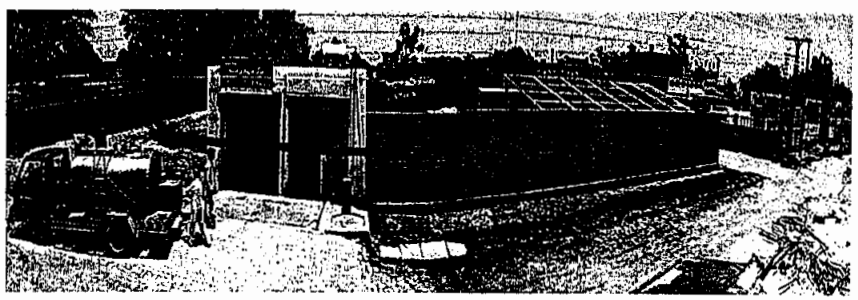


Bat. Voltage	12/24V		48V	
Max. Charging Current	30A	30A	50A	50A

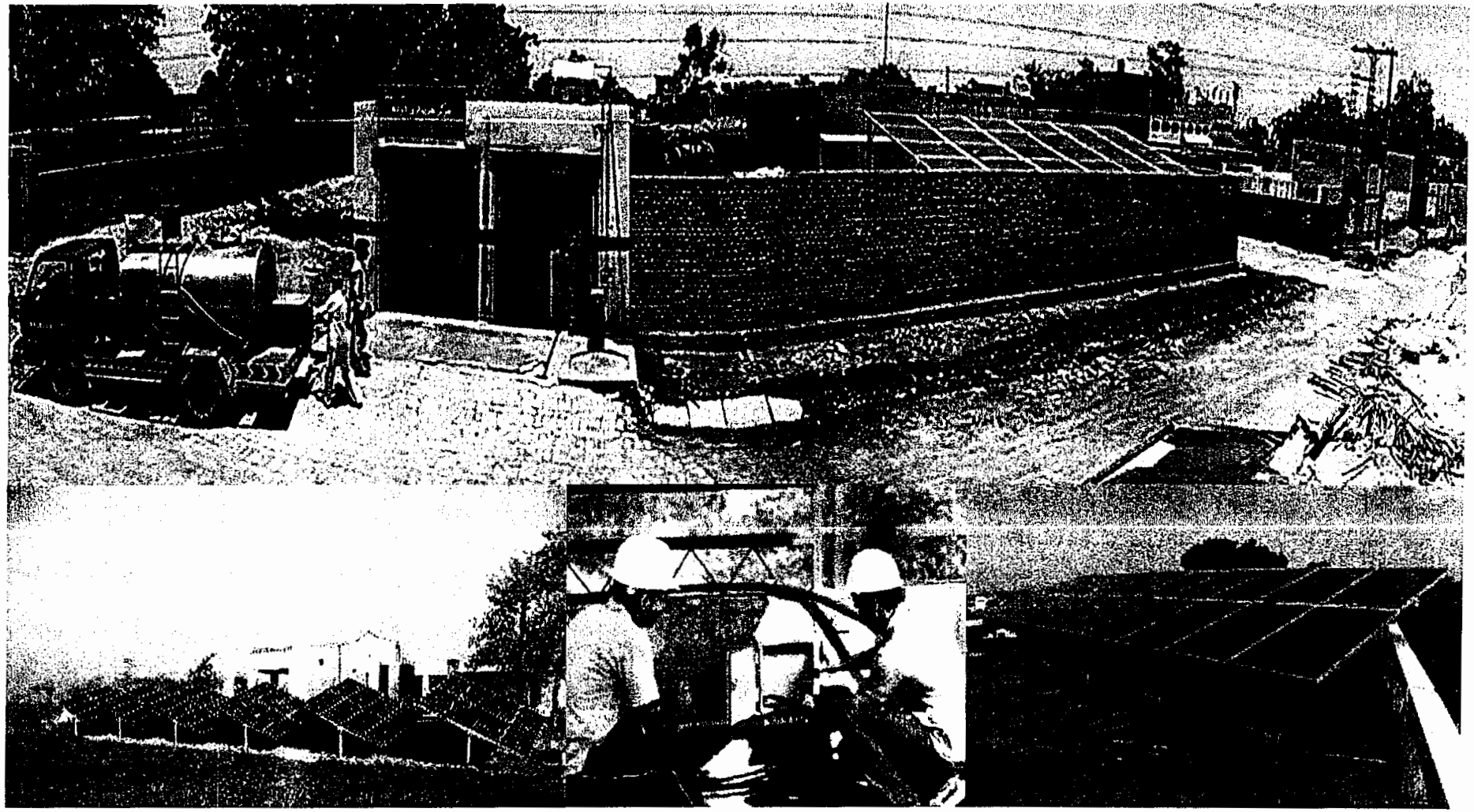
Reference Projects

- ✓ Numerous installations for residential houses, offices, factories, hotels, shops, schools, hospitals, banks, street lighting, agricultural tube wells, telecom BTS sites, poultry farms, petrol stations, and many more
- ✓ Extensive distribution, maintenance and repair service network
- ✓ International standard warranty of HiSEL products at competitive prices
- ✓ Continuous product development and improvement based on market feedback

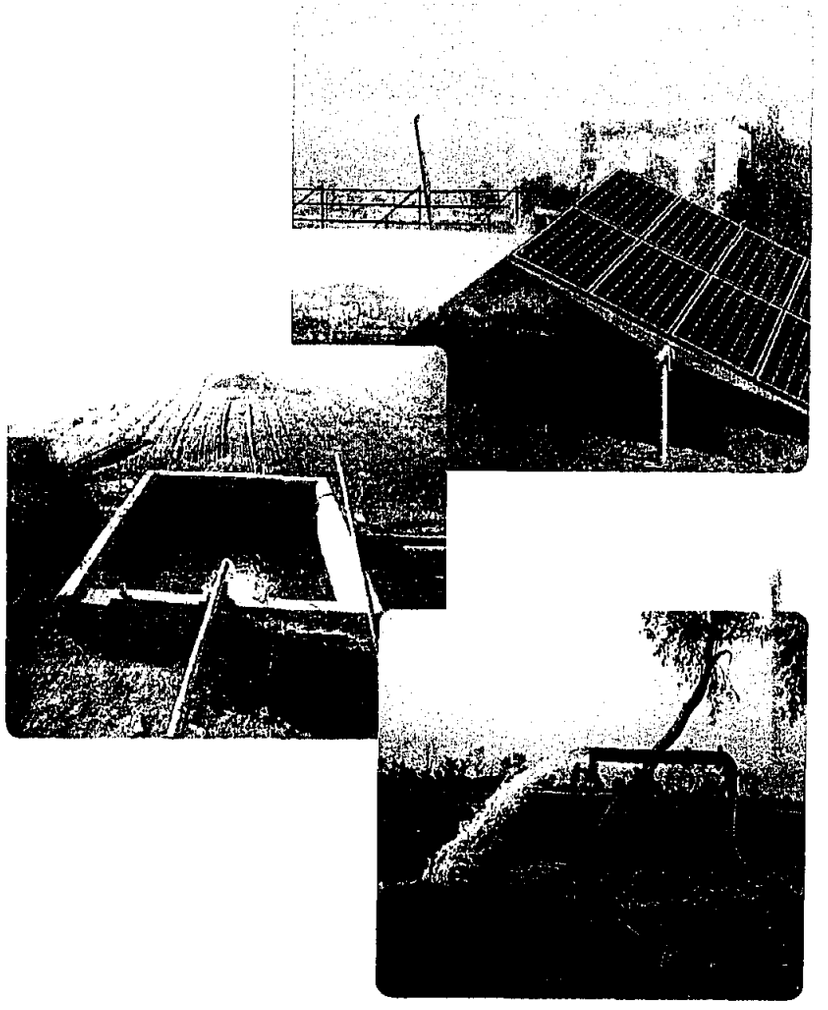




Distributed Off-grid and Hybrid Solar Systems



Solar Tubewell

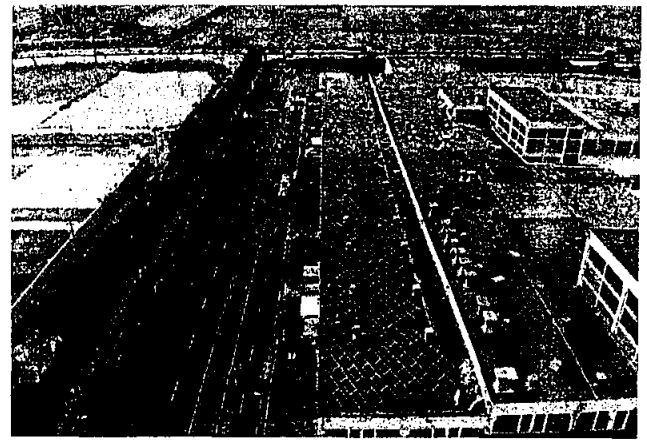
- ✓ We offer wide range of tube well systems.
- ✓ System start from range of 1HP to 50 HP.
- ✓ Suitable for DC & AC motors.
- ✓ It provides autonomous day time operations with switching option on grid in evening.
- ✓ Solar panels have more than 20 years of life.
- ✓ Solution covered under warranty.
- ✓ After sales support and spare parts available at all the time.
- ✓ Financing is also available through micro finance & agriculture banks.

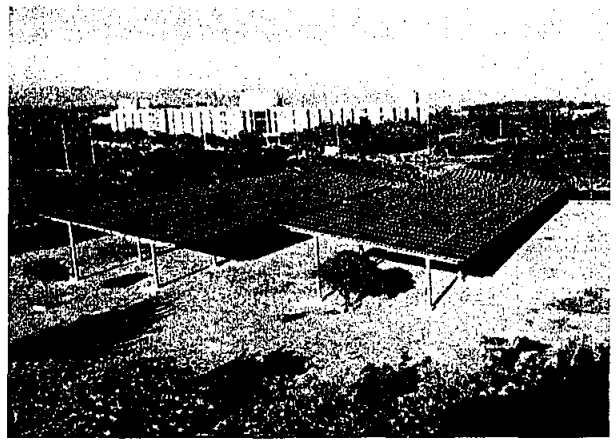


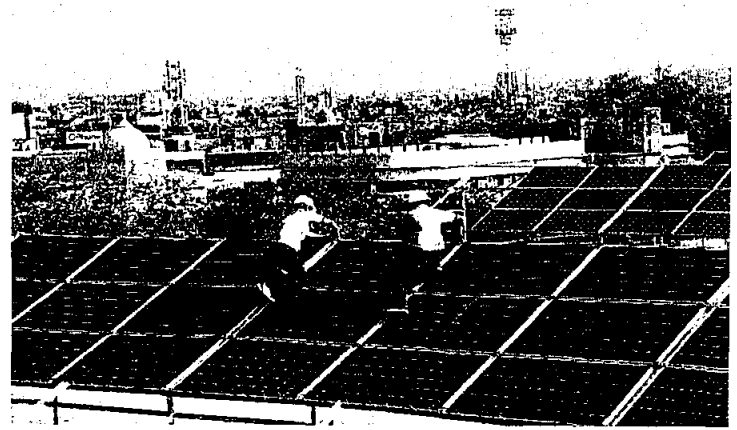
Micro-Grid Captive Power Plant

HiSEL Power Corporation

- ✓ HiSEL provides small distribution generations systems.
- ✓ The system range starts from 1MW to 5MW
- ✓ These are scalable, can be customized as per client's needs and requirements
- ✓ Solutions are offered with comprehensive warranties
- ✓ After sales support and spare parts availability is ensured at all the time
- ✓ Financing options are available through local and international banks.



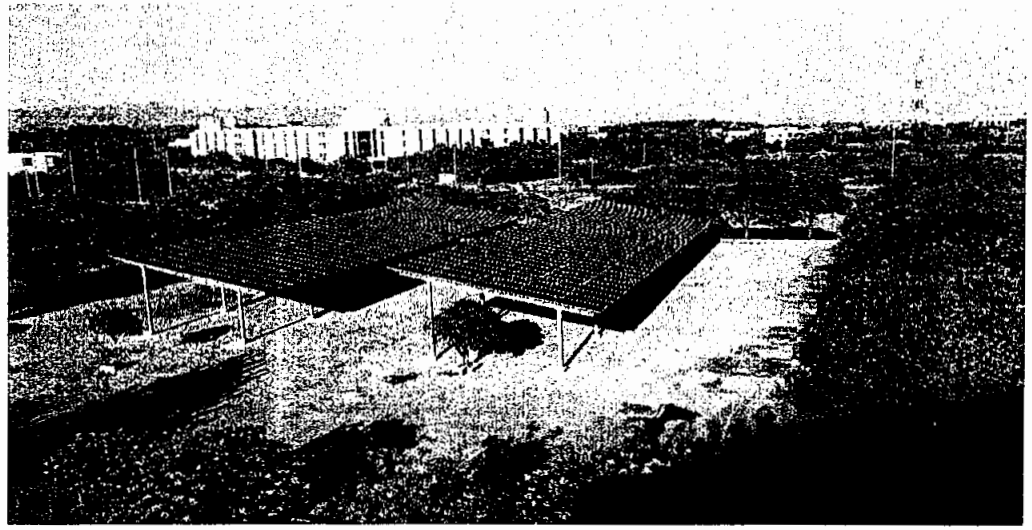


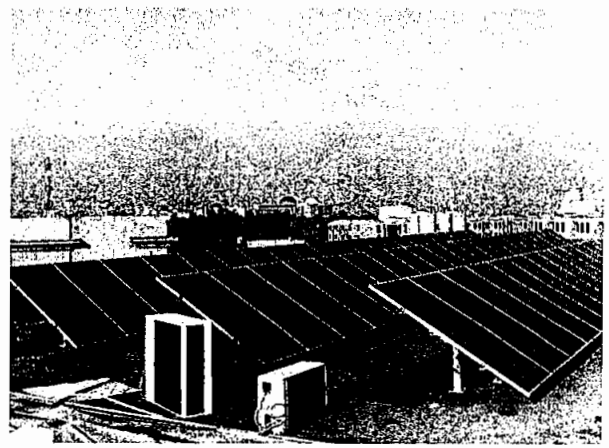


National Univ. of Science and Tech. (NUST)

HiSEL Power Corporation

- ✓ A signature project funded by the USAID at the US-Pakistan Center for Advanced Studies in Energy.

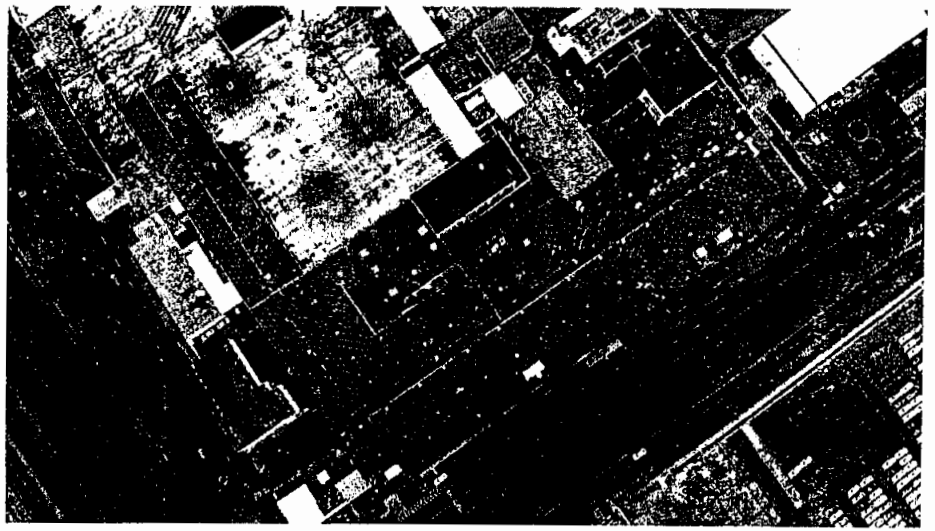


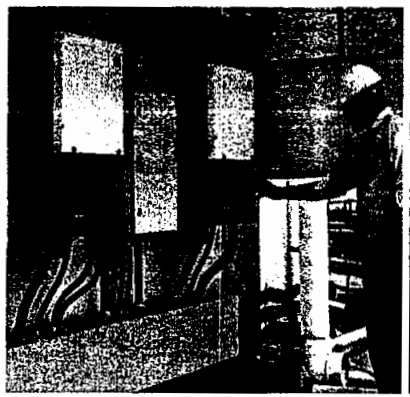


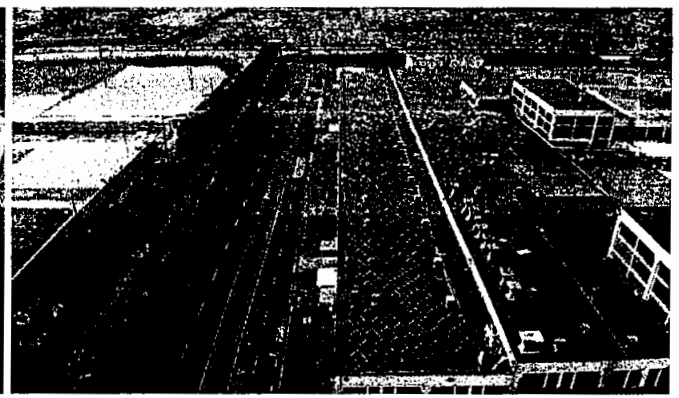
HONDA Lahore: 500 KWp

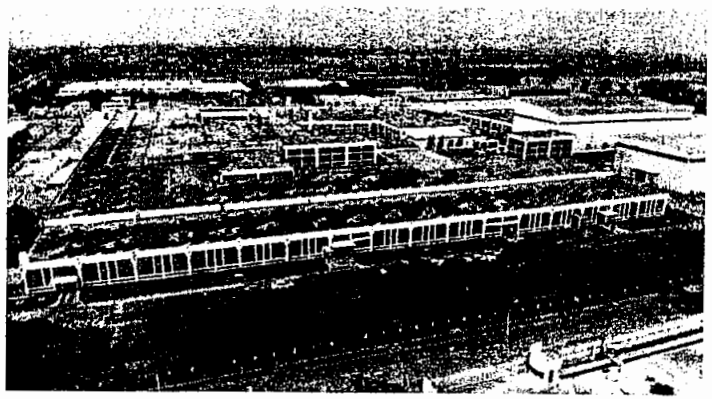
HiSEL Power Corporation

- ✓ Size: 500KW
- ✓ Location: Manga Lahore
- ✓ Honda car manufacturing facility





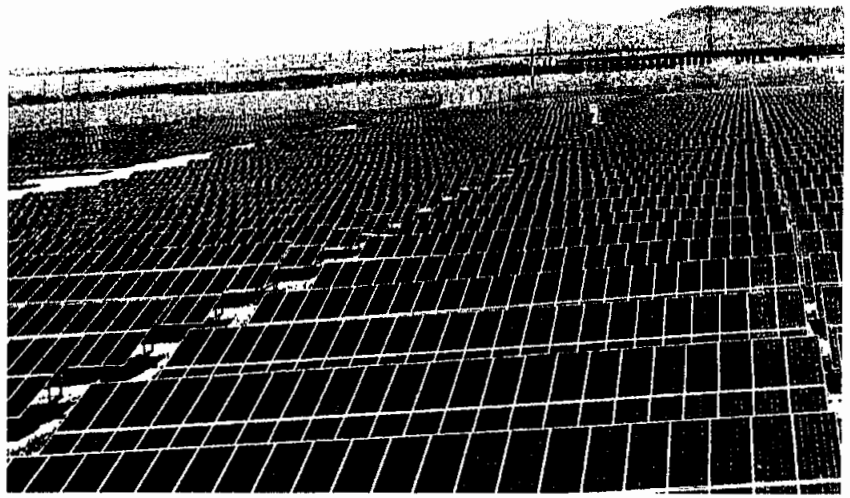


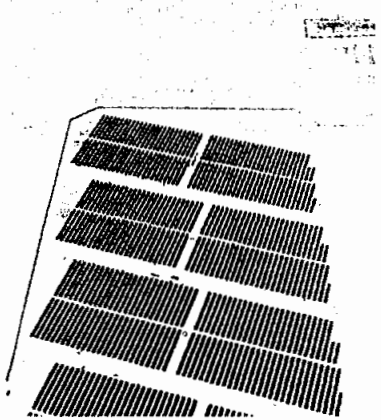


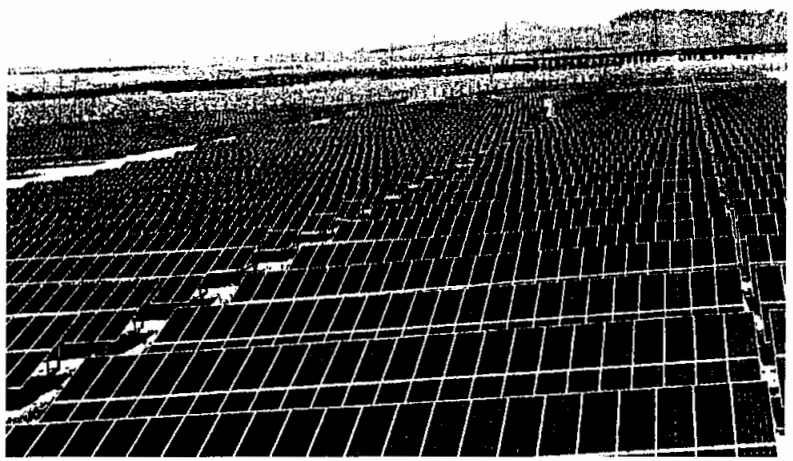
Dynavolt Large PV Solar Power Plants

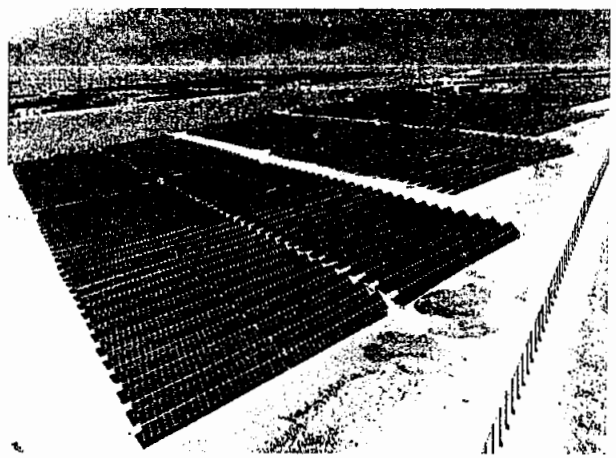
HiSEL Power Corporation

- ✓ Backed by Dynavolt, HiSEL has the ability to provide utility level, centralized, grid-tied systems on BOT basis.
- ✓ It has pool of engineers and PV experts available in China and Pakistan
- ✓ It is equipped with latest PV software and tools helpful in designing and implementing the project
- ✓ Co-financing and options for bulk power purchase agreement are available







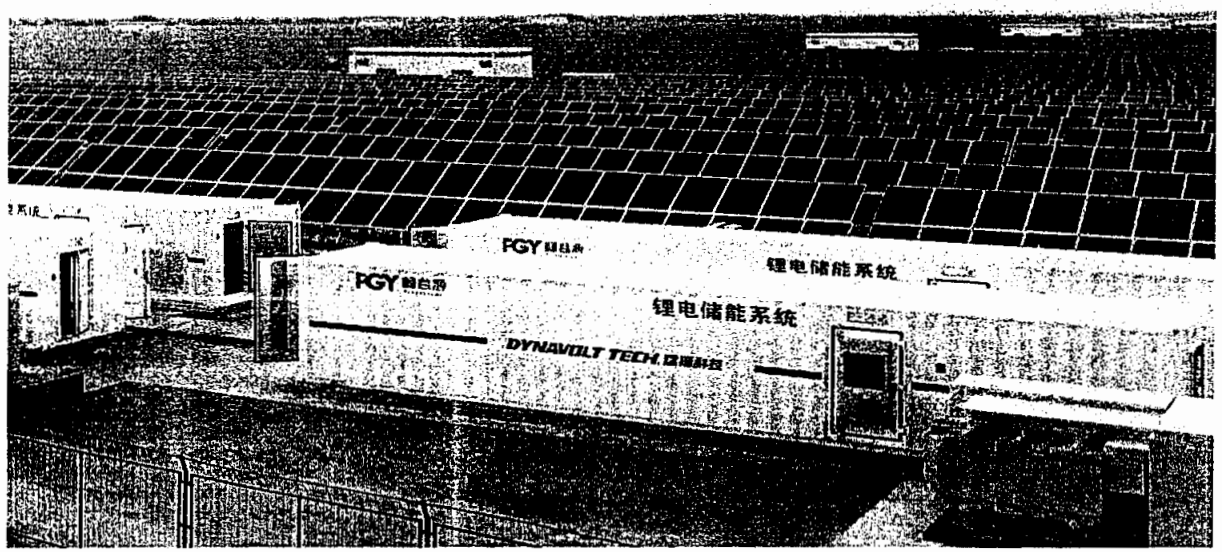


Dynavolt Solar and Energy Storage Systems

HiSEL Power Corporation

500MWh

- ✓ ESS stores the part of electric energy that was discarded during the peak period of PV power generation, it can discharge to grid during the other period which is allowed by grid, and achieve the conversion and regulation of energy.



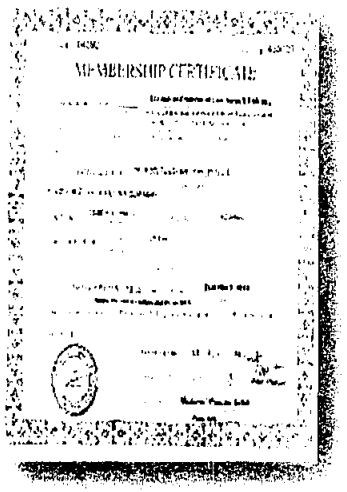
Dynavolt 100 MW Project in China

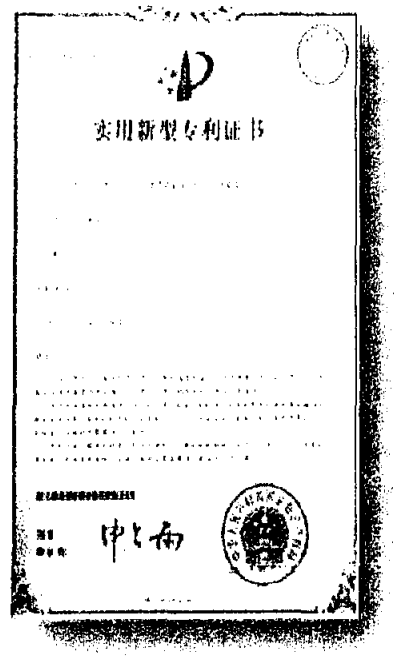
HiSEL Power Corporation

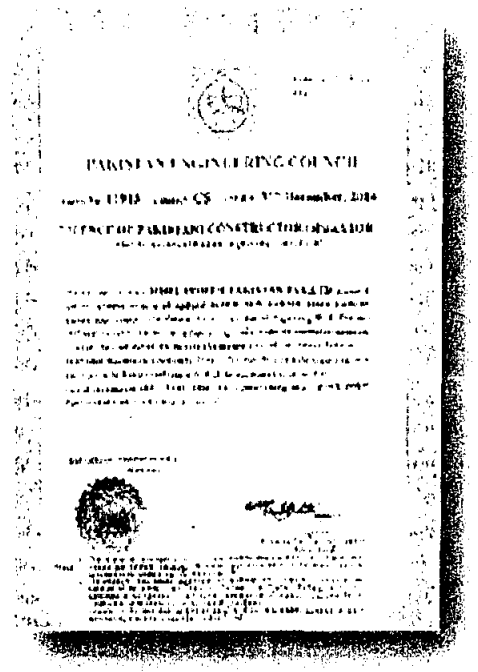
100MW

- ✓ It's the biggest Mountain PV power station in HuBei province
- ✓ Mountain PV power station (ON GRID)

Patents, Certificates, Honours and Partners







Financial Partners

HiSEL Power Corporation

JS BANK

BOP
THE BANK OF PUNJAB

ZTBL
ZARAI TARAQIATI BANK LIMITED

YELLOW DOOR ENERGY
AN ADENIUM CAPITAL COMPANY

Major Projects Completed

NUST	250 kW	Islamabad	Further Extension of 250 kW is underway at NUST, Islamabad.
Atlas Honda	500 kW	Lahore	500 kW project completed at Atlas Honda Manga Mandi, Lahore Site
NUST	250 kW	Islamabad	Installtion of 250 kW solar system at NUST University, Islamabad campus.
Sadiq Plaza	100 kW	Lahore	Installation of 100 kW commercial solar system.
Silk Branch	Multiple Sizes	Multiple Sites	Solariztion of multiple Silk Bank branches.
Telenor	-	Multiple Sites	Installation & comissioning of battery banks at Telenor communication towers.
UNHCR	-	Multiple Sites	Solarization of Basic Health Units (BHU) all around Pakistan.
UNHCR	-	Lahore	Solarization of Shalimar Bagh.
FATA	Multiple Sizes	Multiple Sites	Solarization of multiple schools across FATA.
Nestle	-	Sheikhupura	Solarization of Nestle Sheikhupura Factory.
Engro	-	Punjab	Solarization of Engro milk collection centre.

Ongoing Projects

Superior Textile	1.2 MW	Lahore	PPA
TREET Corporation	366 kW	Lahore	PPA
Bahadur Industries	357 kW	Lahore	CAPEX
Sesil Pvt. Ltd.	200 kW	Sialkot	Bank Financing
MEGADON Classic International	120 kW	Sialkot	Bank Financing
Cosmo Enterprises	40 kW	Sialkot	Bank Financing
Serena Textile	660 kW	Lahore-Sheikhupura Road	CAPEX
Pak Panther	500 kW	Lahore	PPA

Valuable Customers and Partners

HiSEL Power Corporation

Atlas Honda

UNHCR The UN Refugee Agency

unicef

Nestlé

SILKBANK Yes we can

engro

First Women Bank Limited (FWBL)

telenor

On Farm Water Management

TEVTA Government of the Punjab

National University of Sciences & Technology Pakistan

Karakoram International University

Thank You

For further information, please contact

Michael Wang, CEO
michael.wang@hiselpower.com

ANNEX VIII

Reference letters of YDEL & HISEL Power Corporation

النابودة للسيارات

AL NABOODA
AUTOMOBILES

November 20th, 2019

SUB : REFERENCE FOR YELLOW DOOR ENERGY

Dear Sir or Madam,

We are pleased to recommend the services of Yellow Door Energy. We are satisfied with the project's performance and the company's professionalism and responsiveness.

Project Name: Al Nabooda Automobiles
Services Renderod: Solar Lease
Project Location: Dubai Industrial City, Dubai, UAE
Solar Plant Capacity: 3088 kwp
Date of Commissioning: December 2019

If you have any additional questions about the project, please feel free contact me.

Sincerely,

Thomas Faerber
General Manager - Projects
Phone Number: +971 47053386
Email: thomas.faerber@nabooda-auto.com
Website: www.nabooda-auto.com

greenhouse impex l.l.c جرين هاوس إمبكس ذ.م.م

IMPORTERS, WHOLESALERS

October 28th, 2019

REFERENCE FOR YELLOW DOOR ENERGY

Dear Sir or Madam,

We are pleased to recommend the services of Yellow Door Energy. We are satisfied with the project's performance and the company's professionalism and responsiveness.

Project Name: Greenhouse Impex
Services Rendered: Solar Lease
Project Location: Dubai Investments Park 2, Dubai, UAE
Solar Plant Capacity: 869 kWp
Date of Commissioning: November 2019

If you have any additional questions about the project, please feel free contact me.

Sincerely,

[Customer signature]

جرين هاوس إمبكس ذ.م.م
GREENHOUSE IMPEX L.L.C
P.O Box 211265 - Dubai - U.A.E

Contact Details

Full Name: Ziad Abdel Massih
Job Title: Head of Operations
Phone Number: 0555020880
Email: Ziad@greenhouseuae.com
Website: www.greenhouseuae.com

ELCOME

29 October 2019

REFERENCE FOR YELLOW DOOR ENERGY

Dear Sir,

We are pleased to recommend the services of Yellow Door Energy. We are satisfied with the project's performance and the company's professionalism and responsiveness.

Project Name: Elcome International LLC, Head Office Rooftop Solar Plant
Services Rendered: Solar Lease
Project Location: Dubai Investments Park, Phase I, Dubai, UAE
Solar Plant Capacity: 311 kWp
Date of Commissioning: December 2018

If you have any additional questions about the project, please do feel free contact me.

Thank you.

For **Elcome International LLC**

Jimmy Grewal
General Manager & Executive Director

Contact Details

Full Name: Prem Nair
Job Title: Manager – IT, Infrastructure & Facilities
Phone Number: +971 4 8121 433
Email: info@elcome.com/prem.nair@elcome.com
Website: www.elcome.com

Elcome International L.L.C.
Dubai Investments Park 598-1121,
PO Box 1788, Dubai, UAE
T +971 4 8121333 | F +971 4 8121300 | E info@elcome.com
elcome.com

October 29th, 2019

REFERENCE FOR YELLOW DOOR ENERGY

Dear Sir or Madam,

We are pleased to recommend the services of Yellow Door Energy. We are satisfied with the project's performance and the company's professionalism and responsiveness.

Project Name	**: Kamal Osman Jamjoom Group**
Services Rendered	**: Solar Lease**
Project Location	**: Dubai Industrial City, Dubai, UAE**
Solar Plant Capacity	**: 246 kWp**
Date of Commissioning	**: June 2019**

If you have any additional questions about the project, please feel free contact me.

Sincerely,

Alex Anil
Sr. Logistics Manager
009714 3355232 (Ext: 6103)
alex.anil@kojamjoom.com
www.kojamjoom.com

69-SHAHRAH-E-QUAID-E-AZAM. LAHORE-PAKISTAN
PHONE: 36302713-36301609

SADIQ ENTERPRISES

COMPLETION CERTIFICATE

100KW SOLAR HYBRID SYSTEM

This is to certify that M/S HiSEL Power Pakistan has successfully installed and commissioned **100KW Solar Hybrid System** at Sadiq Plaza, LAHORE.

Following appliances are being operated on Solar Hybrid System

1. Fans
2. Lights
3. Computer Systems
4. Air conditioners
5. Deep Freezers
6. Chillers
7. Heaters

The Solar System is running the mentioned load satisfactorily since 10/04/2014

ArifSadiq
Owner

Project Completion & Acceptance Certificate

This is to certify that 504.8 kWp Solar Power Plant situated at Honda Atlas Cars Pakistan 43 km Multan Rd, Manga, Lahore Limited has achieved the completion status on 15th day of APRIL, 2019 as the EPC Contractor has achieved, completed and/or performed all of its obligations required under the contract in regards to the Actual Project Acceptance of the Project by owner as defined.

In WITNESS WHEREOF, EPC Contractor has executed and delivered this Certificate through its duly authorized representative as of the 15 day of APRIL, 2019

(EPC Contractor)
HiSEL Power Pakistan (Pvt) Ltd.

By: Muhammad Rizwan

Title: Director Operations

HISEL POWER PAKISTAN (PVT) LIMITED
HiSEL

Acceptance of Above Certificate

IN WITNESS WHEREOF, Owner has caused this Acceptance of above Certificate to be executed by its duly authorized representative as of the 15th day of APRIL, 2019.

(Owner)

By: Zulfiqar Ali

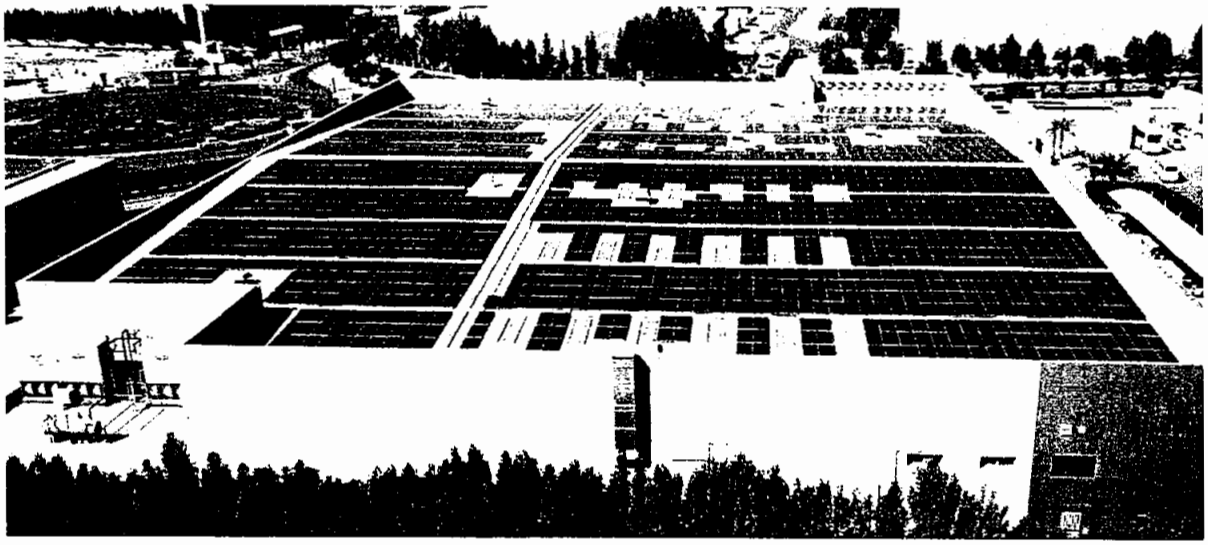
Title: Manager maintainance

Honda Atlas Cars (Pak) Ltd.

.com

ANNEX IX

FEASIBILITY STUDY



FEASIBILITY STUDY FOR ROOFTOP SOLAR INSTALLATION AT TREET CORPORATION LIMITED, LAHORE PUNJAB

YDE SA (SMC/PVT.) LTD.

Table of Contents

Executive Summary

The feasibility study examines the costs, practicality, and likely outcome of a solar photovoltaic (PV) installation on the rooftop of Treet Corporation Factory at Peco Road, Lahore.

The main outcome of the feasibility report is given below:

Technical Site Analysis: The project site is suitable for a solar PV energy system. For the purpose of estimation of power generation potential, solar insolation is assumed to be "good" (1,702 kWh/m^2/year). Panel azimuths (155^0 degrees), panel tilt (15^0degrees) and satisfactory roof condition and structure are also assumed.

Anticipated System Information: The project will accommodate a 366.52 kWp (DC) Solar PV system with a projected annual production of 548.4 MWh/year. Use of LONGi LR4-72HPH-440M PV Panel as a basis for design will result in an acceptable system weight density of 4-5 lb per sq ft. The system will offset approximately 343.04 tons of carbon dioxide annually.

Financial Analysis:

The sponsor, Yellow Door Energy SA (SMC-Private) Limited (YDE SA), is expected to make a total investment of US$ 225,000 to finance the construction of the Treet Project. The capital structure of the project would primarily constitute of a shareholder loan, which would be extended by Yellow Door Energy IRP (Private) Limited (YDE IRP) to YDE SA. YDE IRP has 100% shareholding of YDE SA and is offering a zero-interest bearing loan for the purpose of financing the project.

The ownership of YDE IRP is expected to be transferred to a UAE based firm Yellow Door Energy Limited (YDEL) which implies that YDEL would also become the ultimate owner of YDE SA. YDEL is a financially strong company (financials attached) involved in the business of solar power generation in UAE and is expanding its footprint to Pakistan. So YDE SA would have a strong financial sponsor to rely on when also executing projects beyond Treet.

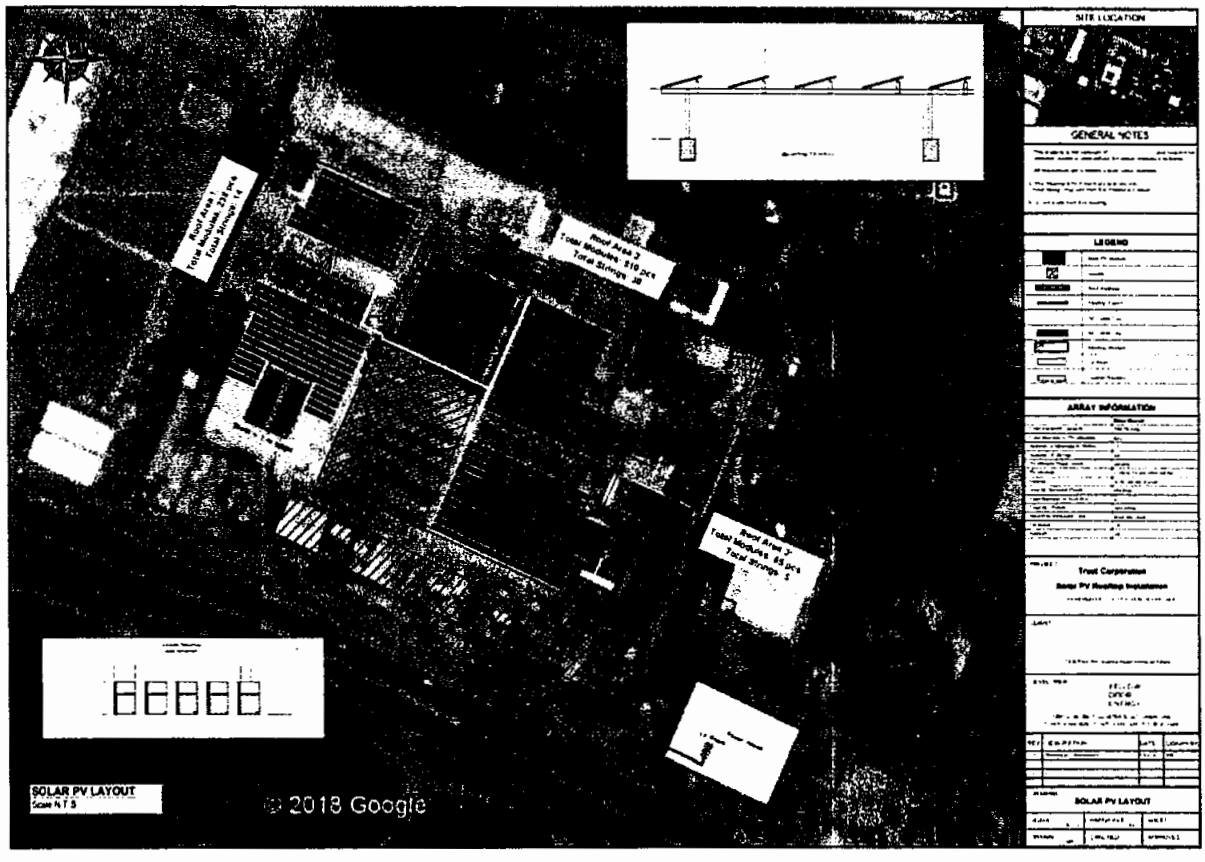
Introduction

The project site is the rooftop of Treet Corporation Factory, Lahore, Punjab. Treet blades factory contains multiple double storied buildings in their facility. The exact coordinates of the project sites are:

Latitude: 31°27'26.51"N

Longitude: 74° 19'51.34"E

A bird's eye view of the project site is given in the figure below:



Technical Analysis

Site Conditions

The following tasks were carried out:

- Global Horizontal Irradiation, annual and inter annual variation was assessed.
- Near shading objects were considered for placement by PV modules.
- Area required for selected module technology was calculated. Keeping in view available area and minimum inter row shading, tilt angle and appropriate spacing was calculated from near shading objects.

Details of the finalized parameters are given under section 3.5.1

Technology Review and Selection

Technology Selection

	SOLAR PANELS – PV MODULES	
i.	Type of Module	Monocrystalline Perc
ii.	Surface Area of Module	2.22498 m^2
iii.	Dimension of each Module	2115 mm x 1052 mm x 35 mm
iv.	Total area of roof top for Solar Panels – PV Modules	8,150 m^2
v.	No. of Modules	833 pcs
vi.	Frame of Module	Anodized Aluminum
vii.	Weight of one Module	24 kg
viii.	Module Output Warranty	98% or above (1st Year) | Not more than 0.55% output reduction each other (to 25th Year)
ix.	Number of Solar Cells in each Module	72 Cells
x.	Efficiency of Module	19.8%
xi.	Environment Protection System	Encapsulation and sealing arrangements for protection from environment
xii.	Maximum Power (P_{max})	440 W_p
xiii.	Power Tolerance at STC	0~+5W
xiv.	Operating Voltage @ (P_{max})	41V
xv.	Operating Current @ (P_{max})	10.74A
xvi.	Open Circuit Current (V_{oc})	49.6V
xvii.	Short Circuit Current (I_{sc})	11.33A
xviii.	Optimum Operating Voltage at NOCT	37.9V
xix.	Optimum Operating Current at NOCT	8.61A
xx.	Open Circuit Voltage (V_{oc}) at NOCT	46.3V
xxi.	Maximum System Open Circuit Voltage	1500V (IEC)
	PV ARRAYS	
i.	Modules in a string	17
ii.	Total No. of Strings	49
iii.	No. of Arrays	5
iv.	Modules in Array	170
v.	Total Modules	833
	PV CAPACITY	
i.	Maximum DC Power Input	366.52 kWp
ii.	Net Capacity Factor	17.07% 20.8% (WRT AC)
	INVERTERS	
i.	Maximum DC Power (60^{0}C)	671 kWdc
ii.	Inverter Model	SUN2000-60KTL-M0
iii.	Manufacturer	Huawei

iv.	Maximum DC Input Voltage	DC 1100 V	
v.	Start Voltage	DC 200 V	
vi.	Number of Inverters	05	
vii.	Efficiency	98.7%	
viii.	Max Input Current	DC 132 A	
ix.	MPP Voltage Range	200 V – 1000 V DC	
x.	Output Electrical System	3-Phase, 4-Wire	
xi.	Rate Output Voltage	AC 230/400V	
xii.	Rated Frequency	50 Hz	
xiii.	Power Factor	Adjustable – 0.8 Lag to 0.8 Lead	
xiv.	Power Control	MPP Tracker (6 MPPT/Inverter)	
xv.	Environmental Enclosures	Operating Temperature Range	-25^{0}C to 60^{0}C
		Relative Humidity	100% non-condensing
		Protection Class	IP65
		Operating Elevation	<4000m
xvi.	Protection Devices	DC Disconnect Switch	
		Anti-Islanding	
		DC SPD	
		DC Reverse Polarity Protection	
		AC SPD	
		Residual Current Monitoring Unit	
DATA COLLECTING SYSTEM			
i.	Weather Data	Meteo Control WS600-UMB Irradiation, Temperature, Wind Speed. Humidity, Air Pressure,	
ii.	System Data	1.	DC Input Voltage (V) and (A) for each inverter (Phase,Line)
		2.	Total DC power (kW) generated by PV Array
		3.	AC Output Voltage (V) and Current (A) of each inverter (Phase, Total)
		4.	AC Output Power (kW) and energy (kWh) of each Inverter
		5.	Frequency (Hz)
		6.	Power Factor (PF)

Other Details

i.	COD of the Project (Tentative)	1st July, 2021
ii.	Expected Life of the Project From the COD	25 years

Solar PV yield Estimation and Simulation

The aim of yield estimation is to predict the average energy output of the site. PVSyst software is used for simulation and near shading analysis.

Working Conditions

The solar system will have automatic mechanism to ensure that PV power currently generated by the inverters always matches the current power consumption of the site load. A closed loop control system of inverter AC output is implemented in reference energy flow at grid connection point which will reduce inverter AC output of the inverter if site load will be less than the solar production in case of Load Shedding.

Plant Characteristics

Generation Voltage: 230/400V three phase four wire system

Power Factor at rated power: 0.9

Frequency: 50 Hz

Generation Characteristics: Inverter has built-in features of controllable active power ramp following grid disturbance or normal connection, voltage regulation and frequency response. There are no additional control metering and instrumentations.

Design Parameters

The following tasks were carried out for PV Layout and shading:

Assessment of shading

- Outline layout of area suitable for PV development
- Designing row spacing to reduce inter row shading and associated shading losses
- Designing the layout to minimize cable runs and associated electrical losses
- Choosing a tilt angle, the optimizes the annual energy yield according to the latitude of the site and the annual distribution of solar resource

Module cleaning strategy

- Simulating the annual energy losses associated with various configurations of tilt angle, orientations and row spacing. The optimized configuration and simulation results are given in section "Energy Yield Prediction"
- PV Layouts of the site are given in 3D and 2D view in the following section

Layout

The detailed layout (2D and 3D) of the solar panels is given below: PV Layout may change depending upon site constraints before or during installation. PV Syst simulation is also performed as per following layout:

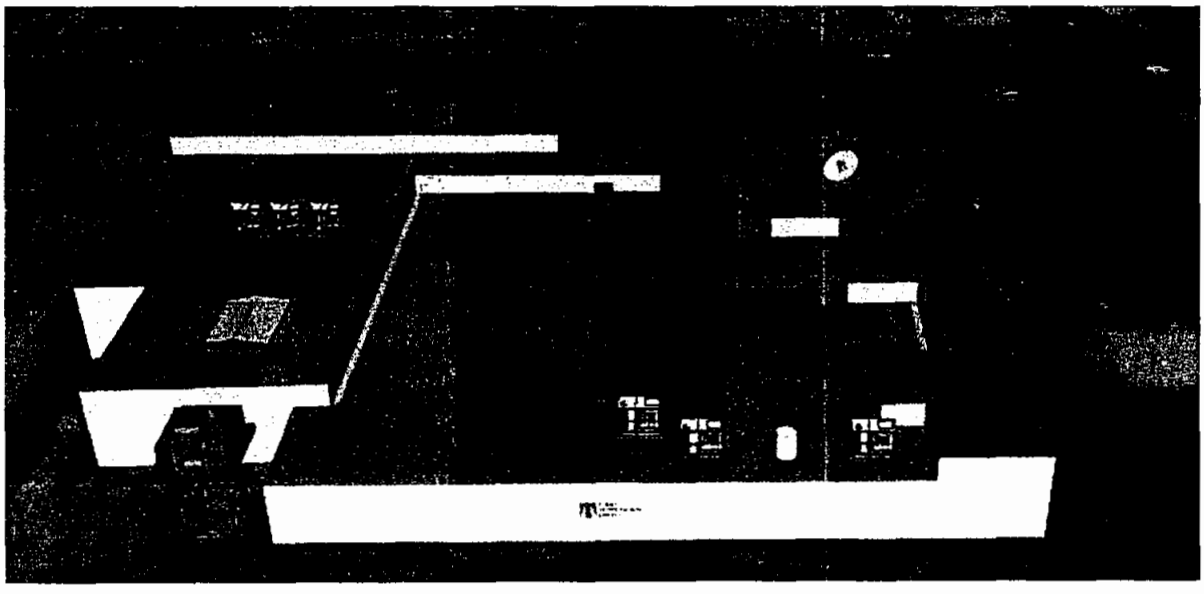


Figure 1: 3D Layout – Treet

Electrical Design

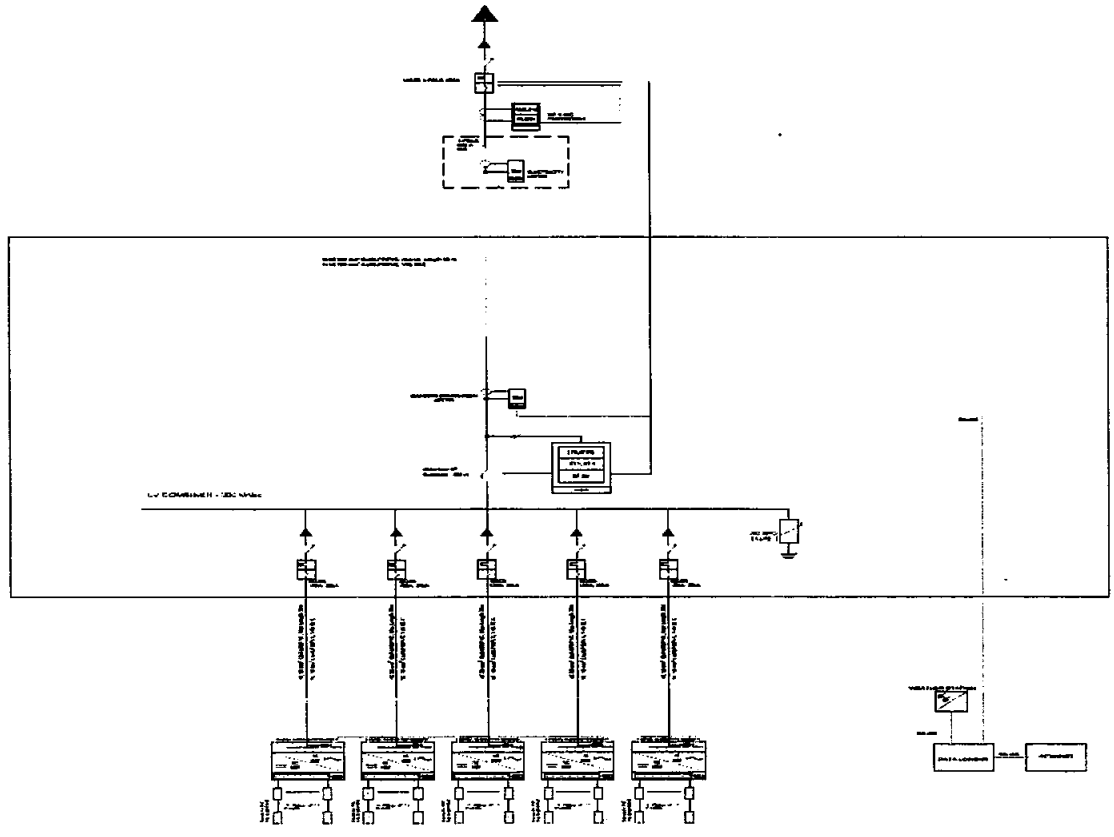
The electrical system comprises the following components:

- Array(s) of PV modules
- DC/AC cabling (module, string and main cable)
- DC connectors (plus and sockets)
- Disconnects/switches
- Protection devices e.g fuses, surge protective devices, breakers
- Energy Meters
- Earthing

The single line diagram is given below. The single line diagram includes the protection devices that will be used for safe and smooth operation of the system.

Protection DC Side: Built in inverter

Protection AC Side: MCBs, Main Breakers, SPDs and Grid Interface Relays.



Energy Yield Estimation

The energy yield prediction provides the basis for calculating project revenues. The aim is to predict the average annual energy output for the lifetime of the proposed power plant.

To estimate accurately the energy produced from PV power plant, information is needed on the solar resource and temperature conditions of the site. Also required are the layout and technical specifications of the plant components.

A number of solar energy yield prediction software package are available in the market. These packages use time step simulation to model the performance of a project over the course of a year. PVSyst software has been used for energy yield prediction for this site and its results are given below. Details of the simulation steps and the outcomes are attached as an Annexure to this Generation License Application.

Safe and Safety Emergency Plans

- Only qualified and authorized electricians will be allowed to undertake servicing or maintenance tasks.
- The authorized personnel will wear appropriate equipment, including a safety harness to restrain from falling of the roof, sturdy shoes that will have thick rubber sides to provide electrical insulation and good grip and appropriate clothing for personal protection, including a hat, sunglasses, gloves and long pants and sleeves.
- Lock nut and tag out procedures will be used before commencement of maintenance tasks.
- Ongoing operation and maintenance concerns for solar power systems will be addressed properly. These systems are exposed to outdoor weather conditions that enhance the aging process and the infrastructure needs to be in place for the ongoing maintenance of these systems to assure their safe operation
- Properly grounded or double insulated power tools will be used for maintenance tasks. Tools will be maintained in good condition.
- Working on electrical equipment and circuits will be carried out in de energized state.
- Proper pathways will be available for operation, maintenance and firefighting.
- Fire protection and suppression will be placed at site.
- Fire protection and suppression will be placed at site.

Training and Capacity Development

Trained and qualified personnel will be available at site 24/7 with proper safety and firefighting training. Training program will focus on but limited to Solar Resource Assessment, Site Survey, Technology, Engineering Design, Regulation, Policy, Metering and Billing and Project Management or Rooftop Solar System. The following components will include in training and development program:

- Collection of resource data
- Variability and uncertainty of resource data
- Site evaluation
- Crystalline and Thin Film technology comparison
- Rooftop solar system components
- Module mounting structure selection
- Inverter Selection
- Design of PV Array
- Shadow Analysis
- DC Cable Sizing
- DC Cable Layout
- Protection and Metering
- Installation and testing standards for solar PV plants

- Solar Module testing standards
- Economy of Roof top Solar System
- Detailed Project Report
- Detailed Project Report
- Operation and maintenance of rooftop solar system
- Safety and firefighting training

Environmental Aspects

Every energy generation and transmission method affect the environment. Conventional generating options can damage air, climate, water. Land and wildlife landscape as well as raise the levels of harmful radiation. PV technology is substantially safer operating solution to many environmental and social problems associated with fossil and nuclear fuels; Solar PV energy technology provides obvious environment advantages in comparison to the conventional energy sources the contributing to the sustainable development of human activities. Not counting the depletion of the exhausted natural resources, their main advantage is related to the reduced CO2 emissions and normally absence of any air emissions or waste products during their operation

The use of solar power has additional positive implications such as Reduction of the emissions of the greenhouse gases (mainly CO2, NOx) and prevention of toxic gas emissions (SO2 particulates)

Socio Economic Aspects

In regard to the socio-economic viewpoint, the benefits of exploitation of solar PV system comprise of:

- Increase of the regional/national energy independency
- Provision of significant work opportunities
- Diversification and security of energy supply
- Support of the deregulation of energy markets

Conclusion

This feasibility study conducted to ascertain the technical feasibility and commercial viability of installation of 366 kWp rooftop PV system at Treet Corporation Factory, Peco Road, Lahore. Based on the outcomes of both the technical and financial analysis captured herein, the subject project is deemed to be viable.

ANNEX X

Health & Safety Plan

YELLOW DOOR ENERGY
AN ADENIUM CAPITAL COMPANY

HEALTH & SAFETY

CONTENTS:

INTRODUCTION

These procedures outline the Owners requirements for the management of Health and Safety from Site mobilization to construction and completion of construction.

The Principal Contractor for this Contract shall be Premier Energy who shall be appointed on award of the Contract.

The Principal Contractor and Sub-contractors of all tiers are ultimately responsible for ensuring the safety of their staff, contractors, agents, visitors and the general public by implementing these requirements or any applicable regional legislation.

The Health and Safety requirements include all aspects of the Works, such as design, manufacture, transportation, construction, commissioning and testing.

The Owner shall verify the safety and health competence of the following key appointments:

- The Principal Contractor as an entity
- The Contractor's design team and or contracted designers, including temporary works designers.
- The Contractor's Project Manager, Site Manager and Commissioning Manager
- The Principal Contractor's contact person, if different to the above
- The Principal Contractor's Safety Manager, Environmental Manager etc.
- The Principal Contractor's Safety advisors
- The main Sub-contractors as an entity

Yellow Door focal point and the Principal Contractor will assess risks to environment and social performance, safety and health and implement all actions shown to be necessary.

Should any of the Principal Contractor activities endanger the health of any employee and /or the environment, such activities will be monitored and where necessary, arrangements for health surveillance made.

Other people may be affected by projects activities e.g. visitors, neighbors, contractors etc., and the Principal Contractor management accepts the responsibility to provide appropriate levels of safety for them.

Yellow Door and Principal Contractor commitment to this policy will assist to develop a positive environment, health and safety culture throughout all areas and activities.

All Sub Contractors will be required to comply with all current Health, Safety and Environment legislation.

1. INTRODUCTION TO THE ENVIRONMENT & SOCIAL, HEALTH & SAFETY STATEMENT

Yellow Door recognizes its responsibility to monitor the contractor to secure the safety, health and welfare of employees. This Safety Statement specifies the arrangements made for this to be carried out, including available resources, the names of responsible persons, the co-operation required from employees, consultation procedures and available information.

2. REVIEW OF THE ENVIRONMENT & SOCIAL, HEALTH & SAFETY STATEMENT

The E&S focal point will review this Policy annually.

3. COMMUNICATION OF THE ENVIRONMENT & SOCIAL, HEALTH & SAFETY STATEMENT TO CONTRACTOR'S EMPLOYEES

It is important that this Statement is read and acknowledged by all the principal contractor employees. It will be presented at induction to new employees and made available at all times thereafter.

4. HEALTH AND SAFETY TRAINING

All the Principal Contractor employees need to know about:

- The principal contractor Health and Safety Plan.
- The structure and system for delivering this Plan.
- The risks in their work activities that apply to them.

All the Principal Contractor employees will receive induction training. Such training will cover-Fire Procedures, Warning Systems, actions to be taken on receiving warning, locations of exits/escape routes, evacuation and Assembly Procedures, First Aid/Injury Reporting Procedures, names of First Aiders/Appointed Persons, issue of protective clothing/ equipment, and its use, compulsory protection areas, thorough instruction applicable to their particular duties at work etc.

Training needs will be reviewed by the Principal Contractor as a result of job changes, promotion, new activities or new technology, following an accident/incident and as a result of performance appraisal. Records of training will be kept for all the Principal Contractor employees.

5. PLANNING, MEASURING, AUDITING AND REVIEWING SAFETY PERFORMANCE

a) Planning

Yellow Door's aim is to monitor the Principal Contractor through the E&S focal point to minimize the risks created by work activities. the Principal Contractor will use Risk Assessment methods to decide priorities and set objectives for hazard elimination and risk control. Wherever possible, risks will be eliminated or minimized by the use of physical control measures. Where this is not possible, systems of work and personal

protective equipment will be used to control risks. Performance Standards will be established and performance measured against these.

b) Measuring Performance
The success of action taken to control risks will be assessed by thorough investigation of any accidents, ill health or incidents with the potential to cause harm or loss. the Principal Contractor will aim to identify the underlying causes and take corrective action to prevent recurrence. E&S focal point will monitor the EHS performance of the contractor.

c) Auditing and Reviewing Performance
Environment, Health & Safety arrangements will be monthly audited, and monthly reviews of performance will be carried out by E&S focal point and the Principal Contractor

management with the objective of continual improvement of policies, systems and procedures.

6. RESOURCES

It is recognized that Environment, Health and Safety is a management function equal to any other and sufficient resources will be provided to carry it out. The organization and responsibilities are detailed in the following sections 8. and 9.

7. MANAGEMENT ORGANISATION FOR IMPLEMENTATION OF ENVIRONMENT, HEALTH & SAFETY STATEMENT

The principal contractor responsible for the organization and implementation of the Health and Safety Statement and Yellow Door will monitor the EHS implementation through E&S focal point.

8. HSE Responsibilities of the contractor

The contractor shall:

a) Comply with all applicable safety regulations
b) The contractor shall develop, present and implement a complete health and safety plan (HASP) which must be approved by the client representative and the E&S focal point.
c)To take reasonable care for the Health and Safety of themselves and of other persons who may be affected by their acts or omissions at work.
d) To co-operate with Management to enable the employer to carry out his legal duties or any requirements as may be imposed.
e) Not to intentionally or recklessly interfere with, or misuse, any item provided in the interests of Health, Safety and Welfare.
f) To use machines, equipment, dangerous substances, transport equipment, means of production or safety device provided by the employer, in accordance with the training and instructions received.

g) To inform the employer or any other employee with specific Health and Safety responsibilities for fellow employees:
   - Of any work situation where it is considered that the training and instruction received by themselves or a fellow employee, could represent a serious and imminent danger to their Health and Safety, and;
   - Of any matter where it is considered that the training and instruction received by themselves or a fellow employee, could present a failure in the employers' protection arrangements for their Health and Safety, even where no immediate danger exists.

h) provide fencing, lighting, guarding and watching of the Works until completion and taking over under Clause xx [Employer 's Taking Over],

9. RULES COVERING HEALTH AND SAFETY AT WORK

This section of the Health and Safety Statement specifies the safety rules in operation, which employees must adhere to. These rules are prepared in accordance with legal requirements and acknowledged safe working practices. In addition to the legal duty imposed upon employees to comply with these rules, failure to observe them will be considered to be a breach of the Principal's Contractor Contract of Employment and will result in disciplinary action being taken.
It should also be borne in mind that a breach of Health and Safety Legislation by an employee is a criminal offence and an Enforcing Officer could take action against an individual.

A) Working Practices

1. Employees must not operate any item of plant or equipment unless they have been trained and authorized to do so.
2. Employees must make full and proper use of all equipment guarding.
3. Employees must report to management immediately any fault, damage, defect or malfunction in any item of plant, equipment or tool.
4. Employees must not clean any moving item of plant or equipment.
5. Employees must not leave any item of plant or equipment in motion whilst unattended unless authorized to do so.
6. Employees must not make any repairs or carry out maintenance work of any description unless authorized to do so.
7. Employees must use all substances, chemicals, liquids etc. in accordance with instructions.
8. Employees must observe all pedestrian and vehicle controls in force on the premises.

B) Hazard Warning Signs and Notices

Employees must comply with all hazard and warning signs and notices displayed on the premises.

C) Working Conditions and Environment

1. Employees must make proper use of all equipment and facilities provided to control working conditions.
2. Employees must keep stairways, passageways and work areas clear and in a clean and tidy condition.
3. Employees must dispose of all rubbish, scrap and waste within the working area, using the facilities provided.
4. Employees must use the correct methods when removing any articles of waste for disposal.
5. Employees must clear up spillages or liquids within the work area.
6. Employees must not pollute watercourses, sewers or drains with chemicals, or substances.

D) Protective Clothing and Equipment

1. Employees must use all items of protective clothing and equipment provided as instructed.
2. Employees must report any damage, loss, fault or unsuitability of protective clothing or equipment to their supervisor.

E) Fire Precautions

1. Employees must comply with all laid down Emergency Procedures.
2. Employees must not obstruct any Fire Escape Route, fire equipment or fire doors.
3. Employees must report any use of firefighting equipment to their supervisor.

F) Contractor Company Transport

1. Employees with company vehicles must carry out daily check of their vehicles, paying particular attention to tires, oil, radiator water and windscreen wash in accordance with the manufacturer's manual.
2. Employees must not drive or operate any vehicles for which they do not hold the appropriate driving license or permit.
3. Employees must not carry unauthorized passengers or unauthorized loads.
4. Employees must not use vehicles for unauthorized purposes.
5. Employees must not overload vehicles above the stated capacity.
6. Employees must not drive or operate vehicles whilst suffering from a medical condition or illness that may affect their driving or operating ability.

G) Accidents

1. Employees must seek medical treatment for any injury they may receive, no matter how slight it may seem to be. Upon returning from treatment they must report the incident to their Line Manager.
2. Employees must report all accidents and dangerous occurrences to management as soon as it is practicable.
3. Employees must notify management of any incident in which damage is caused to property.

H) Health

1. Employees must report to management any medical condition, which could affect the safety of themselves or others.
2. Employees must co-operate with the management on the implementation of the Medical and Occupational Health Provisions.

I) Rules Covering Gross Misconduct

An employee will be liable to dispensary actions if he/she is found to have acted in any of the following ways:

1. A serious or willful breach of safety rules.
2. Unauthorized removal or interference with any guard or protective device.
3. Unauthorized operation of any item of plant or equipment.
4. Unauthorized removal of any item of First Aid equipment.
5. Willful damage to, misuse of, or interference with any item provided in the interests of Health and Safety or welfare at work.
6. Unauthorized removal or defacing of any label, sign or warning device.
7. Misuse of chemicals, inflammable, hazardous or toxic substances.
8. Horseplay or practical jokes, which could cause accidents.
9. Making false statements or in any way deliberately interfering with evidence following an accident or dangerous occurrence.
10. Misuse of any item of equipment, utensil, fitting/fixture, vehicle, or electrical equipment.

10. FIRE ARRANGEMENTS

This section outlines the arrangements and responsibilities for evacuation in the event of fire.

- All the principal contractor employees must receive instruction and training in the procedures to be followed in the event of a fire.
- As part of the fire arrangements, a person has been nominated who is responsible for Fire Safety planning/fire precautions, Evacuation Drills, fire appliance checks, Fire Alarm tests and record keeping.
- Fire Evacuation Drills will be arranged by the nominated person twice per year.

A) Fire Procedures

Upon discovering, hearing or being notified of a fire,
THE SENIOR PERSON PRESENT WILL:

1. Telephone the Emergency Services by dialing:

112

2. When the Operator answers, ask for the FIRE SERVICE and state clearly the telephone number of the premises from which you are calling:

112

3. When connected to the Fire Service, state slowly and distinctly:
   "THIS IS (The principal contractor name), WE HAVE A FIRE".

   Do not replace the receiver until this information has been correctly acknowledged.

4. Evacuate the building by the nearest available exit and proceed to the assembly point.

5. Initiate a roll call for employees and visitors.

6. Liaise with the Senior Fire Officer, giving information concerning:
   a) location of fire
   b) missing employees/visitors
   c) location of dangerous chemicals/substances
   d) location of services isolating points.

7. Liaise with the Fire Officer before re-entering the building.

8. Ensure that all discharged fire extinguishers are replaced.

B) Fire Notice

When notified of a fire, all employees should leave the building by the nearest available exit and assemble outside in front of the office building.
A roll call will be held, to ensure all persons are accounted for, and no one is left in the building. Do not delay leaving the building by collecting personal belongings.

VISITORS

Please assemble at the location identified above where a roll call of visitors will be held - it is important that you do not leave the area before notifying the Senior Person present.
Do not delay leaving the building by collecting personal belongings.

SENIOR PERSON PRESENT

a) Ensure that the FIRE SERVICE has been summoned.
b) Initiate a roll call for employees and visitors.
c) Inform the fire service of the suspected or actual location of the fire, any missing persons, any dangerous substances present and service isolation points, e.g. gas mains/valves, electricity, etc.
d) Do not re-enter the building until told that is safe to do so by the Fire Officer.
e) Ensure that all discharged fire extinguishers are replaced.
f) Keep a record of the incident.

11. ACCIDENT AND INJURY REPORTING PROCEDURE AND RECORDS

All injuries no matter how minor should be treated and a record made in the Accident Book:

1. The injured person reports for First Aid Treatment.
2. The responsible person will decide what actions are necessary (if any), carrying out an investigation and recording details on the form if appropriate.
3. The responsible person will notify the Authorities immediately if the injury results in absence from work of more than 3 days.

12. FIRST AID ARRANGEMENTS

A trained First-Aider or appointed person by the principal contractor, First Aid equipment and records are provided. Displayed throughout the premises are notices, which detail the following:

LOCATION OF FIRST AID KIT

In Office and on site.

LOCATION OF RECORD OF ACCIDENT/TREATMENT RECORD BOOKS

In Office.

13. WASTE MANAGEMENT

The Contractor shall produce a Site Waste Management Plan that must identify the client, the principal contractor; and the person who drafted it.

It must describe the construction work proposed, including:

- the location of the site; and
- the estimated cost of the project.

It must record any decision taken before the site waste management plan was drafted on the nature of the project, its design, construction method or materials employed in order to minimize the quantity of waste produced on site.

It must

- describe each waste type expected to be produced in the course of the project;
- estimate the quantity of each different waste type expected to be produced; and
- identify the waste management action proposed for each different waste type, including re-using, recycling, recovery and disposal.

14. TRAFFIC MANAGEMENT

Traffic management related accidents represent a significant risk to personnel engaged in construction activities, as, poor traffic management controls have been identified as being one of the main causes of accidents. As traffic management is an essential element of this Contract, a comprehensive traffic management plan will be required prior to works commencing, including Site mobilization.

The Contractor shall be responsible for the design, implementation, maintenance and demobilization of all traffic safety management arrangements within the Site and any areas outside of the Site which are directly affected by the work Site. The Contractor shall also be responsible for all associated consultations and for obtaining the necessary approvals for the traffic management scheme.

It is the Contractor's responsibility to ensure that the traffic management plan is acceptable to the local authority and any impacted third parties

15. EXISTING UTILITIES

The term 'utility' means all underground services such as electricity, gas, water, storm water drain, foul sewer and telecommunication services. Buried utilities can be widespread and the Contractor shall assume that they are present unless and until proven otherwise, even when there are no records available.

The exact location and depth of utilities must be verified using appropriate methods, prior to ground penetration by any means at any location.

The location and depth of known existing utilities may be shown on utility record drawings but are not limited to these drawings. Copies of record drawings in the Owner's possession are available from the Owner for inspection. It should be noted that, the locations shown on the drawings may not be accurate and will always require on Site verification.

Prior to commencing works on Site, it shall be the responsibility of the Contractor to satisfy himself that all known underground utilities on Site have been located, identified and recorded.

The Contractor will provide the Owner with details of any additional utilities not shown on the record drawings, and of actual locations of utilities if different to that shown. Once received by the Owner, these drawings will be made available on request to others, as part of the 'Existing Utilities' drawings.

16. EMERGENCY PROCEDURE

1. In the event of requiring the Emergency Services dial 112.
2. When the Exchange Operator answers, ask for the appropriate service.
3. When connected to the required service, state slowly and distinctly:
   "THIS IS (The principal contractor name)"
4. Give details of the incident.
5. Give details of the address
6. Do not replace the receiver until this information has been correctly acknowledged.

17. DANGEROUS OCCURRENCE REPORTING PROCEDURE

Report any dangerous occurrence to the principal contractor HSE Advisor on site.

18. ARRANGEMENTS FOR CARRYING OUT RISK ASSESSMENT

The contractor will carry out a formal risk assessment and record the following:

1. Any significant sources of harm (hazards) to Health and Safety identified during the assessment.
2. Any existing control measures currently in place and their level of effectiveness in controlling those risks (with reference and access to work manuals or other documentation if appropriate).
3. The persons who may be affected by the risks identified, in particular any personnel who may be especially at risk.
4. The decisions taken as a result of the assessment.

A competent team will carry out the risk assessment.
When a hazard is identified and the risk assessed, the necessary arrangements will be decided and put into effect to protect safety and health, including removal of the hazard, control measures, safeguards or the provision of protective equipment.

ANNEX XI

Prospectus

Regarding the project cost we have already submitted that the approx. USD 225,000 project would be financed through inter-company loan, copy of Agreement is attached with Application.

The social and environmental impact of the proposed facility:

a. Almost all conventional methods of energy generation have varying degrees of adverse environmental impact. These methods have far reaching detrimental effects on the climate, air, water, land and wildlife of the adjacent vicinities. However, Solar PV energy technology provides significant environmental advantages in comparison to the conventional energy sources while contributing to the sustainable development of human activities. Besides slowing down the depletion of natural resources, the main environmental advantage is zero air emissions, waste production and eventual reduction in emissions of greenhouse gases (COx, NOx) and toxic gases (SOx).

b. Solar power plants have zero fuel requirement and hence limit the depletion of natural resources, fossil fuels. Unlike conventional thermal power plants, no water consumption is required for cooling purposes. A very optimized quantity of water is occasionally used for plant maintenance / cleaning. As stated earlier, the proposed system of 366 kWp DC (300 kW AC) will offset approximately 343.04 tons of carbon dioxide annually.

c. The Applicant has carried out environment assessment of the site for installation of solar PV Plant. We humbly submit our findings as under:

Environment Parameters	Level of Impact	Reasons	Mitigation Measures
Air Impact	Low	Solar Energy is Carbon Free	(No Emissions)

Water	Low	Plant will required a very low quantity of water for cleaning purpose only	Water will be made available for cleaning of Modules at site.
Land	Low	No Impact on Land	The Project is purely roof based which have no Impact on Land.
Ecosystem	Low	No ecologically sensitive area lies with in premises	There is no significant vegetation cover within the selected area
Socio Eco System	Low	Total area identified for said project is in plant premises and no acquisition is needed	Not Applicable

PROSPECTUS

Brief Introduction of the Applicant:

M/s YDE SA (SMC Private) Limited was incorporated on September 21, 2020 under Section-16 of the Companies Act, 2017, with corporate universal identification No. 0158302. The business office of the company is at 1st Floor of building 140-CCA, Phase V DHA Lahore, Pakistan.

The Company is a special purpose vehicle of Yellow Door Energy IRP (Private) Limited The ownership of YDE IRP is expected to be transferred to a UAE based firm Yellow Door Energy Limited (YDEL) which implies that YDEL would also become the ultimate owner of YDE SA. YDEL which was founded in 2015 in the UAE and Jordan, with the aim of providing sustainable energy solutions for commercial and industrial businesses. Today, the company has over 110 megawatts of solar projects in the Middle East and South Asia. Among its customers are premier businesses such as Nestlé, Unilever, Carrefour/Majid Al Futtaim, and Landmark Group.

Yellow Door Energy IRP (Private) Limited aims to alleviate Pakistan's energy problems by introducing innovative distributed solar and energy management solutions. The Pakistan and the global Yellow Door Energy teams are committed to achieve excellence in every aspect of solar design, construction, and operation & maintenance.

The salient features of the facility or the system in respect of which the licence is sought:

a. Treet Corporation Limited is a subsidiary of Treet Group of Companies which is a one of the largest business groups in Pakistan. The blade manufacturing facility of the Company

is situated at Peco Road, Lahore. Currently the electricity requirements of the factory are met by a mix of different sources that includes 11kV connection of 3.2 MW sanctioned load from the local DISCO and 05 diesel generators.

b. Since the manufacturing facility has intensive demand for electricity and has ample unutilized space available on its rooftop, it is ideally suited for a Photovoltaic (PV) plant installation. In view of the aforesaid, YDE SA has proposed and designed 366 kWp DC (300 AC) solar power plant to be installed at roof top of Treet blade manufacturing facility, Lahore. The project will accommodate a 366.52 kWp (DC) Solar PV system with a projected annual production of 548.4 MWh/year. Use of 833 LONGi LR4-72HPH-440M PV Panel as a basis for design will result in an acceptable system weight density of 4-5 lb per sq ft. The system will offset approximately 343.04 tons of carbon dioxide annually.

c. For the aforementioned purpose, the applicant and Treet Corporation Limited have entered into a 11-year Power Purchase Agreement on BOOT (Build Own Operate and Transfer) arrangement. After thorough deliberation and negotiations the parties signed the Power Purchase Agreement on December 05, 2019 under which YDE SA will design, install and operate a solar power plant of 366 kWp DC (300kW AC) and sell the electricity generated to Treet Corporation Limited at an agreed rate.

The proposed investment:

The capital cost shall include the cost borne by the Applicant Company on feasibility studies, planning, designing, material, construction and installation of the Generation Facility. The cost of land, step-up transformer, interconnection with distribution system of utility are not included being not required.

ANNEX XII

Environmental and Social Soundness Assessment

ESSA (Environmental and Social Soundness Assessment)

1. Introduction:

Extensive fossil fuel consumption in almost all human activities has led to some undesirable phenomena such as atmospheric and environmental pollutions, which have not been experienced before in known human history. Consequently, global warming, green house affect, climate change, ozone layer depletion, and acid rain terminologies started to appear in the literature frequently. Since 1970, it has been understood scientifically by experiments and researches that these phenomena are closely related to fossil fuel uses because they emit greenhouse gases such as carbon dioxide (CO2) and methane (CH4), which hinder the long-wave terrestrial radiation escape into space, and, consequently, the earth troposphere becomes warmer. In order to avoid further impacts of these phenomena, the two concentrative alternatives are either to improve the fossil fuel quality with reductions in their harmful emissions into the atmosphere or, more significantly, to replace fossil fuel usage as much as possible with environmentally friendly, clean, and renewable energy sources. Among these sources, solar energy comes at the top of the list due to its abundance and more even distribution in nature than any other renewable energy type, such as wind, geothermal, hydro, wave, and tidal energies. Solar energy technologies are essential components of a sustainable energy future. Energy from fossil fuels may be inexpensive and assurances may have been given of the plentiful supplies of petroleum and other fossil fuels, but these fuels are finite in nature and a major source of greenhouse gas emissions.

2. Objective:

Pakistan is located in the Sunny Belt and can take advantage of its ideal situation for A utilization of solar energy. The country potential for solar generation is beyond doubt as it has high solar irradiation and enough space for installation of generation system those are ideal for PV and other solar energy applications. Villages and other areas which are away from grid or distribution system of utilities can also benefit from solar power generation which will also save the extra cost of laying the system and the losses. Solar energy, on the other hand, has excellent potential in areas of Pakistan that receive high levels of solar radiation throughout the year. Every day, for example, the country receives an average of about 19 Mega Joules per square meter of solar energy Pakistan being in the Sun Belt is ideally located to take advantage of solar energy technologies. This energy source is widely

distributed and abundantly available in the country. The mean global irradiation falling on horizontal surface is about 200-250 watt per sq.m in a day. This amounts to about 2500- 3000 sun shine hours and 1.9 - 2.3 MWh per sq. meter in a year. It has an average daily global isolation of 19 to 20 MJ/sq. meter per day with annual mean sunshine duration of 8 to 8.5 hours (6-7hrs in cold and 10-12 hrs. in hot season) and these values are among the highest in the world. For daily global radiation up to 23MJ/m2, 24 (80%) consecutive days are available in this area for solar energy. Such conditions are ideal for solar thermal applications.

Pakistan receives about 15.5x1014 kWh of solar irradiance each year with most regions receiving approximately 8 to 10 sunlight hours per day. The installed capacity of solar photovoltaic power is estimated to be 1600 GW per year, providing approximately 3.5 PWh of electricity (a figure approximately 41 times that of current power generation in the country). To summarize, the sun shines for 250-300 days per years in Pakistan with average sun shine hours of 8- 10 per day. This gives huge amount of energy to be used for electricity generation by solar photovoltaic and solar thermal power plants.

3. Environment Assessment:

The Treet project will be executed on private land (Roof Top) within the premises of Purchaser, and the applicant has carried out a detailed environment assessment of the sites in preparation of the Solar PV Plant.

The assessment of the Project has been considered for both positive and negative effects. The proposed photovoltaic Power Project has been located as per international guidelines. Adoption of green power generation with no emission and effluent discharge with have least impact on the ambient environment and on the host community.

The importance of the sustainable development concept has increased in the whole world. As a result, some new regulations enforce that all development projects should be compatible with the environmental criterions. An environmental impact assessment should be carried out to make sure that projects are compatible with the environmental criterions. Environmental Impact Assessment (EIA) can be defined as a process of environmental management, planning. and decision-making with a purpose of keeping and improving the quality of the environment.

The main goal is to develop environmentally friendly industrialization. With this kind of environmentally friendly industrialization, "sustainable development" can

be a possibility in the future by keeping the usage/protection balance between economic development and the environmental protection.

Every energy generation and transmission method affects the environment. Conventional generating options can damage air, climate, water, land & wildlife, landscape as well as raise the levels of harmful radiation. PV technology is substantially safer offering a solution to many environmental and social problems associated with fossil and nuclear fuels. Solar PV energy technology provides obvious environmental advantages in comparison to the conventional energy sources thus contributing to the sustainable development of human activities. Not counting the depletion of the exhausted natural resources, their main advantage is related to the reduced CO2 emissions and normally absence of any air emissions or waste products during their operations.

The use of solar power has additional positive implications such as:

- Reduction of the emissions of the greenhouse gases (mainly CO2, NOx) and prevention of toxic gas emissions (S02, particulates)

- Reduction of the required transmission lines of the electricity grids.

4. Zone Classification:

Detection of rainfall trend is subject to limitations: there is no clear altitudinal trend of rainfall. Therefore, for analysis, a dataset spreads over a period of 30 years (1976-2005) covering the whole country i.e. 30 stations from extreme north to south and east to west have been selected. The stations included in this study were selected on the basis of their latitudinal position, elevation from sea level, length of record, completeness and reliability of data so that a synoptic view of the entire country could be obtained. Further the selected stations have been divided into five different microclimatic zones. These zones were named A, B, C, D and E as shown in Figure 1, along with their latitudinal extent.

Zone A

Zone A comprises those stations having cold climate and high mountains, situated in the north of Pakistan. These stations are Chitral, Gilgit, Muzaffarabad, Said-u-

Sharif, Skardu, Astor, Dir, Chilas Parachinar and Kakul. These are mostly hill stations located between 34 N to 38 N in the Himalaya, Hindukash and Koh-e-Sufaid mountain ranges.

Zone B

This zone has mild cold climate and Sub Mountains, located between 31N to 34 N. The stations are Sialkot, D.I.Khan, Islamabad, Peshawar, Cherat and Lahore.

Zone C

Climate is cold in winters and hot in summers. Most of them are mountainous stations with high elevations from mean sea level and cover an area between 27 N to 32N and 64 E to 70 E. Stations included in this zone are Quetta, Zhob, Kalat and Khuzdar.

Zone D

This is the hottest and dry zone of the country where highest maximum temperatures are recorded in stations of Sibbi and Jacobabad. The area is almost plain with some area included in Thar Desert. Stations included are Sibbi, Jacobabad, Bahawalpure, Khanpur, Multan and Rohri.

Zone E

Zone E is a big zone having many stations and coastal cities, near to Arabian Sea. The coastal Part comprises only a small part of this region and climate above coastal parts in Balochistan as well as in Sindh province is mostly arid to hyper arid. The selected stations from this zone are Hyderabad, Karachi, Nawabshah and Jewani.

5. Project Environmental Impacts & Mitigation Measures:

This Section discusses the potential environmental impacts, assesses the significance, recommends mitigation measure to minimize the adverse effect and identifies the residual impacts associated with the proposed activities of the project during the construction and operation phase of the proposed project at the proposed site and of secondary actions like potable, raw water and waste water lines. Solar energy is a lot cleaner when compared with conventional energy sources. Solar energy systems have many significant advantages, like being cheaper and not producing any pollutants during operation, and being almost an infinite energy source when com-pared with fossil fuels. Nevertheless, solar energy systems have some certain negative impacts on the environment just like any other energy system. Some of these impacts will be summarized in this section.

Identification of Potential Impacts:

a) Discharge of Pollutants

b) Visual Impacts

c) Impact on Natural Resources

d) Air Pollution

e) Noise Intrusion

f) Impact on Air

g) Impact on Ground Water/ Surface Water

h) Impact on Solid Waste

i) Impact on Soil

j) Impact on Natural Resources

Discharge of Pollutants: Solar cells do not emit any pollutants during their operations. But solar cell modules contain some toxic substances, and there is a potential risk of releasing these chemicals to the environment during a fire. Necessary precautions will be taken for emergency situations like fire.

Visual Impacts: There will be some visual impacts depending on the type of the scheme and the surroundings of the solar cells. Especially for applications on the

buildings, solar cells can be used as a cladding material that could be integrated into the building during the construction phase. Solar cell applications after the construction phase of the buildings might cause negative visual impacts. However, through proper planning the Applicant will minimize this impact.

Impacts on Natural Resources: Despite being a benign energy system during operation, solar cells have some negative impacts on the environment during their production phase like many other systems. The energy needed for the production of solar energy systems is still produced in conventional methods today. Some toxic chemical substances used during the production phase are produced as a by-product. However, the solar panels to be utilized for this project have been manufactured in China therefore, there is no direct impact on the designated vicinity.

Air Pollution: Solar cells do not emit any substances to the air during operation. But there could be some emissions during manufacturing and transport. The emissions associated with the transport of the modules are insignificant when compared with the emissions associated with the manufacture. Transport emissions are 0.1-1% of the manufacturing emissions.

Noise Intrusion: Solar cells do not make a noise during operation. But during the construction phase, there will be a little noise as usual in other construction activities. However, since the solar panels to be utilized for this project have been manufactured in China, this is not a risk for the designated vicinity.

Impact on Air: There would be no hazardous emissions at site as well as during construction phase except Motor Vehicle and Crane. Moreover, there are no objectionable odors as well as alternation of air temperature.

Impact on Ground Water/ Surface Water: There would be no use of water during design phase except curing of civil pads during construction, which have no negative impact on environment.

Impact on Solid Waste: It may only Create litter and trash waste which is recyclable and may be cleared from site after construction.

Impact on Soil: No impacts as all installed systems are roof top.

Impact on Natural Resources: There won't be any increase in the rate of usage of any natural resource like any minerals, additional fuel other than vehicles. But there would be increase in the amount of usage of Paper for mapping, enlisting items etc. However, paper may be recycled by throwing it in ordinary dustbin, further maximum usage of electronic system e.g. emails will be done.

6. Environment Assessment:

a. Almost all conventional methods of energy generation have varying degrees of adverse environmental impact. These methods have far reaching detrimental effects on the climate, air, water, land and wildlife of the adjacent vicinities. However, Solar PV energy technology provides significant environmental advantages in comparison to the conventional energy sources while contributing to the sustainable development of human activities. Besides slowing down the depletion of natural resources, the main environmental advantage is zero air emissions, waste production and eventual reduction in emissions of greenhouse gases (COx, NOx) and toxic gases (SOx).

b. Solar power plants have zero fuel requirement and hence limit the depletion of natural resources, fossil fuels. Unlike conventional thermal power plants, no water consumption is required for cooling purposes. A very optimized quantity of water is occasionally used for plant maintenance / cleaning. As stated earlier, the proposed system of 366 kWp DC (300 kW AC) will offset approximately 343.04 tons of carbon dioxide annually.

c. The Applicant has carried out environment assessment of the site for installation of solar PV Plant. We humbly submit our findings as under:

Environment Parameters	Level of Impact	Reasons	Mitigation Measures
Air Impact	Low	Solar Energy is Carbon Free	(No Emissions)
Water	Low	Plant will require a very low quantity of water for cleaning purpose only	Water will be made available for cleaning of Modules at site.
Land	Low	No Impact on Land	The Project is purely roof based which have no Impact on Land.

Ecosystem	Low	No ecologically sensitive area lies with in premises	There is no significant vegetation cover within the selected area
Socio Eco System	Low	Total area identified for said project is in plant premises and no acquisition is needed	Not Applicable

7. Safety plans, emergency plans

- The qualified and authorized electricians will be allowed to undertake servicing or maintenance tasks.
- The authorized personnel will wear appropriate equipment, including a safety harness to restrain from falling off the roof, sturdy shoes that will have thick rubber soles to provide electrical insulation and good grip and appropriate clothing for personal protection, including a hat, sunglasses, gloves and long pants and sleeves.
- Lock out and tag out procedures will be used before commencement of maintenance tasks.
- On-going operation and maintenance concerns for solar power systems will be addressed properly. These systems are exposed to outdoor weather conditions that enhance the aging process, and the infrastructure needs to be in place for the on-going maintenance of these systems to assure their safe operation.
- Properly grounded or double insulated power tools will be used for maintenance tasks.
- Tools will be maintained in good condition.
- Working on electrical equipment and circuits will be carried out in de-energized state.
- Proper pathways will be available for operation, maintenance and firefighting.
- Fire protection and suppression will be placed at site.

ANNEX XIII

Technical Schedule

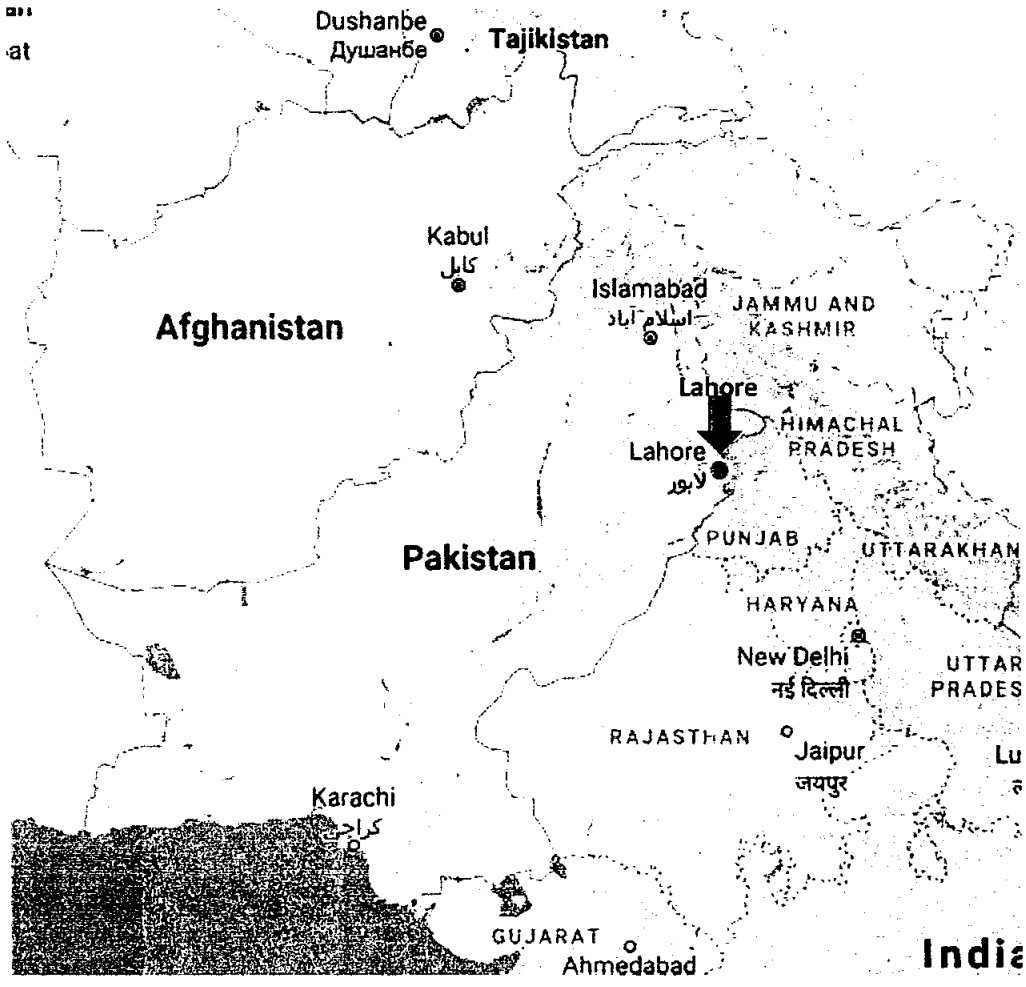
SCHEDULE-I

The Location, Size (i.e. Capacity in MW), Type of Technology, Interconnection Arrangements, Technical Limits, Technical/Functional Specifications and other details specific to the Generation Facilities of the Licensee are described in this Schedule

YDE SA
(SMC-PRIVATE)
LIMITED

Location of the Treet Corporation Limited Generation Facility Solar Power Plant of YDE SA (PVT.) LTD.

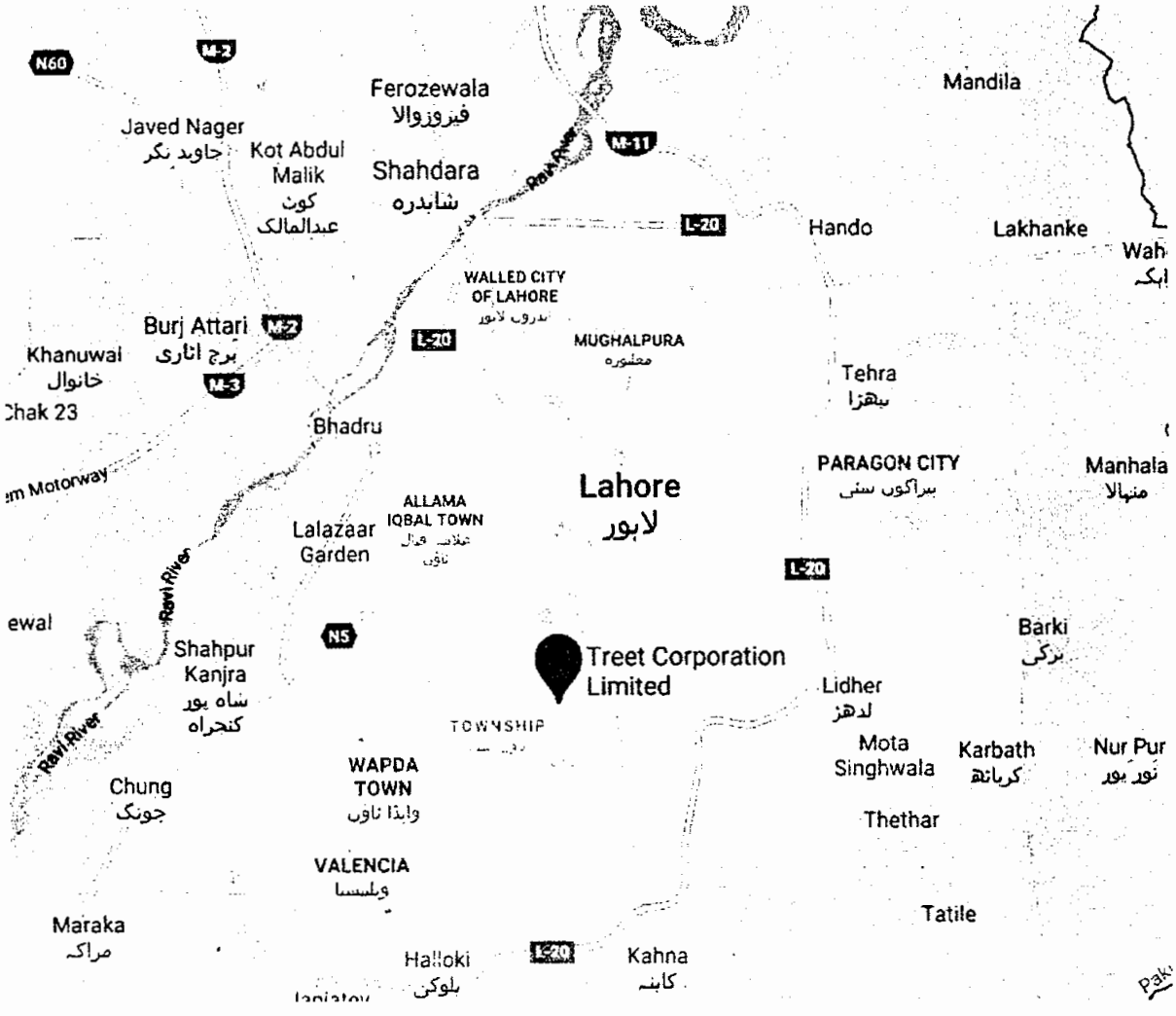
Map of Pakistan



YDE SA
(SMC-PRIVATE)
LIMITED

Location of the Treet Corporation Limited Generation Facility Solar Power Plant of YDE SA (PVT.) LTD.

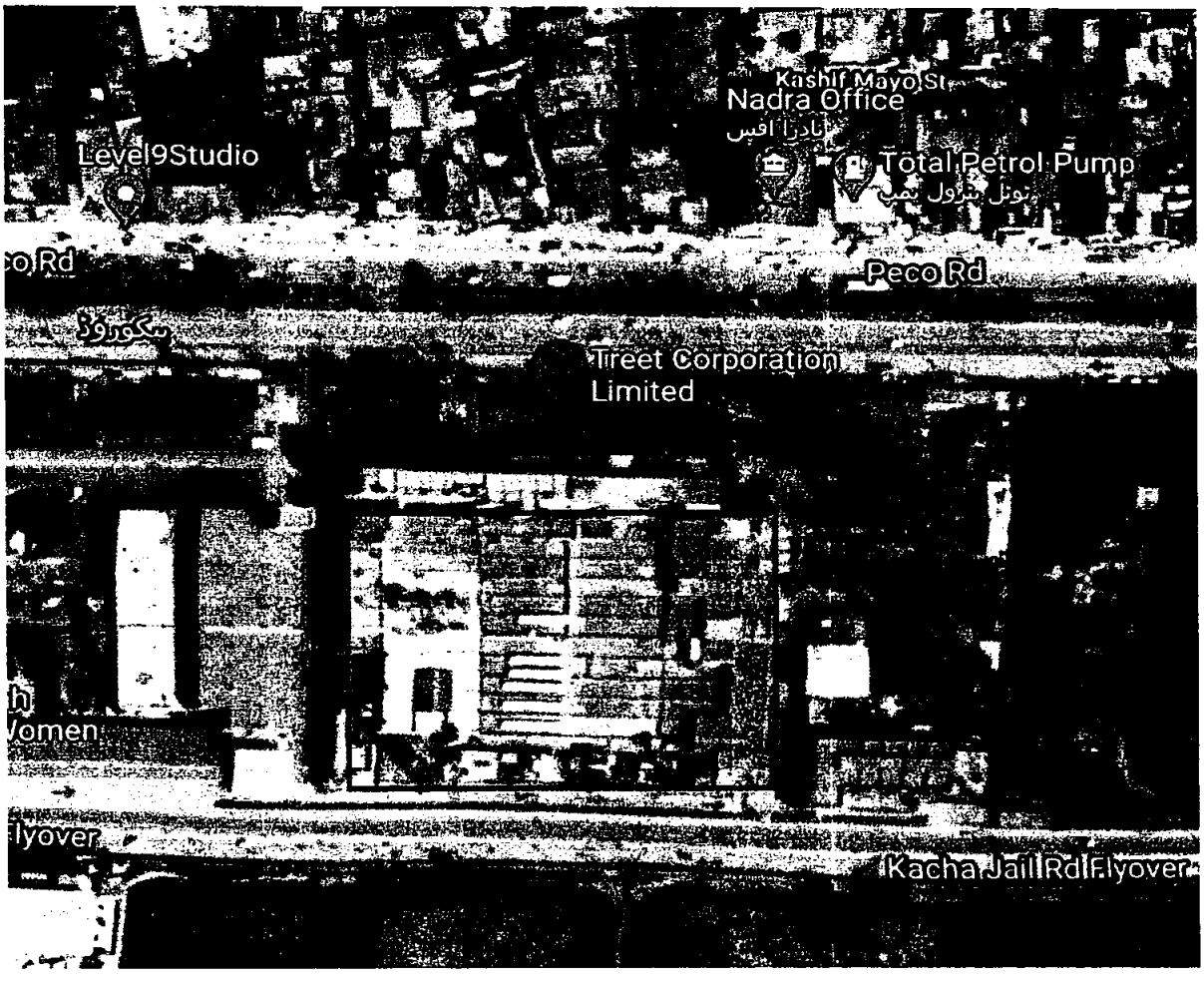
Map of Lahore, Punjab



YDE SA
(SMC-PRIVATE)
LIMITED

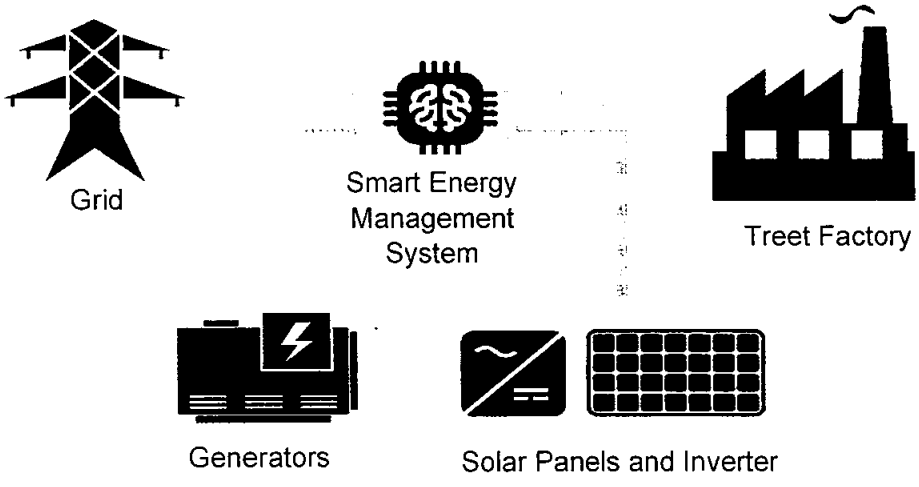
Location of the Treet Corporation Limited Generation Facility Solar Power Plant of YDE SA (PVT.) LTD.

Site Map



YDE SA
(SMC-PRIVATE)
LIMITED

Process Flow Diagram for the proposed generation facility / solar power plant of the Licensee



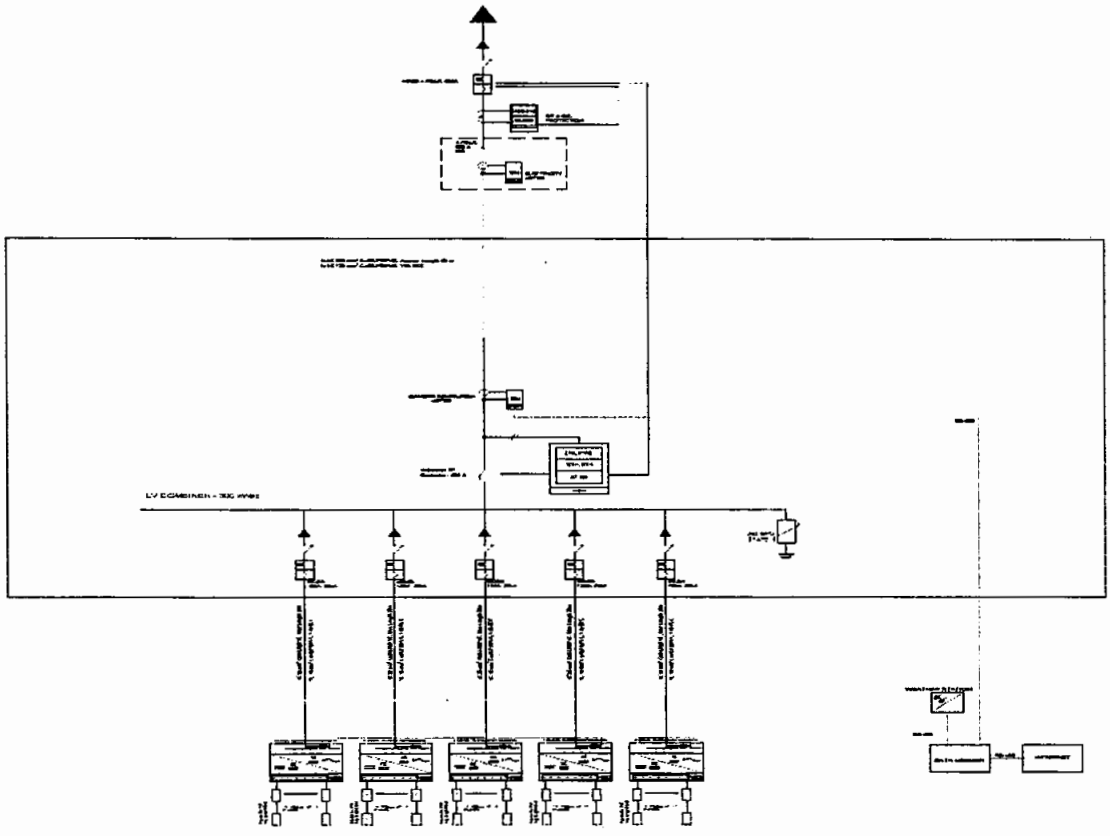
YDE SA
(SMC-PRIVATE)
LIMITED

Location coordinates of the proposed generation facility / solar power plant of the Licensee

Latitude	Longitude
31°27'26.51"N	74° 19'51.34"E

YDE SA
(SMC-PRIVATE)
LIMITED

Single Line Diagram of the proposed generation facility / solar power plant of the Licensee



YDE SA
(SMC-PRIVATE)
LIMITED

Interconnection

Arrangement for Dispersal of Power from the Generation Facility / Solar power plant of the Licensee

1) The power generated from the Generation Facility/Power Plant of YDE SA, installed at roof top of Treet Factory, Peco Road, Lahore, Punjab, will be dispersed for in-house utilization.

2) The proposed Interconnection Arrangement for dispersal of electric power for the Generation Facility/Solar Power Plant will be as under: -

    a. 400V single circuit line on the bus bar of the main LT panel of Treet/Consumer

3) Any change in the above Interconnection Arrangement duly agreed by YDE SA and Treet shall be communicated in the Authority in due course of time.

YDE SA
(SMC-PRIVATE)
LIMITED

Detail of Generation Facility/Solar Power Plant

A. General Information

i.	Name of the Company/ Licensee	YDE SA (SMC/PVT.) LTD.
ii.	Registered/Business Office of the Company	1st Floor 140-CCA, Sector C Phase 5 D.H.A, Lahore, Punjab
iii.	Principal Office	1st Floor 140-CCA, Sector C Phase 5 D.H.A, Lahore, Punjab
iv.	Plants Location	31°27'26.51"N, 74°19'51.34"E
v.	Field Type	Fixed Tilt Plane
vi.	Field Parameters	Tilt 20 Degrees, Azimuth 179^0
vii.	Type of Generation Facility	Solar Photovoltaic (PV)

B. Solar Power Generation Technology & Capacity

i.	Type of Technology	Photovoltaic (PV) Cell
ii.	Type of Cell	Mono Perc
iii.	Type of System	Grid Tied
iv.	Installed Capacity of the Generation Facility (MW)	366.52 kWp DC

C. Solar Power Generation Technology & Capacity

SOLAR PANELS – PV MODULES		
i.	Type of Module	Monocrystalline Perc
ii.	Surface Area of Module	1.971084 m^2
iii.	Dimension of each Module	1979 mm x 996 mm x 40 mm

iv.	Total area of roof top for Solar Panels – PV Modules	8,042 m^2
v.	No. of Modules	833 pcs
vi.	Frame of Module	Anodized Aluminum
vii.	Weight of one Module	22.3kg
viii.	Module Output Warranty	97.5% or above (1st Year) | Not more than 0.6% output reduction each other (to 25th Year)
ix.	Number of Solar Cells in each Module	72 Cells
x.	Efficiency of Module	19.8%
xi.	Environment Protection System	Encapsulation and sealing arrangements for protection from environment
xii.	Maximum Power (P_{max})	390 W_p
xiii.	Power Tolerance at STC	0-+5W
xiv.	Operating Voltage @ (P_{max})	40.21V
xv.	Operating Current @ (P_{max})	9.70A
xvi.	Open Circuit Current (V_{oc})	49.35V
xvii.	Short Circuit Current (I_{sc})	10.22A
xviii.	Optimum Operating Voltage at NOCT	46.78V
xix.	Optimum Operating Current at NOCT	8.07A
xx.	Open Circuit Voltage (V_{oc}) at NOCT	37.92V
xxi.	Maximum System Open Circuit Voltage	1000V (IEC)
PV ARRAYS		
i.	Modules in a string	16

ii.	Total No. of Strings	49
iii.	No. of Arrays	05
iv.	Modules in Array	166, 167
v.	Total Modules	833
PV Capacity		
i.	Maximum DC Power Input	366.52 kWp
ii.	Net Capacity Factor	17.05% 20.8% (WRT AC)
Inverters		
i.	Maximum DC Power (60°C)	671 kWdc
ii.	Inverter Model	SUN2000-60KTL-M0
iii.	Manufacturer	Huawei
iv.	Maximum DC Input Voltage	DC 1100 V
v.	Start Voltage	DC 200 V
vi.	Number of Inverters	05
vii.	Efficiency	98.7%
viii.	Max Input Current	DC 132 A
ix.	MPP Voltage Range	200 V – 1000 V DC
x.	Output Electrical System	3-Phase, 4-Wire
xi.	Rate Output Voltage	AC 230/400V

xii.	Rated Frequency	50 Hz	
xiii.	Power Factor	Adjustable – 0.8 Lag to 0.8 Lead	
xiv.	Power Control	MPP Tracker (6 MPPT/Inverter)	
xv.	Environmental Enclosures	Operating Temperature Range	-25°C to 60°C
		Relative Humidity	100% non-condensing
		Protection Class	IP65
		Operating Elevation	<4000m
xvi.	Protection Devices	DC Disconnect Switch	
		Anti-Islanding	
		DC SPD	
		DC Reverse Polarity Protection	
		AC SPD	
		Residual Current Monitoring Unit	
Data collecting System			
xvii.	Weather Data	Meteo Control WS600-UMB Irradiation, Temperature, Wind Speed. Humidity, Air Pressure,	
xviii.	System Data	1.	DC Input Voltage (V) and (A) for each inverter (Phase,Line)
		2.	Total DC power (kW) generated by PV Array
		3.	AC Output Voltage (V) and Current (A) of each inverter (Phase, Total)
		4.	AC Output Power (kW) and energy (kWh) of each Inverter
		5.	Frequency (Hz)
		6.	Power Factor (PF)

D. Other Details

i.	Tentative COD of the Project	1st July,2021
ii.	Expected Life of the Project From the COD	25 years

YDE SA
(SMC-PRIVATE)
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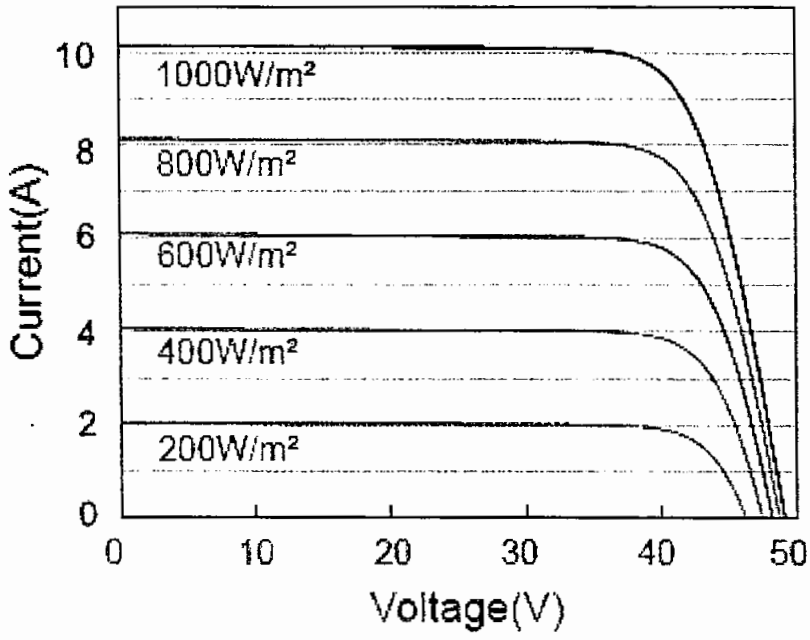
VI Curve of Solar Panel at STC for the Generation Facility/Solar Farm/Solar Power Plant of the Licensee



SCHEDULE-II

The Installed/ISO Capacity (MW), De-Rated Capacity at Mean Site Conditions (MW), Auxiliary Consumption (MW) and the Net Capacity at Mean Site Conditions (MW) of the Generation Facilities of Licensee are given in this Schedule

i.	Total PV Installed Capacity of Generation Facility	366.52 kWp DC 300 kW AC
ii.	Average Sun Hour Availability / Day (Irradiation on Inclined Surface	5.18 Hrs
iii.	Days per Year	365
iv.	PV Plant Generating Capacity Annually (As Per Simulation)	548.4 MWh
v.	Expected Total Generation in 25 Years (Life Span)	13,632 MWh
vi.	Generation per year from plant keeping 24 Hours working	548.4 MWh
vii.	Net Capacity Factor	20.8% (WRT AC)

Note

All the above figures are indicative as provided by the Licensee. The net capacity available to power purchaser for dispatch will be determined through procedure(s) contained in the power purchase agreement or any other applicable document(s).