BURJ DG

Burj DG (Private) Limited

Date: 27th October 2020

The Registrar
National Electric Power Regulatory Authority
2nd Floor, OPF Building, Sector G-5/2
Islamabad.

Subject: **Application for Generation License for 1 MWp**

Dear Sir,

I, **Maaz Mashkoor, Director,** being the duly authorized representative of **Burj DG (Private) Limited** by virtue of Board Resolution dated 21 September 2020 hereby apply to National Electric Power Authority for the Grant of Generation License to **Burj DG (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 BANK DRAFT in sum of Rupees Ninety-Three Thousand, Four Hundred and Seventy-Two **Rs. 93,472** being the non-refundable 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.

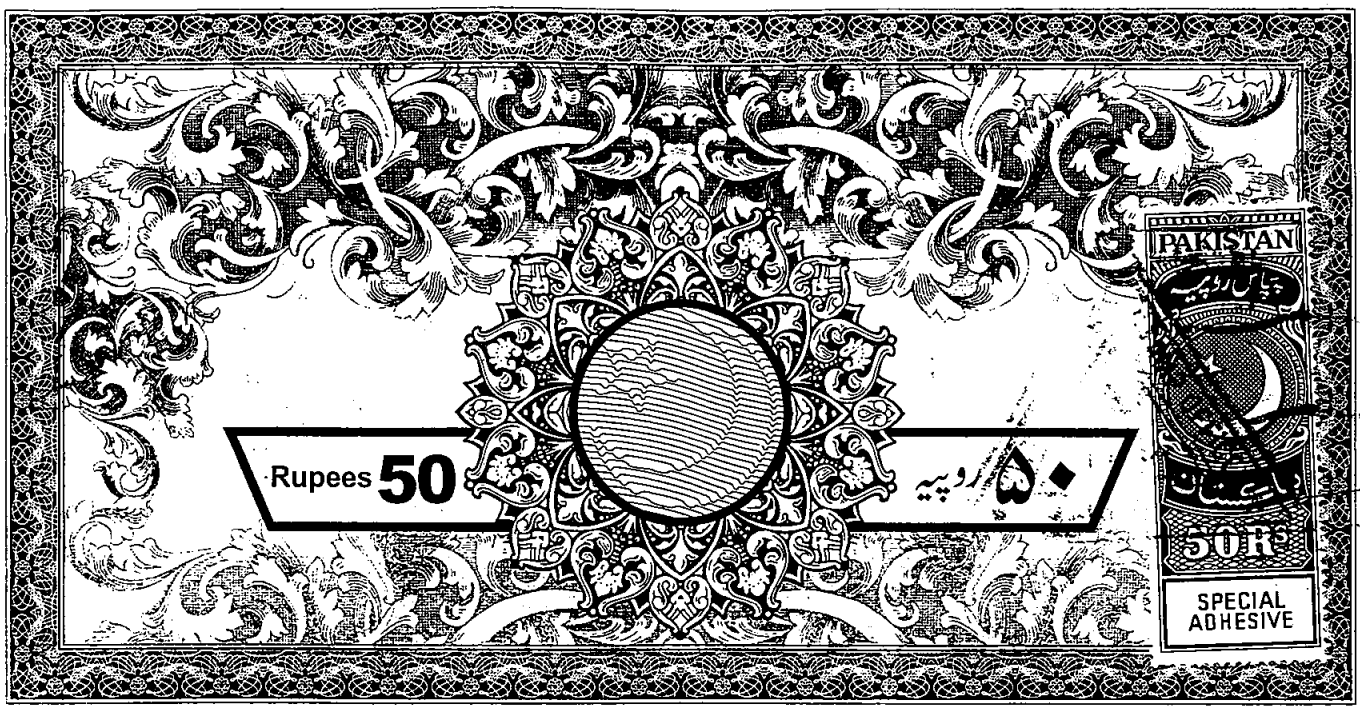
The application is filed in triplicate with all annexure appended with each set of the application.

Sincerely,

Maaz Mashkoor
Director

Burj DG (Private) Limited

X785123



GHULAM SADIQ STAMP VENDOR
Lic # 79, Shop # 113, New Ruby Centre,
Talpur Road, Boultan Market, Karachi.
S.No.....32704
Date.....
Issue to with Address MR ...MUHAMMAD YAQOOB...
Through with AddressMR ...Advocate L.No.1459...
Purpose: .....
Value Rs: ..... Attached: .....
Stamp Vendors Signature .....
(NOT USE FOR FREE WILL & DIVORCE PURPOSE)
Vendor Not Responsible for Fake Documents

01 SEP 2020

(RUPEES FIFTY ONLY)

MUHAMMAD SABIR
PAKISTAN KARACHI
ADVOCATE & OATH COMMISSIONER

AFFIDAVIT

I, Maaz Mashkoor son of, Mashkoor Ullah holding CNIC No.- 42201-4389581-5, Director of Burj DG (Pvt.) Ltd, hereby solemnly affirm and declare on oath that the contents of the accompanying application for Generation License dated 25th October 2020 including all attached documents-in support are true and correct to the best of my knowledge and belief and that nothing has been concealed.

Burj DG (Private) Limited

Authorised Signature / Director

Burj DG (Private) Limited

DEPONENT

Maaz Mashkoor
Director
Burj DG Private Limited
25th October 2020

ATTESTED
MUHAMMAD SABIR
ADVOCATE & OATH COMMISSIONER

Extracts from
Resolution Passed by the Board of Directors of
OF Burj DG (Pvt.) Limited
On 21 September 2020

"**RESOLVED** that an application for the Generation License (the "**GL Application**") be filed by and on behalf of Burj DG Private (Pvt.) Limited (the "**Company**") with the National Electric Power Regulatory Authority ("**NEPRA**"), in connection with the GL Application for the Company in respect of the Company's 1 MWp Solar Power Project at PC Hotel Lahore – Rooftops in the province of Punjab (the "**Project**").

RESOLVED FURTHER that Mr. Maaz Mashkoor, holding CNIC 42201-4389581-5, the Director of the Company, be and is hereby authorized to sign the GL Application, and any documentation ancillary thereto, pay all filing fees, and provide any information required by NEPRA in respect of the Project, and do all acts and things necessary for the processing, completion and finalization of the GL Application.

CERTIFICATION

CERTIFIED, that, the above resolution by circulation was duly passed by the Board of Directors of Burj DG (Pvt.) Limited on September 21, 2020 for which the quorum of directors was present.

FURTHER CERTIFIED, that the said resolution has not been rescinded and is in operation and that this is a true copy thereof.

Saad uz Zaman

Maaz Mashkoor

Farid Arshad Masood

Burj DG (Private) Limited

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THE GENERATION LICENSE APPLICATION

1. APPLICANT COMPANY'S PROFILE

1.1. Burj DG (Private) Limited (the "Applicant Company"), is registered vide Registration No. 0157069 dated 3rd September 2020 under the Companies Ordinance, 1984. The copy of certificate of incorporation is attached herewith as **Annexure — A.** The copy of Memorandum & Articles of Association is attached herewith as **Annexure — B**.

1.2. The registered office of the Applicant Company is situated at "16, Abdullah Haroon Road, 3rd Floor Faysal Bank Building, Karachi".

1.3. The Applicant Company is since not required to submit the annual return to the Registrar of Companies pursuant to Section 156 of the Companies Ordinance, 1984, therefore the information, in as close a form and content as possible, laid down in the third schedule to the Ordinance is being provided. The information, in lieu of annual return, is **Annexure — C**.

1.4. The Applicant Company has financial strength to meet with the requirements of the Project. The summarized last five-year financials of the sponsor company Burj Capital is presented as **Annexure – D.** The latest audited balance sheet and income statement for 2018 are also presented in the same annexure.

1.5. **Directors**

1.5.1. Saad Zaman
1.5.2. Maaz Mashkoor
1.5.3. Farid Ahmed Masood

1.6. Auditors

The company is newly incorporated so an auditor has not been appointed as of yet. However, the company has received proposals for appointing auditor and will be appointing one shortly.

1.7. Form 1

Form 1 of the company is attached herewith as **Annexure — E**

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

Name	Designation
Saad Zaman	Director
Maaz Mashkoor	Director

Burj DG (Private) Limited

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Farid Ahmed Masood	Director
Bilal Saeed	Sr. Project Manager

1.9. Brief introduction of the above-named officials is as follows:

1.9.1. Saad Zaman

Saad as Chairman and CEO of Burj Energy, has more than 25 years of experience and has held leadership positions in organizations like Citibank, where in his last role, he led the Islamic Investment Banking Business for the Middle East and Levant. Subsequent to Citi, he served as CEO for the Investment Banking Business and International Operations of Dubai Islamic Bank. He was the founder CEO of DIB Pakistan, and led DIB's international expansion into other regional markets. Saad has held various Board and Advisory positions with leading businesses like Citi, DIB, Etisalat International and DP WORLD Group.

1.9.2. Farid Ahmed Masood

Farid currently serves as a Managing Director of Vitol Group, based out of Dubai, and has more than 25 years of experience working for blue chip financial institutions as well commercial enterprises. In his current role, he oversees Vitol's investments in the region including investments in renewable energy space. In his previous role, he was CEO of Kansai Plascon Africa and Global Advisor, Finance and M&A. During this period, he expanded the business both through organic growth and through the with the acquisition of the largest player in East Africa as well as led a corporate restructuring initiative in South Africa and reduced costs by 15%. Before that, he served as a Director in ICD-IDB, where he grew the asset management business from scratch to US$ 800m under management and expanded the advisory business to work in 12 different countries. Before that, Fareed had leadership positions with KASB and BMA. Fareed is an MBA from Cambridge and BS from University of Virginia

1.9.3. Maaz Mashkoor

Maaz currently works in business development at Vitol Group, based out of Dubai, and oversees the group's investments in the region. He was previously working as manager strategy at Engro Corp, one of the largest private sector business houses of the

country. Before that he worked for large and prestigious business houses in the Middle East such as the National Investor as well as Abu Dhabi Capital Group. Maaz holds a Bachelor's degree from University of Toronto and an Executive Master in Finance from INSEAD.

1.9.4. Bilal Saeed

Bilal has been a part of the local PV market of Pakistan since 2014. Having almost 6 years of technical and commercial experience he has designed, optimized and developed Megawatt scale projects for both the industrial and commercial sector of Pakistan. Before joining Simple Watt Pakistan, he has been a part of one of the leading Solar EPC firms of Pakistan - Nizam Energy. His area of expertise including design optimization, costing of projects and delivering them. Further to this he has sizeable experience for managing Distributed Generation projects on BOT model.

1.10. The curriculum vitae of key personnel is given in **Annexure — F** while the profile showing experience of the Applicant Company, its management staff and its members in the electricity industry is attached as **Annexure - G**.

2. RATIONALE & BUSINESS MODEL

2.1. Rationale

2.1.1. It is a common knowledge that availability of electricity in any country has direct effect on its economic and social factors and therefore, in order to measure the affluence of a society, the per capita energy consumption is used as an index to determine its energy sufficiency.

2.1.2. Pakistan is a country where more than 144 million people have unreliable power, and the rest have no electricity connection at all. Pakistan's cost of electricity is one of the highest in the region at 12.56 cents per unit as opposed to comparable nations such as Bangladesh and Vietnam where the rate is 5.49 or 6.89 cents per unit respectively.

2.1.3. Although Pakistan has set up natural gas plants recently, a large part of these are based on imported LNG which is expensive. In these circumstances, the use of solar power in Pakistan is quite an attractive alternative mode of generation of electric power. Further, its use does not require refining, transporting and conveying fuels and power over long distances. Moreover, solar power does not create pollution.

Buri DG (Private) Limited

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2.1.4. Naturally, Pakistan is located in the Sunny Belt and can take advantage of its ideal situation for 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.

2.1.5. 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.

2.2. Business Model

2.2.1. The Applicant Company intends to sell electricity to residential, commercial, industrial and agricultural entities (Buyers) through its owned complete on-grid solution of electricity based on solar power (Generating Facilities) under the long-term Energy Purchase Agreements (EPAs)

2.2.2. In this regard, the Applicant Company has conducted financial analysis and found this model to be financially workable if there are long term contracts involved. The Company will therefore, plan, design, procure material, construct, install, operate and maintain Generating Facilities at sites of the Buyers.

2.2.3. The Applicant Company shall provide product of the Generation Facilities to the Buyers on terms and conditions as agreed between the Parties so as to recover the cost of investment, working capital, operation and maintenance cost with reasonable rate of return on basis of actual delivery of electricity while taking the risk of shortfall in generation on account of reduction in solar irradiation at its own.

2.2.4. The Applicant Company shall install various Generation Facilities at the sites of the Buyers and understands that the activity of generation and sale of electricity shall take place within the same premises without crossing any other property or requiring the use of transmission or distribution lines.

2.2.5. The electricity generated through the Generation Facilities of the Applicant Company shall be fed directly into the Distribution Panel of the Buyer and in no case shall be fed or exported to the distribution system of a utility company.

2.2.6. The electricity generated through the Generation Facilities of the Applicant Company shall be less than the total demand of the Buyer hence it will not be a replacement for the relevant utility company but only a partial augmentation.

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3. TECHNICAL OVERVIEW

3.1. Technology

3.1.1. The electricity shall be generated by use of PV Panels to be installed at the premises of the Buyer and will be supplied directly to the Distribution Panel of the Buyer(s).

3.1.2. The Solar PV system will operate in grid interactive / grid tied mode. The grid-tie inverter will be used that will convert direct current (**DC**) electricity into alternating current (**AC**) with built in ability to synchronize with a utility line to supplement the electricity required by the buyer from the distribution company.

3.1.3. Grid-tie inverters are also designed to quickly disconnect from the grid if the utility grid will go down and it will ensure that in the event of interruption of electricity from utility, the grid tie inverter will shut down to prevent the energy flow back in the distribution system of the utility. Grid interactive system will supplement utility supplied energy to building or facility.

3.1.4. The PV System output will be designed in a manner that it will always be less than the premises load and there will be no export to the utility company's grid.

3.1.5. In case the Buyer, subject to NEPRA's permission and agreement with the utility company, opts to export excess electricity to the distribution system through net metering arrangement, then the Applicant Company, on behalf of the Buyer, may provide requisite services.

3.1.6. The PV Panels shall convert the solar irradiation into DC electricity and by using inverters; DC supply will be converted into AC supply of 220/400V Volts. In the process, the Applicant will use equipment including:

- PV Modules including structure for their installation;
- Invertors;
- Surge arrestors;
- Junction Boxes;
- PV / AC Electrical Board;
- Main Distribution Panel;
- Safety & Protection devices (Automatic with manual override)
- Fuses;
- Wires;
- Breakers;
- Meters;
- Online monitoring devices/ data loggers for
- remote sensing and monitoring;

Burj DG (Private) Limited

- Internet access devices/ connects;
- Water taps for panels washing
- Steel Structure,
- Screws, Nuts/Bolts

List of Equipment with Technical details & the Single Line Diagram is attached herewith as **Annexure — H & Annexure — I**, as well as flow diagram is attached as **Annexure J**.

3.1.7. The configuration, technology, model, technical details and design of the Generation Facilities to be acquired, constructed, developed and installed at the premises of Buyers shall be on a standard module but may have slight variations in installation on case to case basis. However, a general overview (on the basis of a model site) has been provided in Annexure G (Equipment and Technical Details) and supplemented by the Annexure H (Single Line Diagram). Grid interconnection and protections required for grid interconnection are in compliance with "NEPRA ARE (Alternative & Renewable Energy) Distributed Generation / Net Metering Rules"

3.1.8. Before the Distribution Panel and after the PV AC Electrical Board there shall be installed the Meter for reading of the actual energy delivered through Generation Facilities of the Applicant Company to the Buyer.

3.2. Capacity

3.2.1. The Applicant will deploy solar PV facilities totaling 1MWp at Buyer premises – PC Hotel Lahore

3.3. Site(s)

The Generation Facilities to be offered by the Applicant Company shall be at the premises of the Buyer and therefore the Applicant Company does not require purchasing or acquiring a particular site. Moreover, since the electricity generated by the Generation Facilities of the Applicant will not be sold to any electricity utility i.e. DISCO hence it would not require any evacuation by the national grid company (NTDC) therefore the mentioning of a particular site as required under the provisions of NEPRA Licensing (Application and Modification Procedure) Regulations, 1999 is not relevant in this case. However, the initial site (the Model Site) is at Pearl Continental Hotel, Mall Road, Lahore. Coordinates Latitude: 31° 33' 8.2872" N Longitude: 74° 20' 16.9584" E).

3.4. Interconnection

Buri DG (Private) Limited

Since the Generation Facilities of the Applicant Company shall be installed at the site of the Buyer and shall provide electricity to that premises in order to supplement the electricity requirement of the Buyer therefore, the interconnection point shall also be within the premises of the Buyer at the point as identified by the Buyer. The Applicant Company shall deliver electricity to the Buyer's distribution box/panel at 400V level.

3.5. Commissioning & Expected Life

The terms as to commissioning shall be as per terms of EPA. However, the average expected life of the Generation Facilities shall be 25 Years.

3.6. Operation & Maintenance

The Applicant Company shall also provide the operation and maintenance, including periodical washing of the PV modules, of the Generation Facilities Installed at the site of the Buyer.

3.7. Environmental

The Generation Facilities by the Applicant, as visualized, will be without emissions and chemical usages; rather, shall be close to natural environment therefore may not involve environmental hazards. The Applicant Company shall use limited quantity of the tap water available at the premises of Buyer for the purposes of washing the PV modules and shall use the available sewerage for disposal to avoid any negative impact on the environment.

Our requested generation license is for small-scale solar (PV) generation on various sites of the consumers who will mainly be in Urban areas where there is little natural flora or fauna to be affected. Moreover, given the nature of the technology, there are no harmful emissions nor any natural fresh water sources are compromised. Only tap-water in small quantities is needed for cleaning on periodic basis. In fact, given the nature of the technology, it is actually beneficial for the environment since it replaces harmful fossil fuel-based power. In view of the same we request that the environmental study requirement for the GL be waived.

3.8. Monitoring Facilities

The Applicant shall develop, install and maintain a remote monitoring facility at its premises for overall monitoring of the Generation Facilities to be installed at various sites. The Applicant will hire trained staff to carry out maintenance activities on the installed facilities at the Buyer's sites. The Applicant also has a team of qualified engineers to plan and supervise the routine / regular maintenance needs. Detail of Monitoring Facilities is presented as **Annexure K**.

3.9. Eligible Site/Buyer

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The Applicant Company declares the following eligibility criteria for the site/buyer for whom Generation License is required:

i. Generation Facility to be setup should be within the site of the buyer;
ii. Electricity generated through the Generation Facility should not be provided to any premises other than the buyer's premises/site where the Generation Facility is installed;
iii. Electricity from the Generation Facility should be in addition and supplemental to the electricity being obtained from the electric utility company;
iv. Capacity of Generation Facility per site should not exceed 1MW;
v. Interconnection point should be within the premises/site where the Generation Facility is installed;
vi. Generation Facility installed should ensure no back flow of electricity to the distribution system of the utility;
vii. The delivery of electricity from the PV Modules to the distribution box/panel of the buyer should not require crossing of any public road/area and the distribution network of the electric utility;
viii. The buyer should not be a defaulter of dues of electricity obtained from electric utility company.

3.10. Site Description

1.	**Name of Licensee**	Burj DG Pvt. Ltd.
2.	**Registered/Business**	16, Abdullah Haroon Road, 3rd Floor Faysal Bank Building, Karachi
3.	**Plant Location**	Pearl Continental Hotel, Mall Road, Lahore Latitude: 31° 33' 8.2872" N Longitude: 74° 20' 16.9584" E
4.	**Type of Generation**	Solar Photovoltaic (PV)
5.	**Type of Technology**	Photovoltaic (PV) Cell
6.	**System Type**	Rooftop Solar
7.	**Plant Capacity**	1MWp Peak

3.11. Google image of the site

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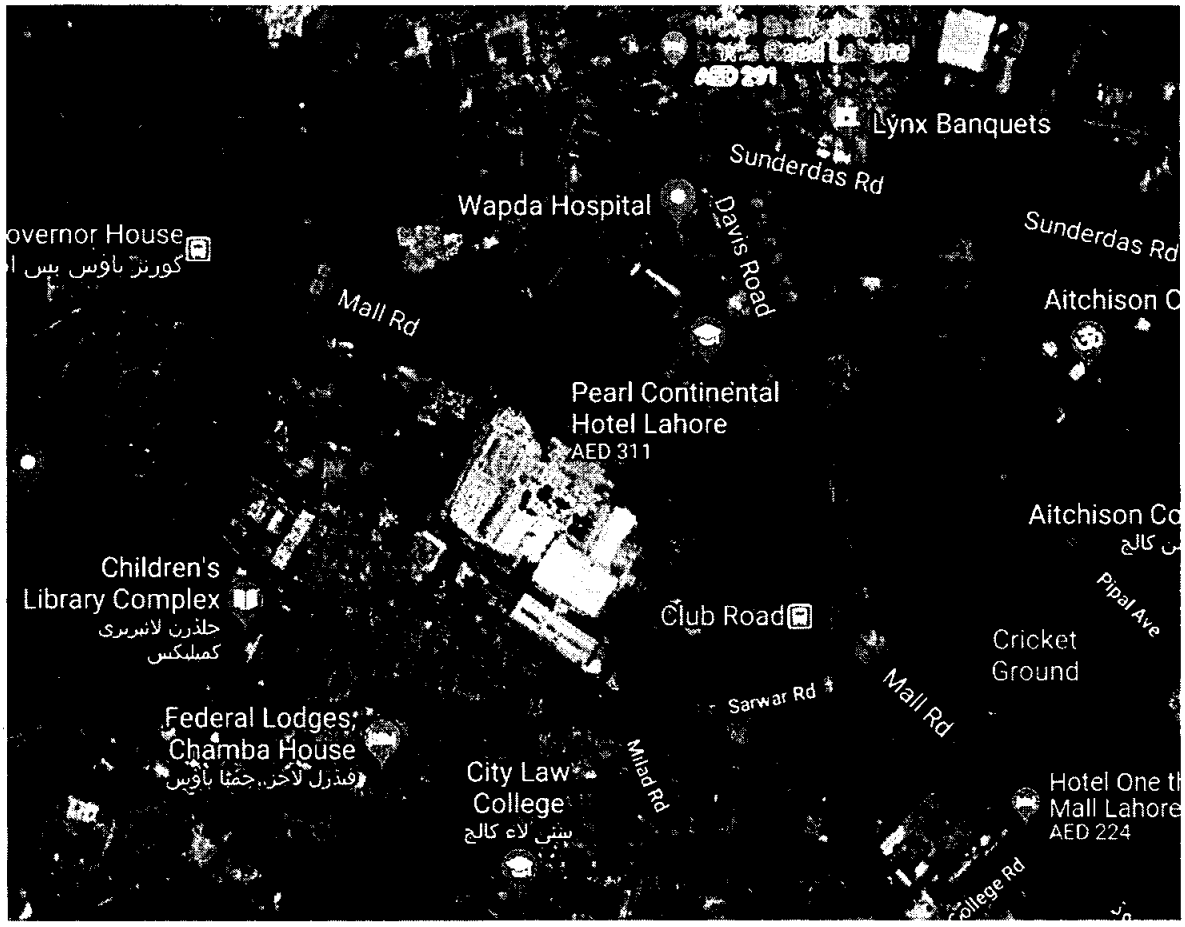

PC Lahore, Mall Road, Lahore

Burj DG (Private) Limited

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4. FINANCIAL OVERVIEW

4.1. Capital Cost

4.1.1. Detailed Feasibility Report of the Project is attached as **Annexure L.**

4.1.2. The Capital cost shall include the cost borne by the Applicant Company on feasibility studies, planning, designing, material, construction and installation of the Generation Facilities.

4.1.3. The cost of land, step-up transformer, interconnection with distribution system of utility are not required in this case.

4.1.4. The Applicant Company aims to provide the Generation Facilities up to 1 MWp in a period of about 12 months, with an estimated cost on per Watt basis is worked out by the Applicant Company as below:

4.1.5. The expected cost of the installations under has been estimated to be US$ 0.62/Wp. This cost does not include cost of land as facility shall be installed at the premises of the Buyers.

Description	US$/Wp
EPC Cost: • Panels / Inverters / JBs / DC Cables / Freight / Clearing Charge • Steel Structure • Installation Cost	0.595
Insurance during construction	0.005
Administrative and Development Costs.	0.020
Total Costs	0.62

4.2. Source of funding

4.2.1. The applicant will deploy its projects in Single phase, with total of 1MWp and will be completely equity financed.

5. Profile of Subcontractor

5.1.1. Reputed contractor has been selected for the construction of Phase I, that is PC Lahore. Their profile is attached as **Annexure M.**

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6. EXECUTIVE SUMMARY & PRAYER

6.1. To supplement the supply of electricity by utilities, the Applicant Company intends to set up small scale solar PV modules (Generation Facilities) at PC Lahore for which the Application for grant of Generation License is being submitted before the Authority in terms of Section 15 of the Regulation of Generation, Transmission and Distribution of Electric Power Act, 1997 read with the relevant Rules and Regulations.

6.2. For the reasons mentioned above, it is prayed that Application in hand may please be admitted and a Generation License be granted in name of Burj DG (Private) Limited for generation of in maximum of 1 MWp through Solar PV Modules, of the prospective buyer who are eligible in terms of the criteria and parameters mentioned above in this application.

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Annexure A

Certificate of Incorporation

A079750

SECP

SECURITIES AND EXCHANGE COMMISSION OF PAKISTAN

COMPANY REGISTRATION OFFICE, KARACHI

CERTIFICATE OF INCORPORATION

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

Corporate Universal Identification No. **0157069**

I hereby certify that **BURJ DG (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 **Karachi** this **Third** day of **September, Two Thousand** and **Twenty**

Incorporation fee Rs. **1,000/=**

(Muhammad Nasir Khan)
Additional Joint Registrar

CERTIFIED TRUE COPY

Burj DG (Private) Limited

Authorised Signature / Director

Annexure B

Memorandum and Articles

THE COMPANIES ACT, 2017(XIX of 2017)

(PRIVATE COMPANY LIMITED BY SHARES)

MEMORANDUM

OF

ASSOCIATION

OF

BURJ DG (PRIVATE) LIMITED

CERTIFIED TRUE COPY

Burj DG (Private) Limited

Authorised Signature/
Director

THE COMPANIES ACT, 2017(XIX of 2017)

(PRIVATE COMPANY LIMITED BY SHARES)

MEMORANDUM OF ASSOCIATION

OF

"BURJ DG (PRIVATE) LIMITED"

1. The name of the company is **BURJ DG (PRIVATE) LIMITED**

2. The Registered Office of the Company shall be situated in the Province of Sindh, in the Islamic Republic of Pakistan.

3. (i) To carry on, primarily, the business of power generation, distribution and selling power to utility companies, power distribution networks and organizations in the power sector, within and outside the country as independent power producer of solar, thermal, hydel, nuclear, wind, steam, and/or any other alternative / renewable energy sources, and bio-energy. In connection with above to set up, operate and manage one or more Power Plants in order to generate, sell and supply electricity to industrial and other consumers, through distribution networks established, owned and operated by the company itself or by any other person, corporate body, autonomous or semi-autonomous corporation or authority or local body, and for that purpose to acquire land, whether freehold or leasehold, machinery and equipment, and construct, install, operate and maintain thereon power houses, civil and mechanical works and structures, grid stations, transmission towers, power lines, buildings, workshops and other facilities as may from time to time be necessary for the attainment of the objects of the company.

(ii) Except for the businesses mentioned in sub-clause (iii) hereunder, the company may 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 members is limited.

5. The authorized share capital of the company is Rs.100,000/- (Rupees One Hundred Thousand only) divided into 10,000 (Ten Thousand) ordinary shares of Rs.10 (Rupees Ten).

CERTIFIED TRUE COPY

Burj DG (Private) Limited

Authorised Signature / Director

We, the several persons whose names and addresses are subscribed below, are desirous of being formed into a company, in pursuance of this MEMORANDUM OF ASSOCIATION, and we respectively agree to take the number of shares in the capital of the company as set opposite our respective names:

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
SAAD UZ ZAMAN	42301-8489997-7	QAMAR UZ ZAMAN	PAKISTANI	Business Executive	House No. F-52/2, Block 7 Clifton, Karachi	1 (One)	
MAAZ MASHKOOR	42201-4389581-5	MASHKOOR ULLAH	PAKISTANI	Business Executive	House No: K-504, Creek Vista, DHA Phase 8, Karachi	1 (One)	
FARID ARSHAD MASOOD	42301-3551103-7	ARSHAD MASOOD	PAKISTANI	Business Executive	B56 Lime Tree Valeey, JGE, Dubai, UAE	1 (One)	
		Total number of shares taken (in figures and words)				3 (Three)	

Dated the 20th day of August, 2020

CERTIFIED TRUE COPY

Burj DG (Private) Limited

Authorised Signature / Director

THE COMPANIES ACT, 2017 (XIX of 2017)

(Private Company Limited by Shares)

ARTICLES OF ASSOCIATION

OF

BURJ DG (PRIVATE) LIMITED

PRELIMINARY

1. (1) In these regulations-

(a) "section" means section of the Act;

(b) "the Act" means the Companies Act, 2017; and

(c) "the seal" means the common seal or official seal of the company as the case may be.

(2) Unless the context otherwise requires, words or expressions contained in these regulations shall have the same meaning as in this Act; and words importing the singular shall include the plural, and *vice versa*, and words importing the masculine gender shall include feminine, and words importing persons shall include bodies corporate.

PRIVATE COMPANY

2. The Company is a "Private Company" within the meaning of Section 2(1)(49) of the Act and accordingly:

(1) No invitation shall be made to the public to subscribe for the shares or debentures of the Company.

(2) The number of the members of the Company (exclusive of persons in the employment of the Company), shall be limited to fifty, provided that for the purpose of this provision, where two or more persons hold one or more shares in the company jointly, they shall be treated as single member; and

(3) The right to transfer shares of the Company is restricted in the manner and to the extent herein appearing.

BUSINESS

3. The directors shall have regard to the restrictions on the commencement of business imposed by section 19 if, and so far as, these restrictions are binding upon the company.

SHARES

4. In case of shares in the physical form, every person whose name is entered as a member in the register of members shall, without payment, be entitled to receive, within thirty days after allotment or within fifteen days of the application for registration of transfer, a certificate under the seal specifying the share or shares held by him and the amount paid up thereon:

Provided that if the shares are in book entry form or in case of conversion of physical shares and other transferable securities into book-entry form, the company shall, within ten days after an application is made for the registration of the transfer of any shares or other securities to a central depository, register such transfer in the name of the central depository.

5. The company shall not be bound to issue more than one certificate in respect of a share or shares in the physical form, held jointly by several persons and delivery of a certificate for a share to one of several joint holders shall be sufficient delivery to all.

6. If a share certificate in physical form is defaced, lost or destroyed, it may be renewed on payment of such fee, if any, not exceeding one hundred rupees, and on such terms, if any, as to evidence and indemnity and payment of expenses incurred by the company in investigating title as the directors think fit.

7. Except to the extent and in the manner allowed by section 86, no part of the funds of the company shall be employed in the purchase of, or in loans upon the security of, the company's shares.

TRANSFER AND TRANSMISSION OF SHARES

8. The instrument of transfer of any share in physical form in the company shall be executed both by the transferor and transferee, and the transferor shall be deemed to remain holder of the share until the name of the transferee is entered in the register of members in respect thereof.

9. Shares in physical form in the company shall be transferred in the following form, or in any usual or common form which the directors shall approve: -

Form for Transfer of Shares

(First Schedule to the Companies Act, 2017)

I..... s/o ..... r/o..... (hereinafter called "the transferor") in consideration of the sum of rupees ..... paid to me by..... s/o ..... r/o..... (hereinafter called "the transferee"), do hereby transfer to the said transferee.....theshare(orshares)withdistinctivenumbersfrom .....to.....inclusive, in the..... Limited, to hold unto the said transferee, his executors, administrators and assigns, subject to the several conditions on which I held the same at the time of the execution hereof, and I, the said transferee, do hereby agree to take the said share (or shares) subject to the conditions aforesaid.
As witness our hands this..... day of..... , 20.....

Signature .....
Transferor
Full Name, Father's / Husband's Name
CNIC Number (in case of foreigner, Passport Number)
Nationality
Occupation and usual Residential Address

Witness 1:

Signature.....date .....
Name, CNIC Number and Full Address

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Burj DG (Private) Limited

Authorised Signatur
Director

Signature .....
Transferee
Full Name, Father's / Husband's Name
CNIC Number (in case of foreigner, Passport Number)
Nationality
Occupation and usual Residential Address

Cell number
Landline number, if any
Email address

Witness 2:

Signature.....date .....
Name, CNIC Number and Full Address

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Burj DG (Private) Limited

Authorised Signature / Director

Bank Account Details of Transferee for Payment of Cash Dividend
(Mandatory in case of a listed company or optional for any other company)

It is requested that all my cash dividend amounts declared by the company, may be credited into the following bank account:

Tile of Bank Account	
Bank Account Number	
Bank's Name	
Branch Name and Address	

It is stated that the above mentioned information is correct and that I will intimate the changes in the above-mentioned information to the company and the concerned Share Registrar as soon as these occur.

.....
Signature of the Transferee(s)

10. (1) Subject to the restrictions contained in regulation 10 and 11, the directors shall not refuse to transfer any share unless the transfer deed is defective or invalid. The directors may also suspend the registration of transfers during the ten days immediately preceding a general meeting or prior to the determination of entitlement or rights of the shareholders by giving seven days' previous notice in the manner provided in the Act. The directors may, in case of shares in physical form, decline to recognise any instrument of transfer unless—

a) a fee not exceeding fifty rupees as may be determined by the directors is paid to the company in respect thereof; and

b) the duly stamped instrument of transfer is accompanied by the certificate of the shares to which it relates, and such other evidence as the directors may reasonably require to show the right of the transferor to make the transfer.

(2) If the directors refuse to register a transfer of shares, they shall within fifteen days after the date on which the transfer deed was lodged with the company send to the transferee and the transferor notice of the refusal indicating the defect or invalidity to the transferee, who shall, after removal of such defect or invalidity be entitled to re-lodge the transfer deed with the company.

Provided that the company shall, where the transferee is a central depository the refusal shall be conveyed within five days from the date on which the instrument of transfer was lodged with it notify the defect or invalidity to the transferee who shall, after the removal of such defect or invalidity, be entitled to re-lodge the transfer deed with the company.

TRANSMISSION OF SHARES

11. The executors, administrators, heirs, or nominees, as the case may be, of a deceased sole holder of a share shall be the only persons recognised by the company to deal with the share in accordance with the law. In the case of a share registered in the names of two or more holders, the survivors or survivor, or the executors or administrators of the deceased survivor, shall be the

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Director

only persons recognised by the company to deal with the share in accordance with the law.

12. The shares or other securities of a deceased member shall be transferred on application duly supported by succession certificate or by lawful award, as the case may be, in favour of the successors to the extent of their interests and their names shall be entered to the register of members.

13. A person may on acquiring interest in a company as member, represented by shares, at any time after acquisition of such interest deposit with the company a nomination conferring on a person, being the relatives of the member, namely, a spouse, father, mother, brother, sister and son or daughter, the right to protect the interest of the legal heirs in the shares of the deceased in the event of his death, as a trustee and to facilitate the transfer of shares to the legal heirs of the deceased subject to succession to be determined under the Islamic law of inheritance and in case of non-*Muslim* members, as per their respective law.

14. The person nominated under regulation 12 shall, after the death of the member, be deemed as a member of company till the shares are transferred to the legal heirs and if the deceased was a director of the company, not being a listed company, the nominee shall also act as director of the company to protect the interest of the legal heirs.

15. A person to be deemed as a member under regulation 11, 12 and 13 to a share by reason of the death or insolvency of the holder shall be entitled to the same dividends and other advantages to which he would be entitled if he were the registered holder of the share and exercise any right conferred by membership in relation to meetings of the company.

ALTERATION OF CAPITAL

16. The company may, by special resolution-

(a) increase its authorised capital by such amount as it thinks expedient;

(b) consolidate and divide the whole or any part of its share capital into shares of larger amount than its existing shares;

(c) sub-divide its shares, or any of them, into shares of smaller amount than is fixed by the memorandum;

(d) cancel shares which, at the date of the passing of the resolution in that behalf, have not been taken or agreed to be taken by any person, and diminish the amount of its share capital by the amount of the share so cancelled.

17. Subject to the provisions of the Act, all new shares shall at the first instance be offered to such persons as at the date of the offer are entitled to such issue in proportion, as nearly as the circumstances admit, to the amount of the existing shares to which they are entitled. The offer shall be made by letter of offer specifying the number of shares offered, and limiting a time within which the offer, if not accepted, will deem to be declined, and after the expiration of that time, or on the receipt of an intimation from the person to whom the offer is made that he declines to accept the shares offered, the directors may dispose of the same in such manner as they think most beneficial to the company. The directors may likewise so dispose of any new shares which (by reason of the ratio which the new shares bear to shares held by persons entitled to an offer of new shares) cannot, in the opinion of the directors, be conveniently offered under this regulation.

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Authorised Signature
Director

18. The new shares shall be subject to the same provisions with reference to transfer, transmission and otherwise as the shares in the original share capital.

19. The company may, by special resolution-

(a) consolidate and divide its share capital into shares of larger amount than its existing shares;

(b) sub-divide its existing shares or any of them into shares of smaller amount than is fixed by the memorandum of association, subject, nevertheless, to the provisions of section 85;

(c) cancel any shares which, at the date of the passing of the resolution, have not been taken or agreed to be taken by any person.

20. The company may, by special resolution, reduce its share capital in any manner and with, and subject to confirmation by the Court and any incident authorised and consent required, by law.

GENERAL MEETINGS

21. The statutory general meeting of the company shall be held within the period required by section 131.

22. A general meeting, to be called annual general meeting, shall be held, in accordance with the provisions of section 132, within sixteen months from the date of incorporation of the company and thereafter once at least in every year within a period of one hundred and twenty days following the close of its financial year.

23. All general meetings of a company other than the statutory meeting or an annual general meeting mentioned in sections 131 and 132 respectively shall be called extraordinary general meetings.

24. The directors may, whenever they think fit, call an extraordinary general meeting, and extraordinary general meetings shall also be called on such requisition, or in default, may be called by such requisitionists, as provided by section 133. If at any time there are not within Pakistan sufficient directors capable of acting to form a quorum, any director of the company may call an extraordinary general meeting in the same manner as nearly as possible as that in which meetings may be called by the directors.

25. The company may provide video-link facility to its members for attending general meeting at places other than the town in which general meeting is taking place after considering the geographical dispersal of its members:

Provided that in case of listed companies if the members holding ten percent of the total paid up capital or such other percentage of the paid up capital as may be specified, are resident in any other city, the company shall provide the facility of video-link to such members for attending annual general meeting of the company, if so required by such members in writing to the company at least seven days before the date of the meeting.

NOTICE AND PROCEEDINGS OF GENERAL MEETINGS

26. Twenty-one days' notice at the least (exclusive of the day on which the notice is served or deemed to be served, but inclusive of the day for which notice is given) specifying the place, the day and the hour of meeting and, in case of special business, the general nature of that business, shall be given in manner provided by the Act for the general meeting, to such persons as are, under the Act or the regulations of the company, entitled to receive such notice from the company; but the accidental omission to give notice to, or the non-receipt of notice by, any member shall not invalidate the proceedings at any general meeting.

27. All the business transacted at a general meeting shall be deemed special other than the business stated in sub-section (2) of section 134 namely: the consideration of financial statements and the reports of the board and auditors, the declaration of any dividend, the election and appointment of directors in place of those retiring, and the appointment of the auditors and fixing of their remuneration.

28. No business shall be transacted at any general meeting unless a quorum of members is present at that time when the meeting proceeds to business. The quorum of the general meeting shall be-

(a) in the case of a public listed company, not less than ten members present personally, or through video-link who represent not less than twenty-five percent of the total voting power, either of their own account or as proxies;

(b) in the case of any other company having share capital, two members present personally, or through video-link who represent not less than twenty-five percent of the total voting power, either of their own account or as proxies.

29. If within half an hour from the time appointed for the meeting a quorum is not present, the meeting, if called upon the requisition of members, shall be dissolved; in any other case, it shall stand adjourned to the same day in the next week at the same time and place, and, if at the adjourned meeting a quorum is not present within half an hour from the time appointed for the meeting, the members present, being not less than two, shall be a quorum.

30. The chairman of the board of directors, if any, shall preside as chairman at every general meeting of the company, but if there is no such chairman, or if at any meeting he is not present within fifteen minutes after the time appointed for the meeting, or is unwilling to act as chairman, any one of the directors present may be elected to be chairman, and if none of the directors is present, or willing to act as chairman, the members present shall choose one of their number to be chairman.

31. The chairman may, with the consent of any meeting at which a quorum is present (and shall if so directed by the meeting), adjourn the meeting from time to time but no business shall be transacted at any adjourned meeting other than the business left unfinished at the meeting from which the adjournment took place. When a meeting is adjourned for fifteen days or more, notice of the adjourned meeting shall be given as in the case of an original meeting. Save as aforesaid, it shall not be necessary to give any notice of an adjournment or of the business to be transacted at an adjourned meeting.

32. (1) At any general meeting a resolution put to the vote of the meeting shall be decided on a

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Authorised Signature/
Director

show of hands unless a poll is (before or on the declaration of the result of the show of hands) demanded. Unless a poll is so demanded, a declaration by the chairman that a resolution has, on a show of hands, been carried, or carried unanimously, or by a particular majority, or lost, and an entry to that effect in the book of the proceedings of the company shall be conclusive evidence of the fact, without proof of the number or proportion of the votes recorded in favour of, or against, that resolution.

(2) At any general meeting, the company shall transact such businesses as may be notified by the Commission, only through postal ballot.

33. A poll may be demanded only in accordance with the provisions of section 143.

34. If a poll is duly demanded, it shall be taken in accordance with the manner laid down in sections 144 and 145 and the result of the poll shall be deemed to be the resolution of the meeting at which the poll was demanded.

35. A poll demanded on the election of chairman or on a question of adjournment shall be taken at once.

36. In the case of an equality of votes, whether on a show of hands or on a poll, the chairman of the meeting at which the show of hands takes place, or at which the poll is demanded, shall have and exercise a second or casting vote.

37. Except for the businesses specified under sub-section (2) of section 134 to be conducted in the annual general meeting, the members of a private company or a public unlisted company (having not more than fifty members), may pass a resolution (ordinary or special) by circulation signed by all the members for the time being entitled to receive notice of a meeting. The resolution by circulation shall be deemed to be passed on the date of signing by the last of the signatory member to such resolution.

VOTES OF MEMBERS

38. Subject to any rights or restrictions for the time being attached to any class or classes of shares, on a show of hands every member present in person shall have one vote except for election of directors in which case the provisions of section 159 shall apply. On a poll every member shall have voting rights as laid down in section 134.

39. In case of joint-holders, the vote of the senior who tenders a vote, whether in person or by proxy or through video-link shall be accepted to the exclusion of the votes of the other joint-holders; and for this purpose seniority shall be determined by the order in which the names stand in the register of members.

40. A member of unsound mind, or in respect of whom an order has been made by any court having jurisdiction in lunacy, may vote, whether on show of hands or on a poll or through video link, by his committee or other legal guardian, and any such committee or guardian may, on a poll, vote by proxy.

41. On a poll votes may be given either personally or through video-link, by proxy or through postal ballot:

Provided that nobody corporate shall vote by proxy as long as a resolution of its directors

in accordance with the provisions of section 138 is in force.

42. (1) The instrument appointing a proxy shall be in writing under the hand of the appointer or of his attorney duly authorised in writing.

(2) The instrument appointing a proxy and the power-of-attorney or other authority (if any) under which it is signed, or a notarially certified copy of that power or authority, shall be deposited at the registered office of the company not less than forty-eight hours before the time for holding the meeting at which the person named in the instrument proposes to vote and in default the instrument of proxy shall not be treated as valid.

43. An instrument appointing a proxy may be in the following form, or a form as near thereto as may be:

INSTRUMENT OF PROXY

..... Limited

"I ..... s/o ..... r/o ..... being a member of the ..... Limited, hereby appoint ..... s/o ..... r/o ..... as my proxy to attend and vote on my behalf at the (statutory, annual, extraordinary, as the case may be) general meeting of the company to be held on the ..... day of ....., 20..... and at any adjournment thereof."

44. A vote given in accordance with the terms of an instrument of proxy shall be valid notwithstanding the previous death or insanity of the principal or revocation of the proxy or of the authority under which the proxy was executed, or the transfer of the share in respect of which the proxy is given, provided that no intimation in writing of such death, insanity, revocation or transfer as aforesaid shall have been received by the company at the office before the commencement of the meeting or adjourned meeting at which the proxy is used.

DIRECTORS

45. The following subscribers of the memorandum of association shall be the first directors of the company, so, however, that the number of directors shall not in any case be less than that specified in section 154 and they shall hold office until the election of directors in the first annual general meeting:

1. SAAD UZ ZAMAN
2. MAAZ MASHKOOR
3. FARID ARSHAD MASOOD

46. The remuneration of the directors shall from time to time be determined by the company in general meeting subject to the provisions of the Act.

47. Save as provided in section 153, no person shall be appointed as a director unless he is a member of the company.

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Authorised Signature/
Director

POWERS AND DUTIES OF DIRECTORS

48. The business of the company shall be managed by the directors, who may pay all expenses incurred in promoting and registering the company, and may exercise all such powers of the company as are not by the Act or any statutory modification thereof for the time being in force, or by these regulations, required to be exercised by the company in general meeting, subject nevertheless to the provisions of the Act or to any of these regulations, and such regulations being not inconsistent with the aforesaid provisions, as may be prescribed by the company in general meeting but no regulation made by the company in general meeting shall invalidate any prior act of the directors which would have been valid if that regulation had not been made.

49. The directors shall appoint a chief executive in accordance with the provisions of sections 186 and 187.

50. The amount for the time being remaining undischarged of moneys borrowed or raised by the directors for the purposes of the company (otherwise than by the issue of share capital) shall not at any time, without the sanction of the company in general meeting, exceed the issued share capital of the company.

51. The directors shall duly comply with the provisions of the Act, or any statutory modification thereof for the time being in force, and in particular with the provisions in regard to the registration of the particulars of mortgages, charges and pledge affecting the property of the company or created by it, to the keeping of a register of the directors, and to the sending to the registrar of an annual list of members, and a summary of particulars relating thereto and notice of any consolidation or increase of share capital, or sub-division of shares, and copies of special resolutions and a copy of the register of directors and notifications of any changes therein.

MINUTE BOOKS

52. The directors shall cause records to be kept and minutes to be made in book or books with regard to:-

(a) all resolutions and proceedings of general meeting(s) and the meeting(s) of directors and Committee(s) of directors, and every member present at any general meeting and every director present at any meeting of directors or Committee of directors shall put his signature in a book to be kept for that purpose;

(b) recording the names of the persons present at each meeting of the directors and of any committee of the directors, and the general meeting; and

(c) all orders made by the directors and Committee(s) of directors:

Provided that all records related to proceedings through video-link shall be maintained in accordance with the relevant regulations specified by the Commission which shall be appropriately rendered into writing as part of the minute books according to the said regulations.

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Director

THE SEAL

53. The directors shall provide for the safe custody of the seal and the seal shall not be affixed to any instrument except by the authority of a resolution of the board of directors or by a committee of directors authorized in that behalf by the directors and in the presence of at least two directors and of the secretary or such other person as the directors may appoint for the purpose; and those two directors and secretary or other person as aforesaid shall sign every instrument to which the seal of the company is so affixed in their presence.

DISQUALIFICATION OF DIRECTORS

54. No person shall become the director of a company if he suffers from any of the disabilities or disqualifications mentioned in section 153 or disqualified or debarred from holding such office under any of the provisions of the Act as the case may be and, if already a director, shall cease to hold such office from the date he so becomes disqualified or disabled:

Provided, however, that no director shall vacate his office by reason only of his being a member of any company which has entered into contracts with, or done any work for, the company of which he is director, but such director shall not vote in respect of any such contract or work, and if he does so vote, his vote shall not be counted.

PROCEEDINGS OF DIRECTORS

55. The directors may meet together for the dispatch of business, adjourn and otherwise regulate their meetings, as they think fit. A director may, and the secretary on the requisition of a director shall, at any time, summon a meeting of directors. Notice sent to a director through email whether such director is in Pakistan or outside Pakistan shall be a valid notice.

56. The directors may elect a chairman of their meetings and determine the period for which he is to hold office; but, if no such chairman is elected, or if at any meeting the chairman is not present within ten minutes after the time appointed for holding the same or is unwilling to act as chairman, the directors present may choose one of their number to be chairman of the meeting.

57. At least one-third ($1/3^{rd}$) of the total number of directors or two (2) directors whichever is higher, for the time being of the company, present personally or through video-link, shall constitute a quorum.

58. Save as otherwise expressly provided in the Act, every question at meetings of the board shall be determined by a majority of votes of the directors present in person or through video-link, each director having one vote. In case of an equality of votes or tie, the chairman shall have a casting vote in addition to his original vote as a director.

59. The directors may delegate any of their powers not required to be exercised in their meeting to committees consisting of such member or members of their body as they think fit; any committee so formed shall, in the exercise of the powers so delegated, conform to any restrictions that may be imposed on them by the directors.

60. (1) A committee may elect a chairman of its meetings: but, if no such chairman is elected, or if at any meeting the chairman is not present within ten minutes after the time appointed for holding the same or is unwilling to act as chairman, the members present may choose one of

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Authorised Signature/
Director

their number to be chairman of the meeting.

(2) A committee may meet and adjourn as it thinks proper. Questions arising at any meeting shall be determined by a majority of votes of the members present. In case of an equality of votes, the chairman shall have and exercise a second or casting vote.

61. All acts done by any meeting of the directors or of a committee of directors, or by any person acting as a director, shall, notwithstanding that it be afterwards discovered that there was some defect in the appointment of any such directors or persons acting as aforesaid, or that they or any of them were disqualified, be as valid as if every such person had been duly appointed and was qualified to be a director.

62. A copy of the draft minutes of meeting of the board of directors shall be furnished to every director within seven working days of the date of meeting.

63. A resolution in writing signed by all the directors for the time being entitled to receive notice of a meeting of the directors shall be as valid and effectual as if it had been passed at a meeting of the directors duly convened and held.

FILLING OF VACANCIES

64. At the first annual general meeting of the company, all the directors shall stand retired from office, and directors shall be elected in their place in accordance with section 159 for a term of three years.

65. A retiring director shall be eligible for re-election.

66. The directors shall comply with the provisions of sections 154 to 159 and sections 161, 162 and 167 relating to the election of directors and matters ancillary thereto.

67. Any casual vacancy occurring on the board of directors may be filled up by the directors, but the person so chosen shall be subject to retirement at the same time as if he had become a director on the day on which the director in whose place he is chosen was last elected as director.

68. The company may remove a director but only in accordance with the provisions of the Act.

DIVIDENDS AND RESERVE

69. The company in general meeting may declare dividends but no dividend shall exceed the amount recommended by the directors.

70. The directors may from time to time pay to the members such interim dividends as appear to the directors to be justified by the profits of the company.

71. Any dividend may be paid by a company either in cash or in kind only out of its profits. The payment of dividend in kind shall only be in the shape of shares of listed company held by the distributing company.

72. Dividend shall not be paid out of unrealized gain on investment property credited to profit and loss account.

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Director

73. Subject to the rights of persons (if any) entitled to shares with special rights as to dividends, all dividends shall be declared and paid according to the amounts paid on the shares.

74. (1) The directors may, before recommending any dividend, set aside out of the profits of the company such sums as they think proper as a reserve or reserves which shall, at the discretion of the directors, be applicable for meeting contingencies, or for equalizing dividends, or for any other purpose to which the profits of the company may be properly applied, and pending such application may, at the like discretion, either be employed in the business of company or be invested in such investments (other than shares of the company) as the directors may, subject to the provisions of the Act, from time to time think fit.

(2) The directors may carry forward any profits which they may think prudent not to distribute, without setting them aside as a reserve.

75. If several persons are registered as joint-holders of any share, any one of them may give effectual receipt for any dividend payable on the share.

76. (1) Notice of any dividend that may have been declared shall be given in manner hereinafter mentioned to the persons entitled to share therein but, in the case of a public company, the company may give such notice by advertisement in a newspaper circulating in the Province in which the registered office of the company is situate.

(2) Any dividend declared by the company shall be paid to its registered shareholders or to their order. The dividend payable in cash may be paid by cheque or warrant or in any electronic mode to the shareholders entitled to the payment of the dividend, as per their direction.

(3) In case of a listed company, any dividend payable in cash shall only be paid through electronic mode directly into the bank account designated by the entitled shareholders.

77. The dividend shall be paid within the period laid down under the Act.

ACCOUNTS

78. The directors shall cause to be kept proper books of account as required under section 220.

79. The books of account shall be kept at the registered office of the company or at such other place as the directors shall think fit and shall be open to inspection by the directors during business hours.

80. The directors shall from time to time determine whether and to what extent and at what time and places and under what conditions or regulations the accounts and books or papers of the company or any of them shall be open to the inspection of members not being directors, and no member (not being a director) shall have any right of inspecting any account and book or papers of the company except as conferred by law or authorised by the directors or by the company in general meeting.

81. The directors shall as required by sections 223 and 226 cause to be prepared and to be laid before the company in general meeting the financial statements duly audited and reports as are referred to in those sections.

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Authorised Signature / Director

82. The financial statements and other reports referred to in regulation 80 shall be made out in every year and laid before the company in the annual general meeting in accordance with sections 132 and 223.

83. A copy of the financial statements and reports of directors and auditors shall, at least twenty-one days preceding the meeting, be sent to the persons entitled to receive notices of general meetings in the manner in which notices are to be given hereunder.

84. The directors shall in all respect comply with the provisions of sections 220 to 227.

85. Auditors shall be appointed and their duties regulated in accordance with sections 246 to 249.

NOTICES

86. (1) A notice may be given by the company to any member to his registered address or if he has no registered address in Pakistan to the address, if any, supplied by him to the company for the giving of notices to him against an acknowledgement or by post or courier service or through electronic means or in any other manner as may be specified by the Commission.

(2) Where a notice is sent by post, service of the notice shall be deemed to be effected by properly addressing, prepaying and posting a letter containing the notice and, unless the contrary is proved, to have been effected at the time at which the letter will be delivered in the ordinary course of post.

87. A notice may be given by the company to the joint-holders of a share by giving the notice to the joint-holder named first in the register in respect of the share.

88. A notice may be given by the company to the person entitled to a share in consequence of the death or insolvency of a member in the manner provided under regulation 85 addressed to them by name, or by the title or representatives of the deceased, or assignees of the insolvent, or by any like description, at the address, supplied for the purpose by the person claiming to be so entitled.

89. Notice of every general meeting shall be given in the manner hereinbefore authorised to (a) every member of the company and also to (b) every person entitled to a share in consequence of the death or insolvency of a member, who but for his death or insolvency would be entitled to receive notice of the meeting, and (c) to the auditors of the company for the time being and every person who is entitled to receive notice of general meetings.

WINDING UP

90. (1) In the case of members' voluntary winding up, with the sanction of a special resolution of the company, and, in the case of creditors' voluntary winding up, of a meeting of the creditors, the liquidator shall exercise any of the powers given by sub-section (1) of section 337 of the Act to a liquidator in a winding up by the Court including *inter-alia* divide amongst the members, in specie or kind, the whole or any part of the assets of the company, whether they consist of property of the same kind or not.

(2) For the purpose aforesaid, the liquidator may set such value as he deems fair upon any property to be divided as aforesaid and may determine how such division shall be carried out as between the members or different classes of members.

INDEMNITY

91. Every officer or agent for the time being of the company may be indemnified out of the assets of the company against any liability incurred by him in defending any proceedings, whether civil or criminal, arising out of his dealings in relation to the affairs of the company, except those brought by the company against him, in which judgment is given in his favour or in which he is acquitted, or in connection with any application under section 492 in which relief is granted to him by the Court.

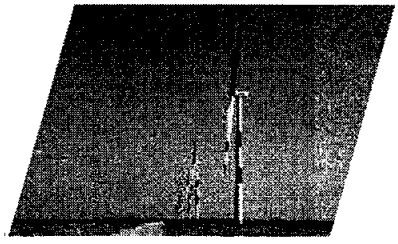
We, the several persons whose names and addresses are subscribed below, are desirous of being formed into a company, in pursuance of these ARTICLES OF ASSOCIATION, and we respectively agree
to take the number of shares in the capital of the company set opposite our respective names:

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
SAAD UZ ZAMAN	42301-8489997-7	QAMAR UZ ZAMAN	PAKISTANI	Business Executive	House No. F-52/2, Block 7 Clifton, Karachi	1 (One)	
MAAZ MASHKOOR	42201-4389581-5	MASHKOOR ULLAH	PAKISTANI	Business Executive	House No: K-504, Creek Vista, DHA Phase 8, Karachi	1 (One)	
FARID ARSHAD MASOOD	42301-3551103-7	ARSHAD MASOOD	PAKISTANI	Business Executive	B56 Lime Tree Valley, JGE, Dubai, UAE	1(One)	
		Total number of shares taken (in figures and words)				3 (Three)	

Dated the 20th day of August, 2020

Burj DC (Private) Limited

Authorised Signature / Director



BURJ CAPITAL

RESPONSIBLE POWER

BURJ Capital

Burj DG (Private) Limited

VISION & MISSION

Burj Capital is an investment firm focusing on renewable power development. Meeting the need for cheaper and cleaner power, technologies like wind and solar represent a paradigm shift in how developing markets can source and generate electricity in the future. Given this opportunity, it is our goal to support more widespread uptake of renewable power by leveraging our expertise, experience and partnerships with some of the leading global institutional investors and technology providers to create market leading independent clean power platforms across select markets while delivering attractive and stable returns to our investors.

EXECUTIVE SUMMARY

Burj Capital is a Dubai, UAE based investment firm engaged in renewable power development focusing on both utility scale and distributed generation strategies. We originate, develop and construct power projects, thereby managing assets end-to-end and in the process ensuring project quality and delivering attractive returns for our investors and partners. Burj typically targets assets that have potential to offer returns in the range of 15% USD IRR.

- We focus on select markets within Asia which offer attractive risk-adjusted returns and the potential to scale. Working alongside leading institutional investors, development finance institutions and technology providers, our aim is to gain significant foothold in our chosen markets and create market leading platforms to deliver clean power.

- Our first foray has been in Pakistan where we are targeting a platform of 500MW of renewable assets and have already deployed **$130 million+** in capital. We are the leading independent renewables player in the market with over 450MW of proprietary wind and solar assets under development. Our first 50MW wind project has achieved Commercial Operations as of March 2018. It carries a 20 year sovereign guaranteed PPA, a 10.44 US cents feed-in tariff and uses GE's 1.7MW turbine platform customized to provide high yields in the Jhimpir-Gharo wind corridor. Burj completed this project with the Overseas Private Investment Corporation (OPIC) as the sole debt provider, PowerChina as the EPC contractor and GE as the O&M operator. The Abraaj Group participated as the equity investor.

- Leveraging the strong foothold in Pakistan, Burj aims to replicate its offering in upcoming Asian markets conducive to renewables.

- Aside from utility assets, Burj is also developing a distributed generation business (private power) taking advantage of falling cost of technologies like PV solar and targeting the unmet power and efficiency needs of credible commercial and industrial consumers.

- Burj is led by investment and industry professionals with experience in developing and financing renewable energy assets and supported by a strong engineering and project management team with expertise in the design, construction, and operation of power projects. The team has previously created platforms targeting over 2.5GW of clean energy deployment across South Asia, Africa, and Latin America in partnership with the likes of Engie, Total, Africa Finance Corporation and Aditya Birla Group, and have worked alongside leading technology providers and construction companies including GE, Vestas, Siemens, Nordex, Wartsila, PowerChina, and Harbin.

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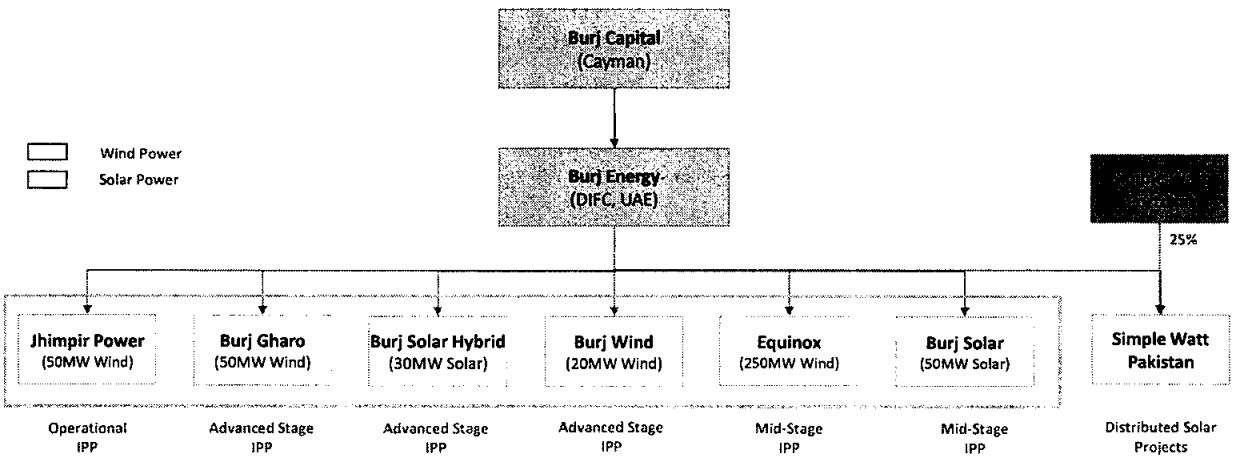
PLATFORM STRUCTURE

Burj is creating a **500MW clean power platform** in Pakistan backed by a proprietary pipeline of assets that have been matured in house. We have a 50MW operational asset, 100MW in advance development, and 300MW mid-stage IPP projects. Combined with our distributed solar business, where we are executing small scale solar projects, we are well on our way to becoming a leading clean power generation company in the country.



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ASSET PORTFOLIO

The below pipeline only represents proprietary opportunities. In-house development provides us growth certainty and a runway to our 500MW target. We also allow a phased approach to development, seeking to redeploy returns from completed projects, use resources efficiently and thus deliver superior returns to our investors.

Projects	Size (MW)	Type	Status
IPP - Operational			
Jhimpir Power	50	Wind	• Commercial operations commenced, March 2018 • Deployed $130+ million capital into the project • High performance asset, ***first year revenue c.$23m & EBITDA c. $15m***
IPP - Advanced Stage Development			
Burj Wind Energy	Up to 20	Wind	• Fully developed, with offtake from national grid • Tariff awarded on February 20th, 2019. Financial close to be achieved on February 20th, 2020.
Burj Gharo Energy	50	Wind	• Fully developed, with offtake from K-Electric • Processing tariff application
Burj Power Hybrid	30	PV Solar	• Licensed, co-located with Jhimpir Power • Offtake to national grid already available, fast-track tariff preparation in process
IPP - Mid Stage Development			
Equinox	250	Wind	• Mid-stage asset, licensed for 250MW offtake • Feasibility in process together with technical assessment
Burj Solar	2 x 25	PV Solar	• Mid-stage asset for national grid offtake, being co-develop with Voltalia, a leading French IPP • Project land has been locked, proximate to national grid
Distributed Solar			
Distributed Generation	50	PV Solar	• 10MW projects in development and execution with leading commercial and industrial consumers • 50MW target by 2020
Total	**500 MW**		

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ABOUT US – CAPABILITIES

Our investment management orientation and in-house development & technical capabilities are core value creators. Expertise, experience and on-ground networks allow us to lock value early on during project development. This value is maintained by closely managing the construction and commissioning phases, and as assets stabilize post operations, we are able to create capital churn opportunities

Incubate / Originate	Develop	Construct & Operate	Churn Capital
Identify and secure site	Technical Studies & Regulatory Permits	Planning & Procurement	Partial Liquidity Events – IPO, Recapitalization
Pre-feasibility	EPC, O&M	Construction Management	Trade Sale
License Application	PPA	Commissioning & Handover	
Review and acquire licenses/projects	Equity Raising	Operations Management	
	Debt Raising & Financial Close		
	Assemble & Deploy Project Team		

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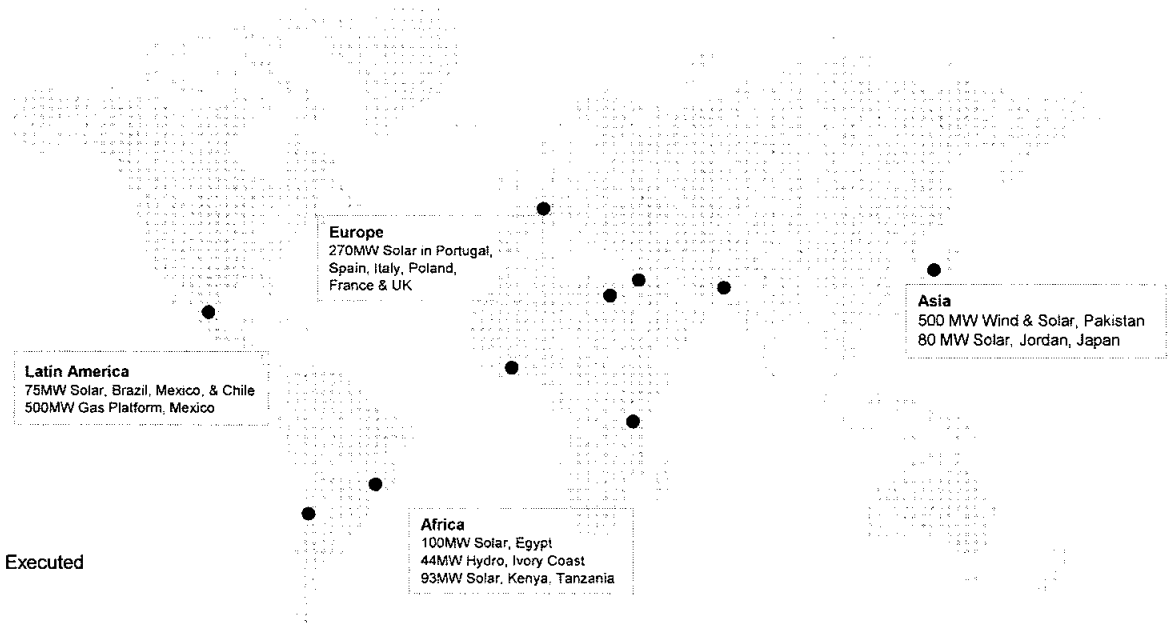
MANAGEMENT TRACK RECORD | c. 3GW OF DEALS EXECUTED, IN DEPTH KNOWLEDGE OF CLEAN ENERGY LANDSCAPE



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MANAGEMENT TEAM

Burj Capital is led and managed by seasoned Investment professionals based out of Dubai, UAE. Established in 2011, Burj Capital is now a leading Renewable Energy Company in Pakistan. The Group and Management team is led by Saad Zaman, Founder and Group CEO of Burj Capital.

Saad has more than 25 years of experience, he has held leadership positions in organizations like Citibank, where in his last role, he led the Investment Banking Business for the Middle East and Levant. He also served as a Managing Director and Global Islamic Finance Head for Citi. Subsequent to Citi, Saad was associated with Dubai Islamic Bank (Government of Dubai) where he served as CEO for the Investment Banking Business and International Operations. He was the founder CEO of DIB Pakistan, he led DIB's international expansion into a number of other regional markets. Saad has held various Board and Advisory positions with leading businesses like Citi, DIB, Etisalat International and DP WORLD Group.

Saad Zaman
Group Chairman & CEO Jhimpir Power
- 25 years experience
- President, DIB Pakistan and CEO, DIB Capital, UAE
- Managing Director, Islamic Banking and Corporate Finance Head Middle East & Levant at Citi

Omar Masrur
Development Lead
- 20 years experience
- Energy sector project development, Investment management

Umar Mirza
Investment Lead
- 14 years experience
- Private equity, energy sector investment & project development

Eduardo Pereira
Solar Commercial Lead
- 10 years experience
- Solar power development & EPC, origination

Aamer Chishti
Corporate Finance Lead
- 20 years experience
- Energy sector project development, Investment management

Bilal Azhar, CFA
Senior Associate Investments
- 10 years experience
- Private Equity, Management Consulting

Nabeel Malik
Senior Advisor, Distributed Solar
- 25 years experience
- Consumer Banking Specialist & Technology Innovation

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PROJECT EXECUTION TEAM

Burj has assembled one of the most experienced teams in Pakistan having built over 5 wind projects in Pakistan previously including the first 3 in the country. Skilled at construction management, design and engineering, the team has delivered Jhimpir Power on budget and on time. The team is also leading E&S monitoring, community liaison and CSR activities. Senior members have worked together for over 8+ years

Yousaf Malik
Project Manager & ESG Lead
- 10 years experience
- Project management, engineering, wind and thermal EPC specialist

Imran Javed
Technical Manager
- 10 years experience
- Engineering design & construction; wind and nuclear O&M specialist

Col (R) Imtiaz Khan
Project Administration & CSR
- 20 years experience
- General administration, Security & Stakeholder Engagement, CSR

Azam Farooq
Finance Manager
- 10 years experience
- Accounts, budgeting and financial control

Sanaullah Memon
Plant Administration & Community Liaison
- 10 years experience
- Plant administration, community liaison & local government engagement

Shabbir Ahmed
Corporate Compliance
- 20 years experience
- Corporate affairs and compliance

Daniyal Aziz
Plant Electrical Engineer
- 5 years experience
- EPC electrical works, O&M

M. Babar
Plant Electrical Engineer
- 5 years experience
- EPC electrical works, O&M

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DEVELOPMENT TEAM

The team comprises on-ground resources leading the day-to-day affairs of all development projects including leading engagement with regulators, project consultants, vendors/contractors, and local government bodies. They are supported by an engineering and design team based out of Portugal who were previously part of one of the leading European IPPs. Integration with this team is ongoing at present. This team provides Burj the ability to design, build and operate our distributed solar assets.

Development Team - Pakistan

Saleem Zaman
CEO
- 25 years experience
- Corporate Law, Power, Agri and Real Estate development

Faisal Iftikhar
Project Director
- 20 years experience
- Project management, engineering, wind and hydro EPC specialist

Bilal Saeed
Senior Project Manager
- >5 years experience
- Solar Development & EPC expertise in Pakistan

Tulsi Das
Development Engineer
- >5 years experience
- Independent engineering & wind development services

Ali Raza
Asst. Development Engineer
- >1 years experience
- Electrical engineering

Design & Development Team - Portugal

Marco Alves
Solar Technical & Commercial Lead
- 17 years experience
- Project management, solar EPC and O&M specialist

Nuno Lameiras
Solar Operations & Engineering
- >10 years experience
- Solar development and operations specialist

Ivo Mota
Solar Contracting & Technical Solutions
- >5 years experience
- Plant design and commercial solutions

Bruno Rodrigues
Solar Grid & Systems Integration
- >5 years experience
- Plant construction & engineering

Miguel Saramago
Financial Management
- >10 years experience
- Project development & financial management

Jaime Lima
Storage & Hybrid Systems
- >5 years experience
- Solar engineering and design

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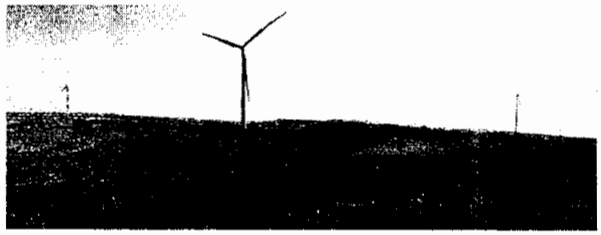
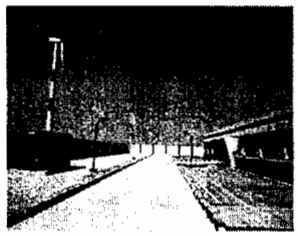
JHIMPIR POWER

Project has achieved Commercial Operations as of March 2018. It carries a 20 year sovereign guaranteed PPA, a 10.44 US cents feed-in tariff and uses GE's 7MW turbine platform customized to provide high yields in the Jhimpir-Gharo wind corridor. Burj completed this project with the Overseas Private Investment Corporation (OPIC) as the sole debt provider, PowerChina as the EPC contractor and GE as the O&M operator.

Performance Metrics	
COD	Mar 16th, 2018
Availability to date	97.5%
Capacity Factor to date	43.6%
Avg Wind Speed	7 m/s
Net Energy Delivered since COD	161 GWh
Unproduced Energy (Curtailment/Grid Outage)	10 GWh
Aux Consumption + Losses	4 GWh





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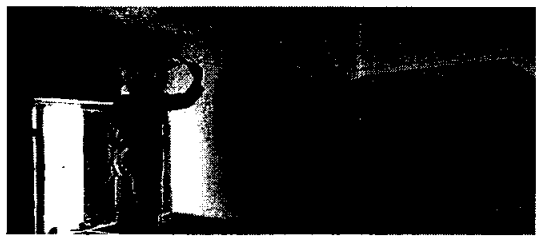
ENVIRONMENTAL & SOCIAL PERFORMANCE (BASED ON IFC PS)

Active support for local community uplift instituted. Focus is on priority hiring by EPC (over 100 people employed), water supply and educational facilities for joining villages. Initiatives are pursuant to a local community survey and a community development plan developed together with OPIC. Ongoing gagement with non-profits as well as other projects in vicinity for developing long term CSR programs

have constructed water tanks at 5 adjoining villages. Water was either carried across y women/children or sourced from the ground. Villages receive 24k liters water/month



2 non-operational schools refurbished. We have hired teachers; distributed books, uniforms; & installed solar panels for power. Attendance is encouraged via stakeholder workshops

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ENVIRONMENTAL & SOCIAL PERFORMANCE (BASED ON IFC PS)

We have instituted vocational education at one of the schools and distributed sewing machines amongst locals. We have refurbished the local mosque as per community request and put up a soccer field for entertainment. We have also provided solar lighting and are teaching locals about home/village cleanliness. We also sponsor medical camps for locals and school children

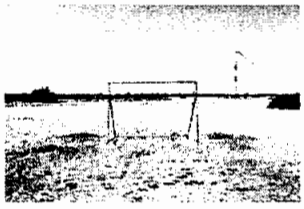
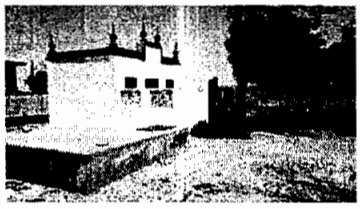
Medical Camps



Village/Home Improvement



Vocational Training & Others

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Any projected returns reflected herein have been prepared based on various estimations and assumptions made by Burj, including estimations and assumptions about events that have not occurred, any of which may prove to be incorrect. Due to various risks, uncertainties and changes (including changes in economic, operational, political or other circumstances) beyond the control of Burj, the actual results of the referenced investments could differ materially from the results expressed or implied by the projected returns reflected herein in respect of such investments. Industry experts may disagree with the estimations and assumptions used in preparing the projected returns. No assurance, representation or warranty is made by any person that any of the projected returns are accurate or will be achieved, nor in respect of any other information in this document, and you should not place undue reliance on the projected returns nor any other information in this document. Additional information about the estimations and assumptions used in preparing the projected returns and the factors that could cause actual results to differ materially from the projected returns is available upon request.

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Annexure H

List of Equipment

List of Equipment

Sr. #	Equipment	Brand	Specifications & Scope	Quantity
1	Solar Panels	JASolar	Model: JAM72S10 410/PR Rating: 410W Type: Mono PERC	2252
2	Inverters	Huawei	Model: Sun2000-60KTL-M0 Rating: 60KW Type: Smart String Inverter	11
			Model: Sun2000-36KTL Rating: 36KW Type: Smart String Inverter	3
3	Data Logger	Huawei	Model: Smart Logger 1000	4
4	Mounting Structure	Local	Hot Dip Galvanized, 1 x 1 for Carport Elevated	1 Job
			Hot Dip Galvanized, 3 x 1 for Rooftops	
			Hot Dip Galvanized, 2 x 1 for Rooftops	
5	Cable Trays	Local	Perforated Type Hot Dip Galvanized	1 Job
6	AC Combiner with With Bus Bars	Local	Powder Coated IP-54/65	3
8	AC Cables	FAST/Pakistan Cables	16/25/35/50/150/185 sqmm 3.5 core, Cu, 0.6/1kV As per SLD	1 Job
10	Earthing Cables for PV Panels and Structure	FAST/Pakistan Cables	1. Panel to Panel: 6 sqmm, 1C	1 Job
			2. Panel to Structure: 6 sqmm ,1C	
			3. Earth Mesh : 16 sqmm, IC	
			4. to DC Earthing Pit :35sqmm, IC	
11	Earthing Cables for Inverters	FAST/Pakistan Cables	Size: 16sqmm, 1C	1 Job
12	Earthing Cables for AC Combiners	FAST/Pakistan Cables	Size: 16/95/185mmsq, 1C	1 Job
13	DC Cables	FAST/Pakistan Cables	1Cx 4/6mm2, 1000V	1 Job
14	AC Circuit Breakers for Inverters	Schneider Electric	60A, 4 Pole	3
			125A, 4 Pole	11
15	AC Circuit Breakers for Combiners	Schneider Electric	250A, 4 Pole	1
			320-800A, 4 Pole	3
16	AC SPD	ETON/Citel	40kVA Type II	3
17	Earthing Pit for AC	Local	Complete in all aspects in accordance with AEDB requirements.	1 Job
18	Earthing Pit for DC	Local	Complete in all aspects in accordance with AEDB requirements.	1 Job
19	Solar Installation Accessories	Local	PVC Pipes, Nut Bolts Etc	1 Job
			Tagging of all strings, Inverters, Combiners and etc.	
			CAT6 Cable for communication of data logger	
			MC4 Connector's & accessories	
			Cable Ties, Insulation tap etc.	

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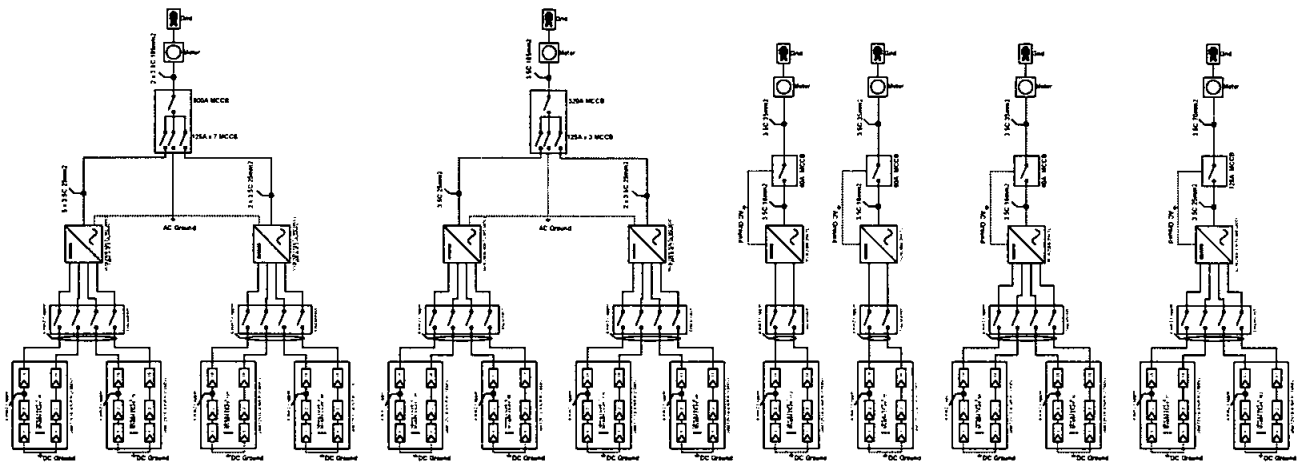
Annexure I

Single Line Diagram

Single Line Diagram Solar Power Project at PC Hotel Lahore 923kWp



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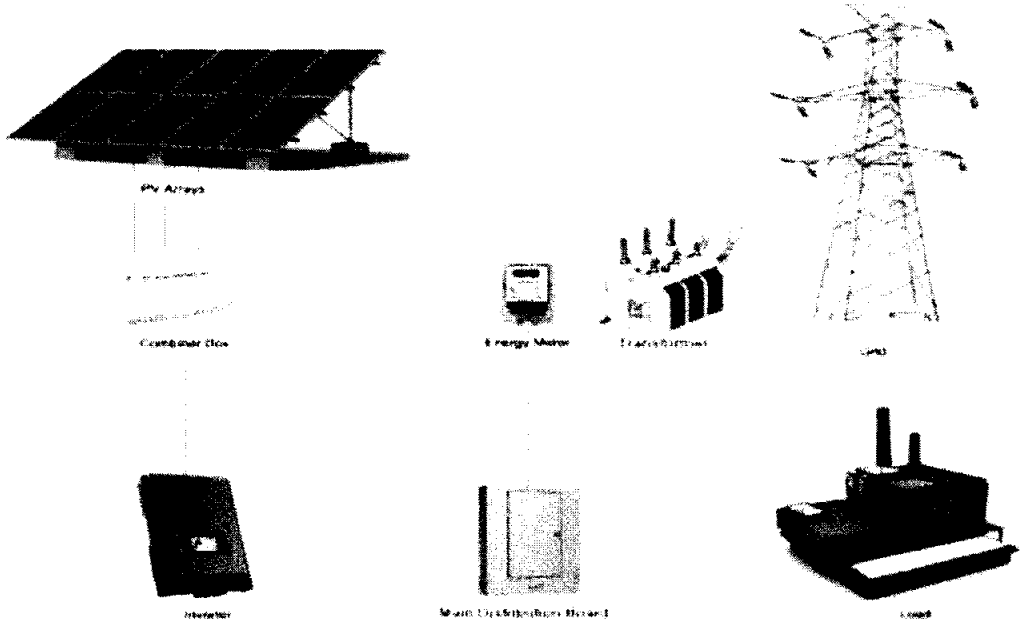
Annexure J

Flow Diagram

ON GRID SOLAR SYSTEM



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Annexure - K

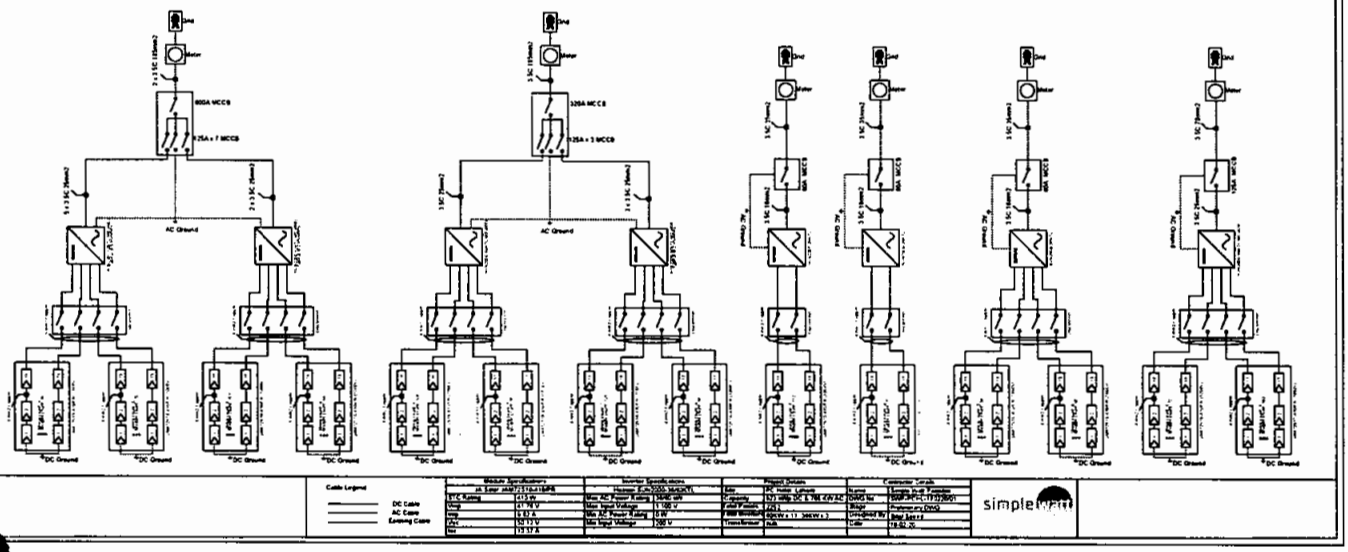
Protection and Metering

Protection and Metering

The single line diagrams of DC and AC sides are given below. The single line diagram includes the protection devices that will be used for safe and smooth operation of the system. Protections DC Side: String Fuses, Surge Protective Device and DC Disconnect Switches Protections AC Side: Surge Protective Device, MCBs, Main Breaker CT operated energy meter will be installed at the combined output of inverters.

Energy Meters with sensitivity class 0.5s will be used at each injection point for metering of kWh produced. The meters will be calibrated as per international standards.

Single Line Diagram Solar Power Project at PC Hotel Lahore 923kWp



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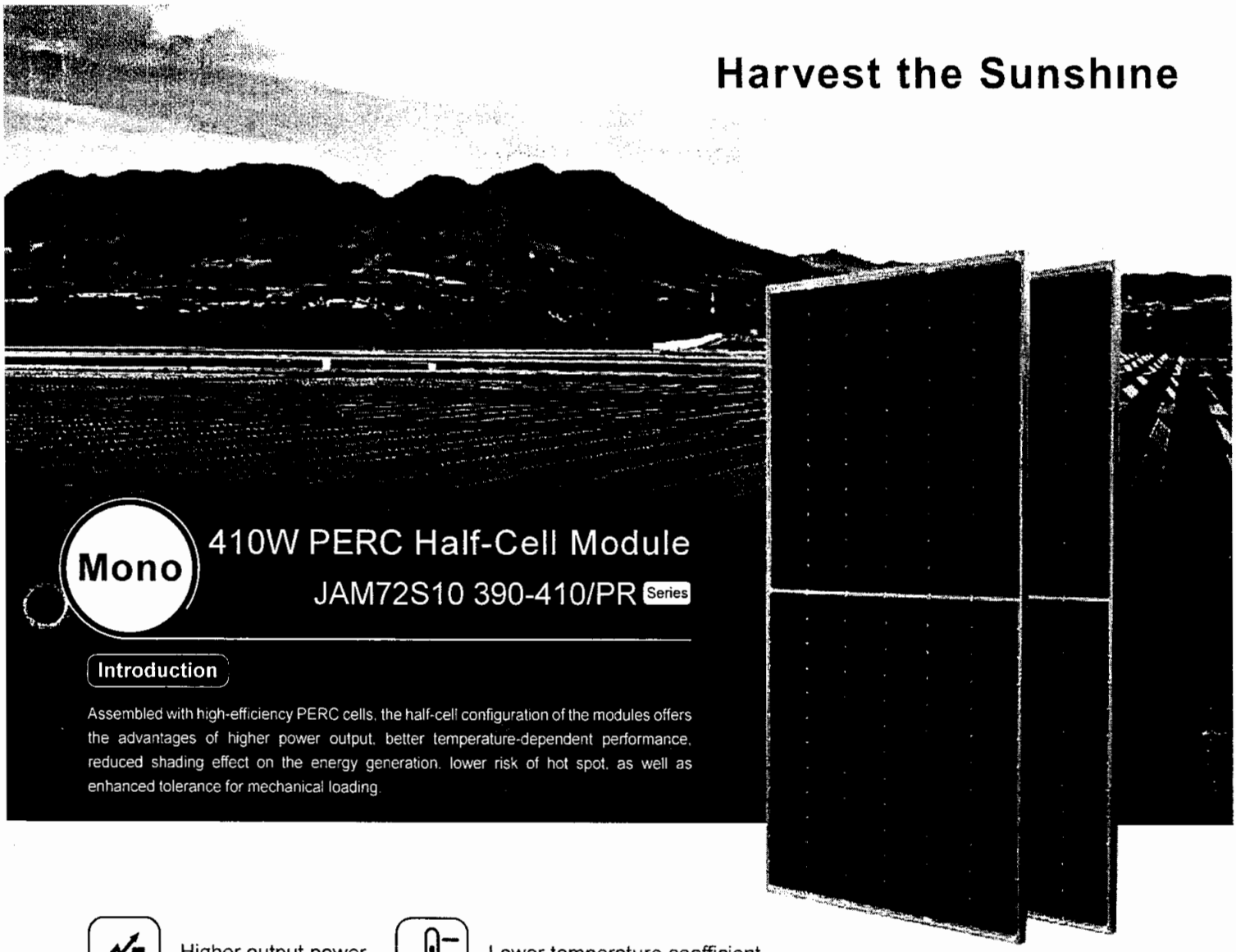
Harvest the Sunshine



Mono

410W PERC Half-Cell Module

JAM72S10 390-410/PR Series

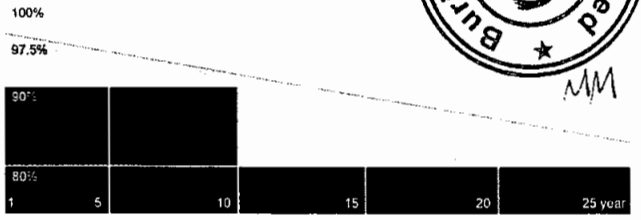
Introduction

Assembled with high-efficiency PERC cells, the half-cell configuration of the modules offers the advantages of higher power output, better temperature-dependent performance, reduced shading effect on the energy generation, lower risk of hot spot, as well as enhanced tolerance for mechanical loading.

- Higher output power
- Lower temperature coefficient
- Less shading effect
- Better mechanical loading tolerance

Superior Warranty

- 12-year product warranty
- 25-year linear power output warranty



JA Linear Power Warranty ■ Industry Warranty

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Comprehensive Certificates

- IEC 61215, IEC 61730
- ISO 9001: 2015 Quality management systems
- ISO 14001: 2015 Environmental management systems
- OHSAS 18001: 2007 Occupational health and safety management systems
- IEC TS 62941: 2016 Terrestrial photovoltaic (PV) modules – Guidelines for increased confidence in PV module design qualification and type approval

JA SOLAR

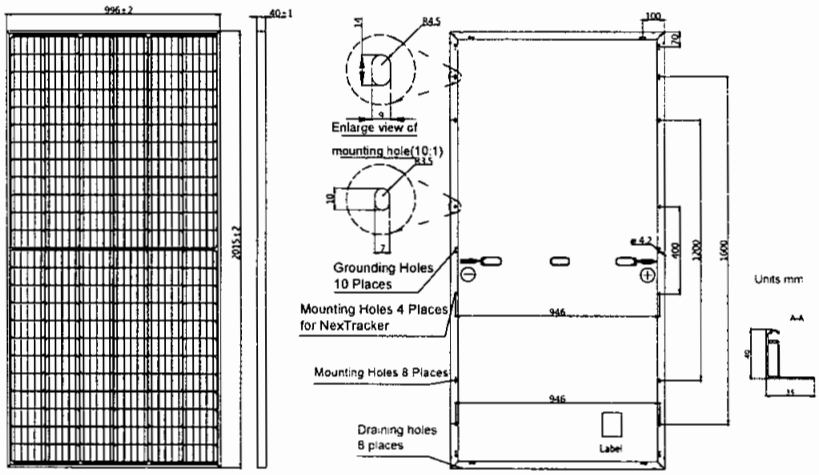
www.jasolar.com

Specifications subject to technical changes and tests
JA Solar reserves the right of final interpretation.

JA SOLAR

JAM72S10 390-410/PR Series

MECHANICAL DIAGRAMS



Remark: customized frame color and frame height available upon request.

SPECIFICATIONS

Cell	Mono
Weight	22.7kg±3%
Dimensions	2015±2mm×996±2mm×40±1mm
Cable Cross Section Size	4mm²
No. of cells	144 (6×24)
Junction Box	IP68, 3 diodes
Connector	QC 4.10-35
Cable Length (Including Connector)	Portrait:300mm(+)/400mm(-); Landscape:1200mm(+)/1200mm(-)
Packaging Configuration	27 Per Pallet

ELECTRICAL PARAMETERS AT STC

TYPE	JAM72S10 -390/PR	JAM72S10 -395/PR	JAM72S10 -400/PR	JAM72S10 -405/PR	JAM72S10 -410/PR
Rated Maximum Power(Pmax) [W]	390	395	400	405	410
Open Circuit Voltage(Voc) [V]	48.91	49.21	49.50	49.81	50.12
Maximum Power Voltage(Vmp) [V]	40.55	40.85	41.17	41.46	41.76
Short Circuit Current(Isc) [A]	10.16	10.21	10.26	10.32	10.37
Maximum Power Current(Imp) [A]	9.62	9.67	9.72	9.77	9.82
Module Efficiency [%]	19.4	19.7	19.9	20.2	20.4
Power Tolerance			0~+5W		
Temperature Coefficient of Isc(α_Isc)			+0.051%/°C		
Temperature Coefficient of Voc(β_Voc)			-0.289%/°C		
Temperature Coefficient of Pmax(γ_Pmp)			-0.350%/°C		
STC			Irradiance 1000W/m², cell temperature 25°C, AM1.5G		

Remark: Electrical data in this catalog do not refer to a single module and they are not part of the offer.They only serve for comparison among different module types.
*For NexTracker installations static loading performance: front load measures 2400Pa, while back load measures 2400Pa.

ELECTRICAL PARAMETERS AT NOCT

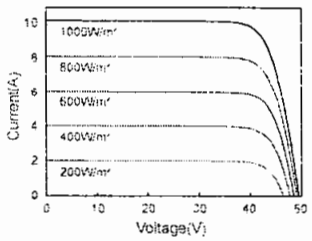
TYPE	JAM72S10 -390/PR	JAM72S10 -395/PR	JAM72S10 -400/PR	JAM72S10 -405/PR	JAM72S10 -410/PR
Rated Max Power(Pmax) [W]	289	292	296	300	303
Open Circuit Voltage(Voc) [V]	45.04	45.30	45.56	45.81	46.06
Max Power Voltage(Vmp) [V]	37.29	37.52	37.76	38.03	38.28
Short Circuit Current(Isc) [A]	8.18	8.23	8.28	8.33	8.38
Max Power Current(Imp) [A]	7.74	7.79	7.84	7.88	7.93
NOCT	Irradiance 800W/m², ambient temperature 20°C, wind speed 1m/s, AM1.5G				

OPERATING CONDITIONS

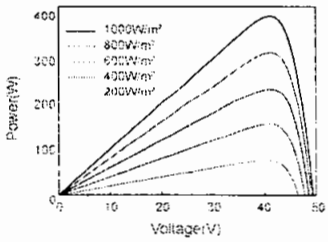
Maximum System Voltage	1000V/1500V DC(IEC)
Operating Temperature	-40°C~+85°C
Maximum Series Fuse	20A
Maximum Static Load,Front*	5400Pa
Maximum Static Load,Back*	2400Pa
NOCT	45±2°C
Application Class	Class A

CHARACTERISTICS

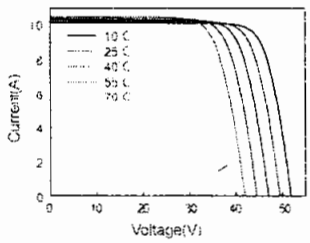
Current-Voltage Curve JAM72S10-400/PR



Power-Voltage Curve JAM72S10-400/PR

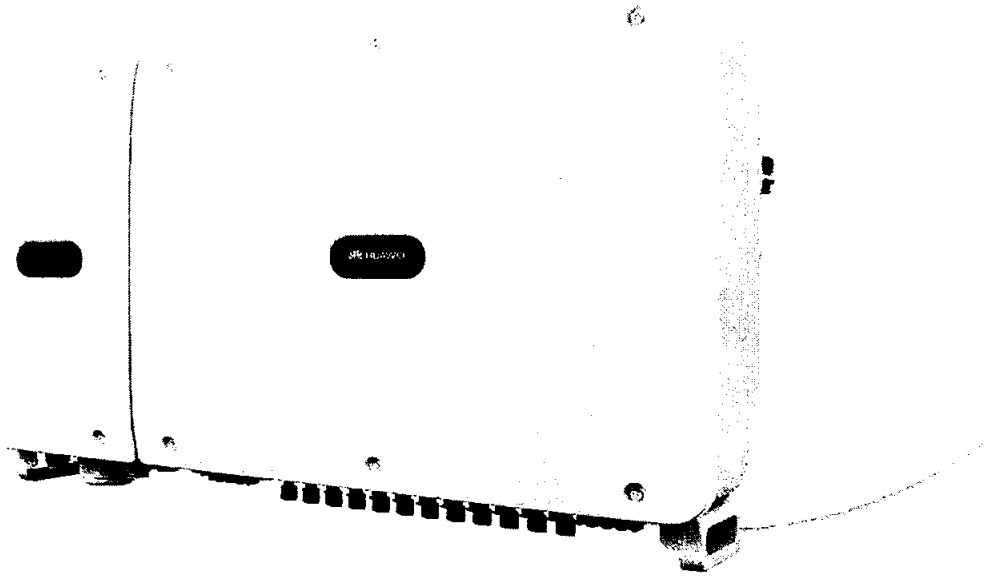


Current-Voltage Curve JAM72S10-400/PR



Smart String Inverter

SUN2000-60KTL-M0



Smart

- 12 strings intelligent monitoring and fast trouble-shooting
- Power Line Communication (PLC) supported
- Smart I-V Curve Diagnosis supported

Efficient

- Max. efficiency 98.9%, European efficiency 98.7% (@480 V)
- Max. efficiency 98.7%, European efficiency 98.5% (@380 V / 400 V)
- 6 MPPT per unit, effectively reducing string mismatch

Safe

- DC switch integrated, safe and convenient for maintenance
- Residual Current Monitoring Unit (RCMU) integrated
- Fuse free design

Reliable

- Natural cooling technology
- Protection degree of IP65
- Type II surge arresters for both DC and AC

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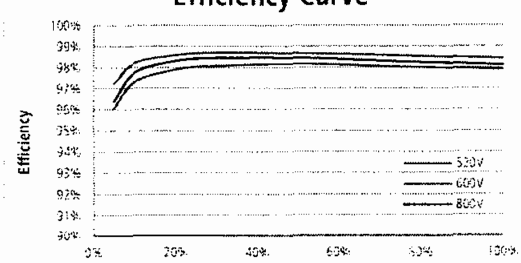
Smart String Inverter (SUN2000-60KTL-M0)

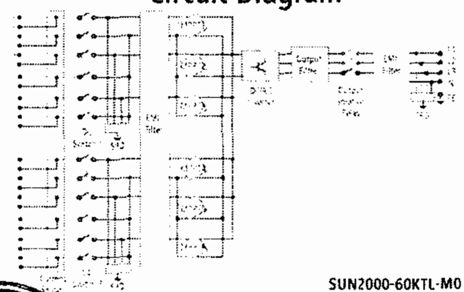
Technical Specifications	SUN2000-60KTL-M0
	Efficiency
Max. Efficiency	98.9% @480 V; 98.7% @380 V / 400 V
European Efficiency	98.7% @480 V; 98.5% @380 V / 400 V
	Input
Max. Input Voltage	1,100 V
Max. Current per MPPT	22 A
Max. Short Circuit Current per MPPT	30 A
Start Voltage	200 V
MPPT Operating Voltage Range	200 V ~ 1,000 V
Rated Input Voltage	600 V @380 Vac / 400 Vac; 720 V @480 Vac
Number of Inputs	12
Number of MPP Trackers	6
	Output
Rated AC Active Power	60,000 W
Max. AC Apparent Power	66,000 VA
Max. AC Active Power (cosϕ=1)	66,000 W
Rated Output Voltage	220 V / 380 V, 230 V / 400 V, default 3W + N + PE; 3W + PE optional in settings; 277 V / 480 V, 3W + PE
Rated AC Grid Frequency	50 Hz / 60 Hz
Rated Output Current	91.2 A @380 V, 86.7 A @400 V, 72.2 A @480 V
Max. Output Current	100 A @380 V, 95.3 A @400 V, 79.4 A @480 V
Adjustable Power Factor Range	0.8 LG ... 0.8 LD
Max. Total Harmonic Distortion	< 3%
	Protection
Input-side Disconnection Device	Yes
Anti-Islanding Protection	Yes
AC Overcurrent Protection	Yes
DC Reverse-Polarity Protection	Yes
PV-array String Fault Monitoring	Yes
DC Surge Arrester	Type II
AC Surge Arrester	Type II
DC Insulation Resistance Detection	Yes
Residual Current Monitoring Unit	Yes
	Communication
Display	LED Indicators, Bluetooth + APP
RS485	Yes
USB	Yes
Power Line Communication (PLC)	Yes
	General
Dimensions (W x H x D)	1,075 x 555 x 300 mm (42.3 x 21.9 x 11.8 inch)
Weight (with mounting plate)	74 kg (163.1 lb.)
Operating Temperature Range	-25°C ~ 60°C (-13°F ~ 140°F)
Cooling Method	Natural Convection
Max. Operating Altitude	4,000 m (13,123 ft.)
Relative Humidity	0 ~ 100%
DC Connector	Amphenol Helios H4
AC Connector	Waterproof PG Terminal + Terminal Clamp
Protection Degree	IP65
Topology	Transformerless
	Standard Compliance *(more available upon request)*
Certificate	EN 62109-1/-2, IEC 62109-1/-2, EN 50530, IEC 62116, IEC 60068, IEC 61683
Grid Code	IEC 61727, VDE-AR-N4105, VDE 0126-1-1, BDEW, VDE 4120, UTE C 15-712-1, CEI 0-16, CEI 0-21, RD 661, RD 1699, P.O. 12.3, RD 413, EN-50438-Turkey, EN-50438-Ireland, C10/11

Efficiency Curve



Load SUN2000-60KTL-M0@400V

Circuit Diagram



SUN2000-60KTL-M0

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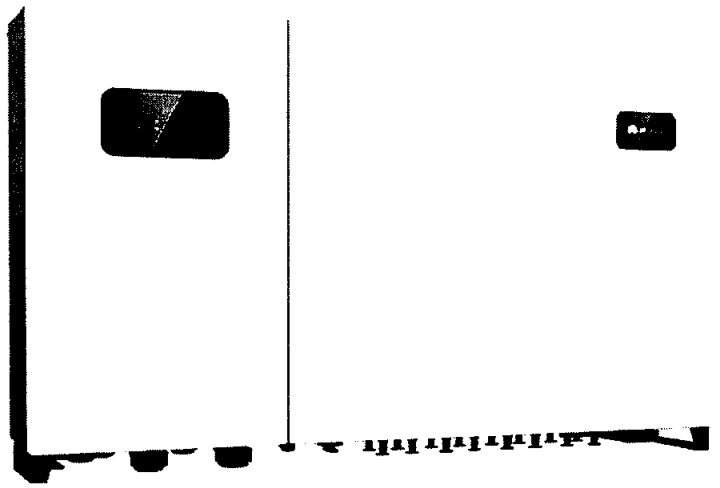
SUN2000-36KTL

Smart String Inverter



Smart

8 strings intelligent monitoring

Efficient

Max. efficiency 98.6%

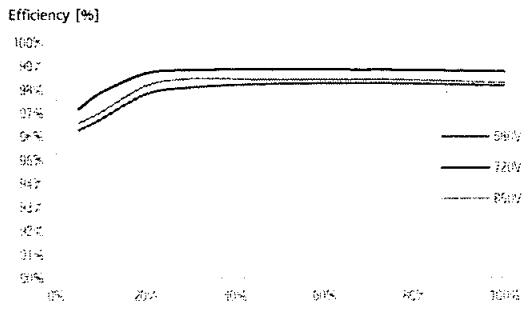
Safe

Fuse free design

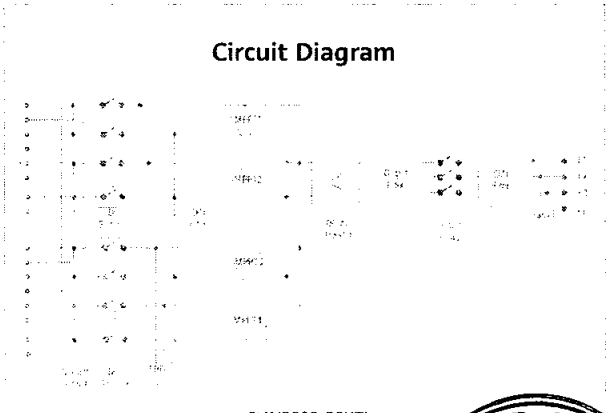
Reliable

Type II surge arresters for DC & AC

Efficiency Curve



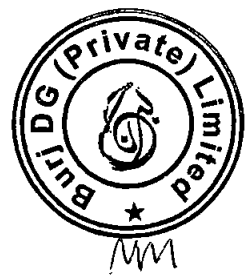
Circuit Diagram



SUN2000-36KTL

Technical Specification

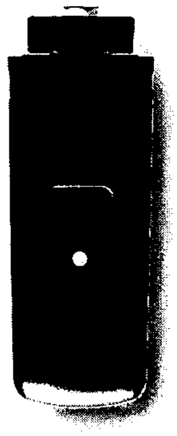
Technical Specification	SUN2000-36KTL
Efficiency	
Max. Efficiency	98.8% @480 V; 98.6% @380 V / 400 V
European Efficiency	98.6% @480 V; 98.4% @380 V / 400 V
Input	
Max. Input Voltage	1,100 V
Max. Current per MPPT	22 A
Max. Short Circuit Current per MPPT	30 A
Start Voltage	250 V
MPPT Operating Voltage Range	200 V ~ 1,000 V
Rated Input Voltage	620 V @380 Vac / 400 Vac; 720 V @480 Vac
Number of Inputs	8
Number of MPP Trackers	4
Output	
Rated AC Active Power	36,000 W
Max. AC Apparent Power	40,000 VA
Max. AC Active Power (cosϕ=1)	Default 40,000 W; 36,000 W optional in settings
Rated Output Voltage	220 V / 380 V, 230 V / 400 V, default 3W + N + PE; 3W + PE optional in settings 277 V / 480 V, 3W + PE
Rated AC Grid Frequency	50 Hz / 60 Hz
Rated Output Current	54.6 A @380 V, 52.2 A @400 V, 43.4 A @480 V
Max. Output Current	60.8 A @380 V, 57.8 A @400 V, 48.2 A @480 V
Adjustable Power Factor Range	0.8 leading... 0.8 lagging
Max. Total Harmonic Distortion	< 3%
Protection	
Input-side Disconnection Device	Yes
Anti-islanding Protection	Yes
AC Overcurrent Protection	Yes
DC Reverse-polarity Protection	Yes
PV-array String Fault Monitoring	Yes
DC Surge Arrester	Type II
AC Surge Arrester	Type II
DC Insulation Resistance Detection	Yes
Residual Current Monitoring Unit	Yes
Communication	
Display	LED Indicators, Bluetooth + APP
RS485	Yes
USB	Yes
Monitoring BUS (MBUS)	Yes
General Data	
Dimensions (W x H x D)	930 x 550 x 283 mm (36.6 x 21.7 x 11.1 inch)
Weight (with mounting plate)	62 kg (136.7 lb.)
Operating Temperature Range	-25°C ~ 60°C (-13°F ~ 140°F)
Cooling Method	Natural Convection
Max. Operating Altitude	4,000 m (13,123 ft.)
Relative Humidity	0 ~ 100%
DC Connector	Amphenol Helios H4
AC Connector	Waterproof PG Terminal + OT Connector
Protection Degree	IP65
Topology	Transformerless
Standard Compliance (more available upon request)	
Certificate	EN 62109-1/-2, IEC 62109-1/-2, EN 50530, IEC 62116, IEC 60068, IEC 61683
Grid Code	IEC 61727, VDE-AR-N4105, VDE 0126-1-1, BDEW, G59/3, UTE C 15-712-1, CEI 0-16, CEI 0-21, RD 661, RD 1699, P.O. 12.3,RD 413, EN-50438-Turkey, EN-50438-Ireland, C10/11, MEA, Resolution No.7, NRS 097-2-1, AS/NZS 4777.2



Smart Dongle-WLAN/4G

Smart Dongle

HUAWEI



Smart

2G, 3G, 4G / WLAN communication [1]
Support 3rd-party monitoring system [2]

Simple

Plug & Play

Reliable

IP65
Support auto reconnection

Technical Specification	Smart Dongle-WLAN	Smart Dongle-4G
General Data		
Connection interface	USB	
Installation	Plug-and-play	
Indicator	LED Indicator	
Dimensions (W x H x D)	130 x 48 x 33 mm (5.1 x 1.9 x 1.3 inch)	
Weight	90 g (0.2 lb.)	
Degree of protection	IP65	
Power consumption (typical)	2 W	3.5 W
Wireless Parameter		
Sim card type	/	mini-sim (15 mm x 25 mm)
Supported standards & frequencies	802.11 b / g / n 2.4 GHz	4G: FDD-LTE / TDD-LTE 3G: WCDMA / HSDPA / HSUPA / HSPA+ 2G: GSM / GPRS / EDGE [3]
Environment		
Operating temperature range	-30 °C ~ +65 °C (-22 °F ~ 149 °F)	
Relative humidity range	5 - 95% RH	
Storage temperature range	-40°C ~ +70°C (-40 °F ~ 158 °F)	
Max. operating altitude	4,000 m (13,123 ft.)	
Standard Compliance (more available upon request)		
Certificate	CE, RCM	CE, Type Approval for Thailand
Inverter Compatibility		
Inverter model	SUN2000-3/4/5/6/8/10KTL-M0 Sun2000-12/15/17/20KTL-M0	SUN2000-3/4/5/6/8/10KTL-M0 Sun2000-12/15/17/20KTL-M0 SUN2000-60KTL-M0

*1 To ensure stable data transmission, Huawei suggests 4G dongle be installed in area with stable mobile signal [illegible]
*2 3rd-party [illegible] Smart Dongle.
*3 For [illegible] supported frequencies, please contact [illegible] distributors.

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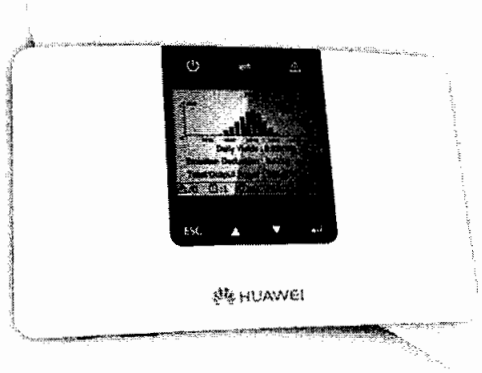
SmartLogger1000



Smart

- Modbus-TCP for connections to Huawei NetEco
- IEC60870-5-104 for connections to third-party monitoring systems
- USB and embedded web for data reading and software upgrade
- Automatically detecting facilities and mapping RS485 addresses
- Remote control of active & reactive power

Simple

- Up to 80 inverters per SmartLogger1000
- Up to 30 devices per RS485 bus
- Easy to install on walls, tabletops and DIN rails

Reliable

- Max. reliable communication range of 1,000 m

Technical Specifications	SmartLogger1000
	Device Management
Max. Number of Manageable Devices	80
Max. Number of Manageable Smart Inverters	80
	Communication Interface
Electrical Ethernet	ETH x 1, 10 / 100 Mbps
RS485	COM x 3, 2400 / 4800 / 9600 / 19200 / 115200 bps
Digital / Analog Input / Output	DI x 4, DO x 3, AI x 2
	Communication Protocol
Ethernet	Modbus-TCP, IEC 60870-5-104
RS485	Modbus-RTU, IEC 60870-5-103 (standard), DL / T645
	Interaction
LCD	3.5 inch Graphic LCD
LED	LED Indicator x 3
WEB	Embedded WEB
USB	USB 2.0 x 1
	Environment
Operating Temperature Range	-20°C ~ 60°C (-4°F ~ 140°F)
Relative Humidity (Non-condensing)	5% ~ 95%
Max. Operating Altitude	4,000 m (13,123 ft.)
	Electrical
Power Supply	100 V ~ 240 V, 50 Hz / 60 Hz
Power Consumption	Typical 3 W, Max. 7 W
	Mechanical
Dimensions (W x H x D)	225 x 140 x 50 mm (8.9 x 5.5 x 2.0 inch)
Weight	0.5 kg (1.1 lb.)
Protection Degree	IP20
Installation Options	Wall Mounting, DIN Rail Mounting, Tabletop Mounting

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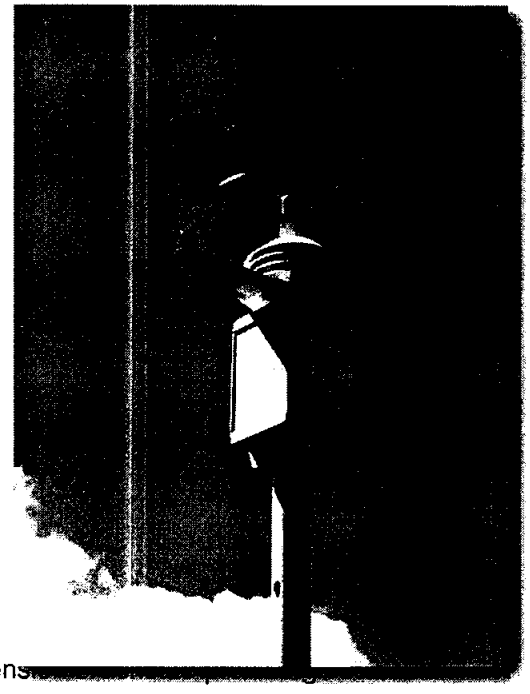
PVMET Weather Station

Solar Energy Efficiency Monitor

The ***PV*MET** series of weather stations were designed to meet the needs of alternative energy power generation, specifically solar generation. These station feature sensors and communication options that provide a power add-on to any solar power plant.

The ***PV*MET-200 is the intermediate level station option**. It features sensors specific to PV and wind power generation. This low cost station is compact and simple to install.

As with all ***PV*MET** stations it includes a RS-485 Mobus interface.



Features

- Global Solar Irradiance Sensor
- Plane of Array Irradiance Sensor
- 2 x Back-of-PV Panel Temp Sensors
- Ambient Air Temperature Sensor
- Wind Speed Sensor
- Wind Direction Sensor

- Modbus RS-485 Communication
- Sunspec Ver. 1.1 Compliant

Sensors & Options

* ***Ambient Air Temperature.***
  Housed in a passive shield

* ***Global Irradiance***
  The irradiance sensor is mounted to the system on an extens

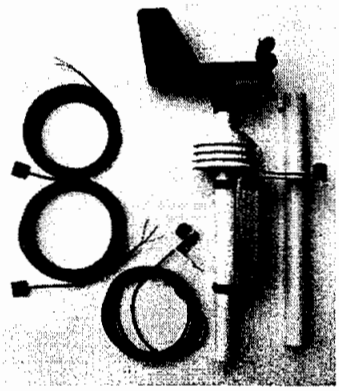
* ***Plane-of-Array Irradiance***
  A separate plane-of-array sensor is supplied with a mounting bracket to attach to the side of a PV panel.

* ***Back-of-Module Temperature.***
  These sensors are attached to the back of the PV panel using thermal conductive adhesive tape. They provide accurate panel temperatures, an important parameter for efficiency monitoring. One sensor is shipped with each system. The ***PV*MET-200** supports two sensors.

* ***Wind Speed and Direction***
  A mini-aevane anemometer provides both wind speed and direction information.

* ***Back-of-Module Temperature.***
These sensors are attached to the back of the PV panel using thermal conductive adhesive tape. They provide accurate panel temperatures, an important parameter for efficiency monitoring. One sensor is shipped with each system. The ***PV*MET-200** supports two sensors.

* ***Wind Speed and Direction***
A mini-aevane anemometer provides both wind speed and direction information.



Communications

The ***PV*MET-200** has a single, 2-wire, half duplex, RS-485 port. Termination can be enabled or disabled using a jumper located near the RS-485 screw terminals.

By default the ***PV*MET-200** is configured to operate as a Modbus slave at address 60.
The Modbus register layout is compatible with SunSpec Ver 1.1. A simplified register set is located at address 200 for those that do not wish to use the SunSpec data format.

For users that wish to change settings, a configuration mode is provided. A simple terminal emulator application such as HyperTerminal is required to make changes.

Installation

The ***PV*MET-200** 's compact light weight design make installation quick and easy. Various mounting options are available, including the Rainwise 3-foot tripod and Mono mount. The ***PV*MET-200** is supplied with a detachable mast section that can bolted to an existing structure.

All electrical connections are made using screw terminals. Standard sensors are factory installed. As a user/installer the only connections required are power and communications. Connections are accessed by removing the front cover. The cover is attached with 4 screws.

For OEM customers the ***PV*MET-200** can be supplied with factor installed power and communication cable. This completely eliminates the need for installer to remove the cover.

Customization

The firmware in the ***PV*MET-200** can be updated through the RS-485 port using a simple PC application. This feature ensure that the ***PV*MET-200** can be kept up to date with the latest available firmware. In addition Rainwise can provide certain OEM firmware customization. This can include register configuration, specific defaults and protocols.

The ***PV*MET-200** can also be customized to support customer specific sensors. This service is only available to volume OEM customers.

Annexure L

FEASIBILITY STUDY FOR ROOFTOP SOLAR INSTALLATION AT Pearl Continental Hotel (PC Lahore), Mall Road Lahore

Burj DG Private Limited

EXECUTIVE SUMMARY

The feasibility study examines the costs, practicality, and likely outcome of a solar photovoltaic (PV) installation on the rooftop of Pearl Continental Hotel, Mall Road, Lahore.

The main outcomes of the feasibility report are 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 specific production is assumed to be "good" (1398 kWh/kWp/ year). As the project is distributed every rooftop is optimized at different azimuth (30 degree), panel tilt (6 & 10 degrees) and satisfactory roof condition and structure are also assumed.

Anticipated System Information: The project will accommodate a 923kWp solar PV system with a projected annual production of 1.29 GWh/year. Use of JA Solar JAM72S10 Mono Perc Half cut (410 watt) PV panel as a basis for design will result in an acceptable system weight density of 3-5 lbs/sq ft. The system will offset approximately 1050 tons of carbon annually.

Financial Analysis: The project will be financed on a 100% equity model. The total estimated project cost is $570,000.

Based on the technical and financial analysis, the installation of a 923 kWp Solar PV System on the rooftop of PC Lahore is deemed to be feasible.

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Contents

Introduction

The project site is the rooftop of PC Lahore, Pakistan. PC Lahore is the largest location in the Pearl Continental Hotel chain across Pakistan and represents a significant investment of the Hashoo Group. The exact coordinates of the project site are: Latitude: 31.552270 North Longitude: 74.337808 East A bird's eye view of the project site is given in the figure below:

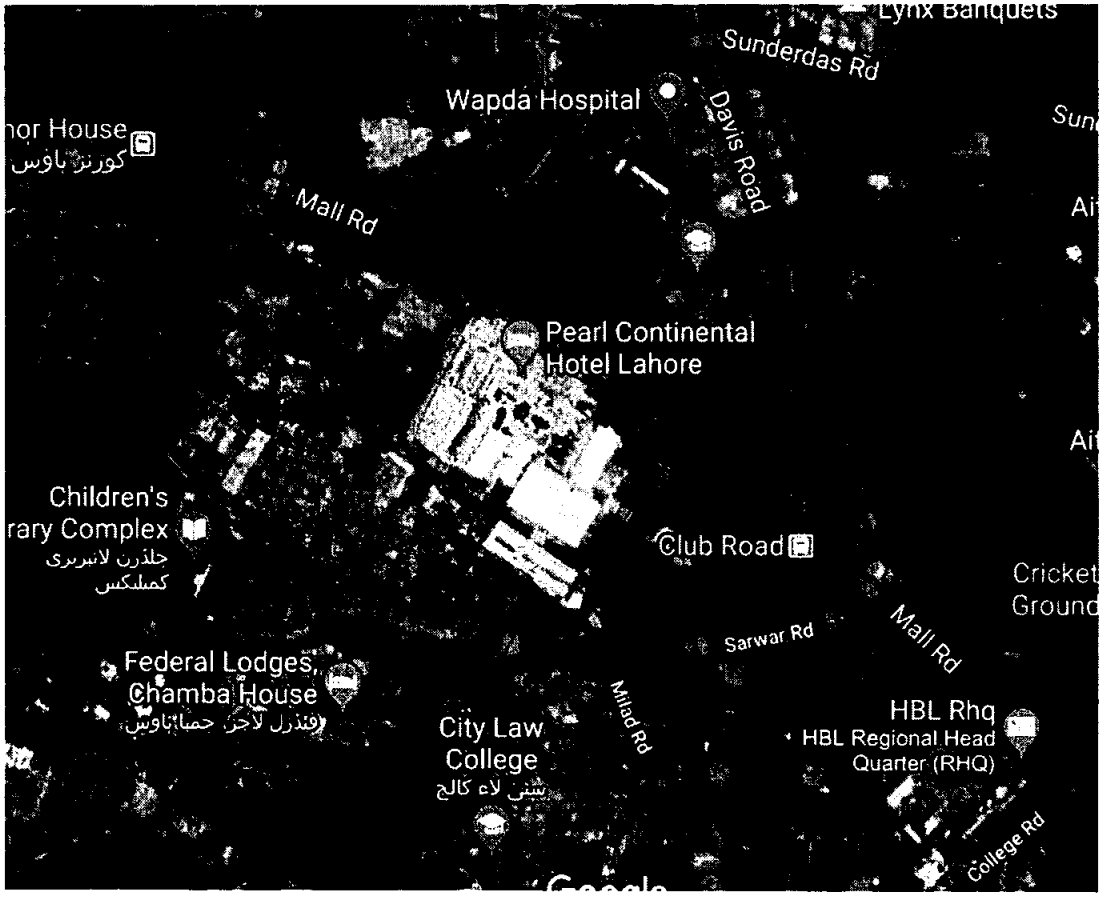
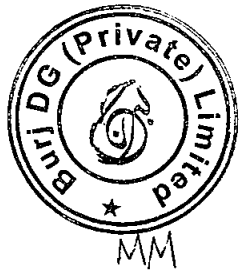


Figure1. Overview of Project Site



Current Energy Demand and Supply Situation

As per the historical consumption data, the total electricity consumption during 2018 was 11 GWh of which 11% came from Diesel Generators while the rest came from the grid (LESCO)

Technical Analysis

Site Conditions

The following tasks were carried out:

- Global Horizontal Irradiation, annual and inter-annual variation was assessed.
- Near shading objects were taken into account for placement of 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

1	Type of Module	JAM72S10 PR-410 W
2	Type of Cell	Monocrystalline PERC
3	Dimensions of each module	2015*996*40 mm
4	Weight	22.7 Kg
5	No of Modules	2252
6	Total Land Area Used	Roof Top
7	Module Frame Anodized	Aluminium alloy
8	Nominal Max. Power (Pmax)	410W
9	Opt. Operating Voltage (Vmp)	41.76V
10	Opt. Operating Current (Imp)	9.82A
11	Open Circuit Voltage (Voc)	50.12V
12	Short Circuit Current (ISC)	10.37A
13	Module Efficiency	20.4%
14	Operating Temperature	-40°C — +85°C
15	Max. System Voltage	1000V/1500V DC IEC
16	Module Fire Performance	CLASS C (IEC 61730)

S. No	**Specification of Strings**	**Data**
1	No of Strings	136
2	Modules in Strings	12-18

PV Capacity

S. No	**Specification**	**Data**
1	Total Site	923 kWp
2	Net Capacity Factor	15.95%

Inverters

S. No	**Specification**	**Data**	
1	Manufacturer	Huawei	Huawei
2	Capacity of each Unit	36 KW	60 KW
3	No of Inverters	3	11
4	MPPT Input Voltage Range	200 V to 1000 V	200 V to 1000 V

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5	Rated Input Voltage	620 V	600 V
6	Max Input Voltage	1100 V	1100 V
7	Total Power	36 KW	60 KW
8	Max Input Current for Each MPPT	22A/22A	22A/22A
9	Max Output Current	30 A	30 A
10	Output Electrical System	3 Phase AC	3 Phase AC
11	AC Nominal Voltage	230/400 V	230/400 V
12	Rated Power Frequency	50 Hz	50 Hz
13	Efficiency	98.60%	98.70%
14	Relative Humidity (Non-Condensing)	100%	100%
15	Weight	62KG	74KG
16	Degree of Protection	IP65	IP65

Junction Boxes

S. No	**Specification**	**Data**
1	Number of J/Box units	14
2	Input circuits in each box	8-12
3	Max. input current for each circuit	15A
4	Protection Level	IP 54
5	Over current protection	Fuse
6	Surge protection	1000V

PV Mounting Structure

S. No	**Specification**	**Data**
1	Structure	Hot Dip Galvanized Steel
2	Tilt of Array Frame	6 and 10°

Foundation Pillars

S. No	**Specification**	**Data**
1	Foundation Structure	Reinforced Concrete Where Required

Data Collecting System

S. No	**Specification**	**Data**
1	System Data	Continuous on-line logging and monitoring over web portal
2	Weather Station	Collecting actual Weather Data for PR calculation

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Solar PV Yield Estimation and Simulation of Model Site

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

Model and Operation: No Export to Grid

The solar system will have export control device to make sure that PV power generated by the inverters is on par with power consumption of the site load. A device will measure load at injection point and the limit power of inverters by changing register values. AC output is implemented in reference to 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

Plant Characteristics

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

Power Factor at rated power: 1

Frequency: 50 Hz

Generation characteristic: 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 (horizon and nearby building)
- 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
- Creating access routes and sufficient space to allow movement for maintenance purposes
- Choosing a tilt angle that 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, orientation 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.

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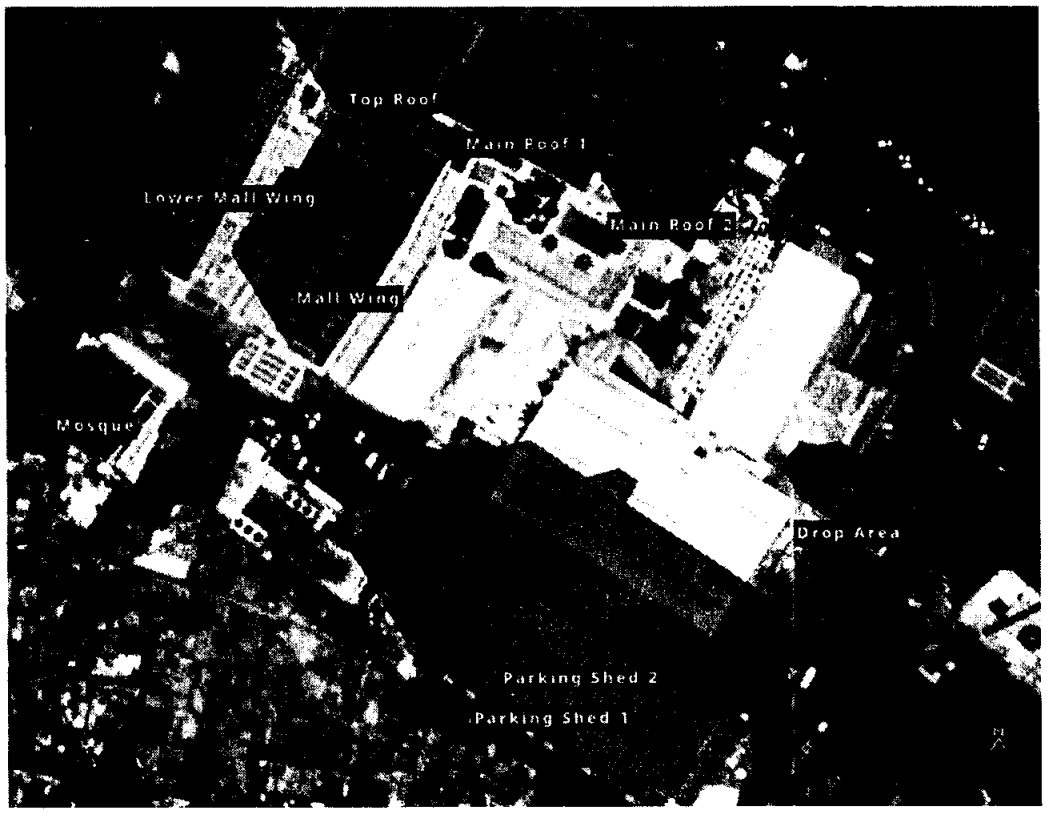
Layout

Figure 2: 3D Layout of rooftop of PC Lahore

Figure 3: 2D Layout of rooftop of PC Lahore showing solar panel locations



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Electrical Design

The electrical system comprises the following components:

- Array(s) of PV modules
- DC/AC cabling (module, string and main cable)
- DC connectors (plugs and sockets)
- Junction boxes and combiners
- Disconnects/switches
- Protection devices e.g. fuses, surge protective devices, beakers
- Energy Metering
- Earthing

The single line diagrams of DC and AC sides are given below. The single line diagram includes the protection devices that will be used for safe and smooth operation of the system.

Protections DC Side: String Fuses, Surge Protective Device and DC Disconnect Switches Protections
AC Side: MCBs, Main Breaker

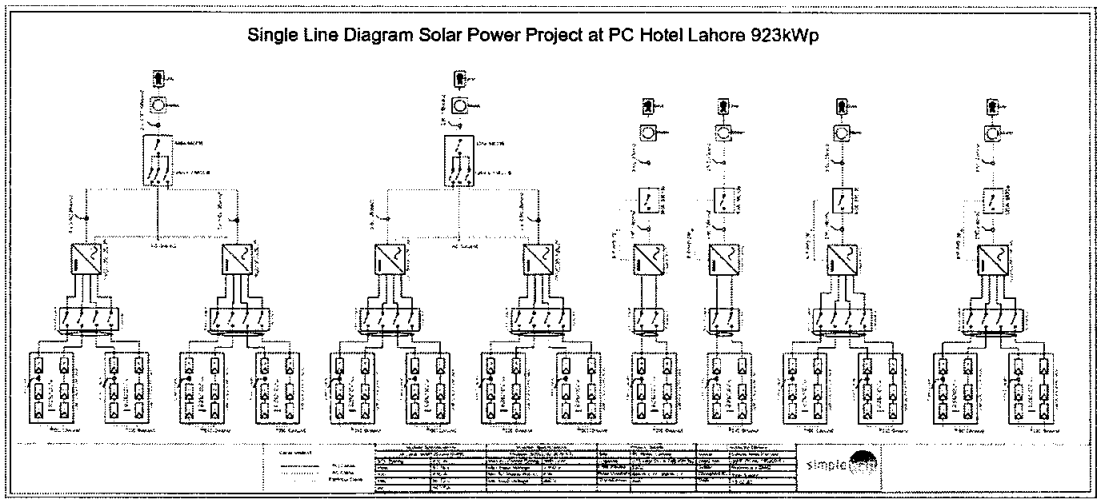

Figure 4: SLD

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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 a 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 packages are available in the market. These packages use time step simulation to model the performance of a project over the course of a year. Helioscope software has been used for energy yield prediction for this site and its results are given below.

Detailed Simulation Report is under.

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Financial Analysis

Cost/watt: USD 0.62

Total Project Cost for 923 kWp Solar PV System: USD 570,000

Equity: 100%

Debt: 0%

Safety and 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 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

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 not limited to Solar Resource Assessment, Site Survey, Technology, Engineering Design, Regulation, Policy, Metering & Billing, and Project Management of Rooftop Solar System. The following components will include in training and development program.

a) Collection of Resource Data
b) Variability and uncertainty of resource data
c) Site evaluation
d) Crystalline and Thin film technology comparison
e) Rooftop solar system components
f) Module mounting structure selection
g) Inverter selection
h) Design of PV Array
i) Shadow Analysis
j) DC cable sizing
k) DC cable layout
l) Protection and Metering
m) Installation and testing standards for solar PV plants
n) Solar Module testing standards
o) Economy of Roof top Solar System
p) Detailed Project Report

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q) Operation and maintenance of rooftop solar system
r) Safety and fire-fighting 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 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 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 (S02, particulates)
- Reduction of the required transmission lines of the electricity grids

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 is conducted to ascertain the technical feasibility and commercial viability of installation of 923 MW rooftop PV system installation at PC Lahore. Installation of the PV system will result in annual power generation of 1.29 GWh. The results of the financial analysis indicate that the project is feasible. Based on the outcomes of both the technical and financial analysis, the project is deemed to be viable.

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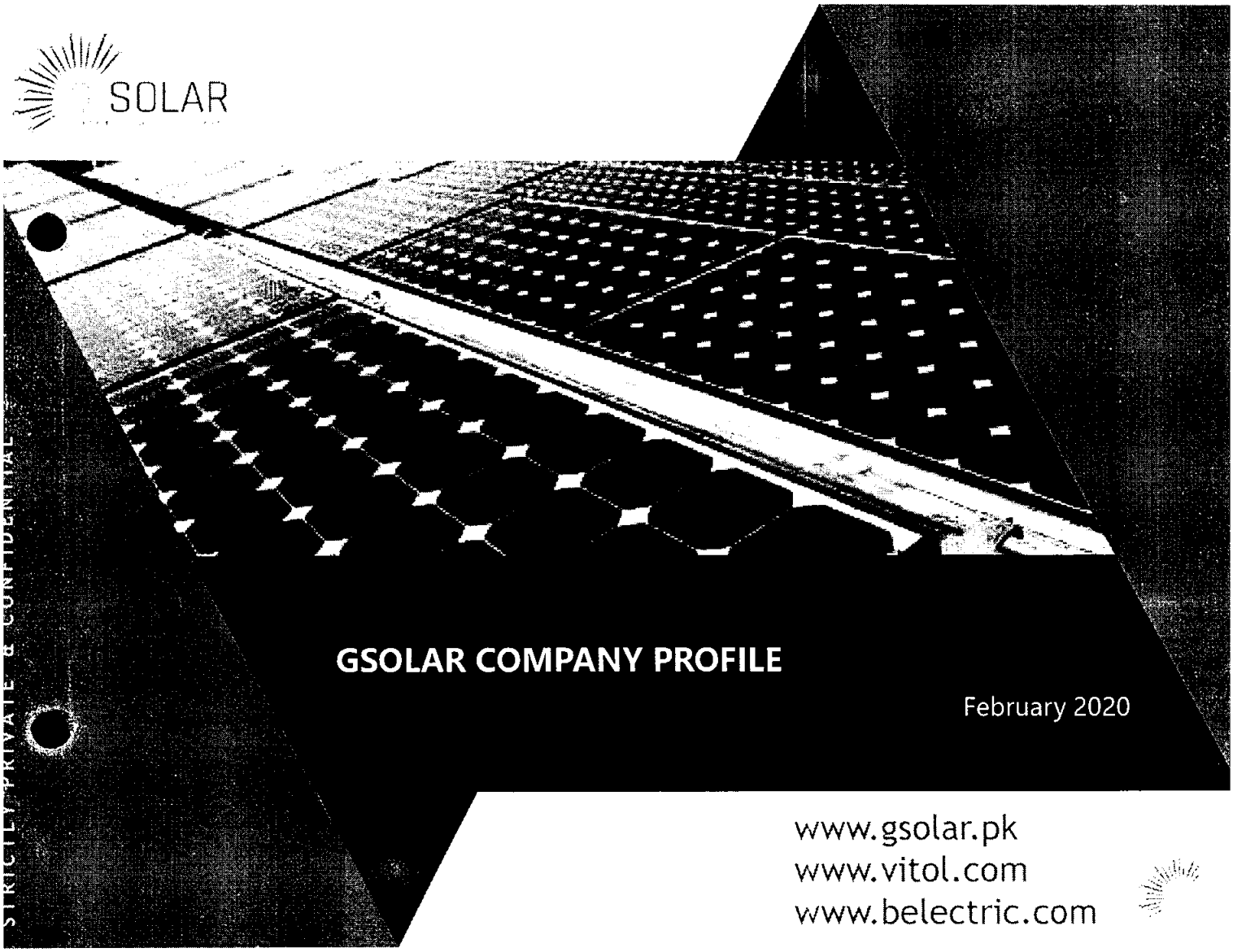
Annexure M

Contractors' Profile

SOLAR



STRICTLY PRIVATE & CONFIDENTIAL

GSOLAR COMPANY PROFILE

February 2020

www.gsolar.pk
www.vitol.com
www.belectric.com

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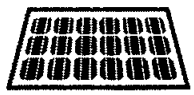
GSolar Overview

years of experience

150+ employees

nationwide footprint



20+ MW install base

GSolar is Pakistan's largest fully integrated solar company offering services across the complete value chain.

Headquartered in Karachi with a nationwide footprint and regional offices in Lahore, Islamabad and Multan.

Install base of 500+ plants.

EPC:
Large-scale ground-& roof mounted PV plants for the C&I segment.

The Market Leader in Solar PV Solutions for Agricultural clients.

PPA:
Pakistan's sole solar EPC company with an in-house financing facility for solar PV Power Purchase Agreements ("PPAs") / Rentals.

Analytics:
AlsoEnergy analytics platform is critical for solar asset management. It's cloud based, customizable and scalable offering meets our client's growing needs.

GSolar - Summary and our Strengths

Shareholder	• Owner operators and Vitol.
Nationwide Footprint	• 3 main offices nationwide, Karachi , Lahore & Multan • Over 150 professional staff
Strong Leadership	• Experienced owner / operators with strong professional & engineering backgrounds
In-house Teams	• Our solutions are exclusively designed, installed and monitored by our staff. We do not sub-contract any of our work
World Class Design	• Our exclusive technical partnership with BElectric gives us access to best global solar PV design and engineering resources
Experienced Team	• GSolar has 4+ years of solar PV experience with 750+ installations & 20 MW to date. Repeat blue chip C&I clients • Can leverage BElectric's 15 years and 3 GW+ experience for large projects
Financing Facility; PPA	• With our financial partner/Shareholder's strength Vitol, (Annual revenue in excess of 200 Billion USD) we have the unique capacity to do large scale utility projects

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With an executive team unparalled in depth & experience

MUSHTAQ CHHAPRA , CHAIRMAN

Mr. Chhapra is an industrialist with diversified business interests in Pakistan, South Africa & Sri Lanka. He is recognized internationally for his philanthropic work as Founder and Chairman of The Citizen's Foundation and also runs The Patient Aid Foundation, a private-public partnership at Jinnah Hospital. In addition, he is a recipient of the Sitara-e-Imtiaz, Pakistan's highest civilian honor.

ZAIN ABDULLAH , CEO, DIRECTOR

Zain is a seasoned finance executive with over 25 years of experience. Till most recently, he was the Senior Executive Officer of National Bank of Abu Dhabi Investment Management. Prior to NBAD he was Managing Director at the global investment bank Calyon in New York. He spent the earlier part of his career at Credit Suisse and JPMorgan. He holds a Bachelor's degree in Electrical Engineering from Massachusetts Institute of Technology and an MBA from Columbia University's Graduate Business School.

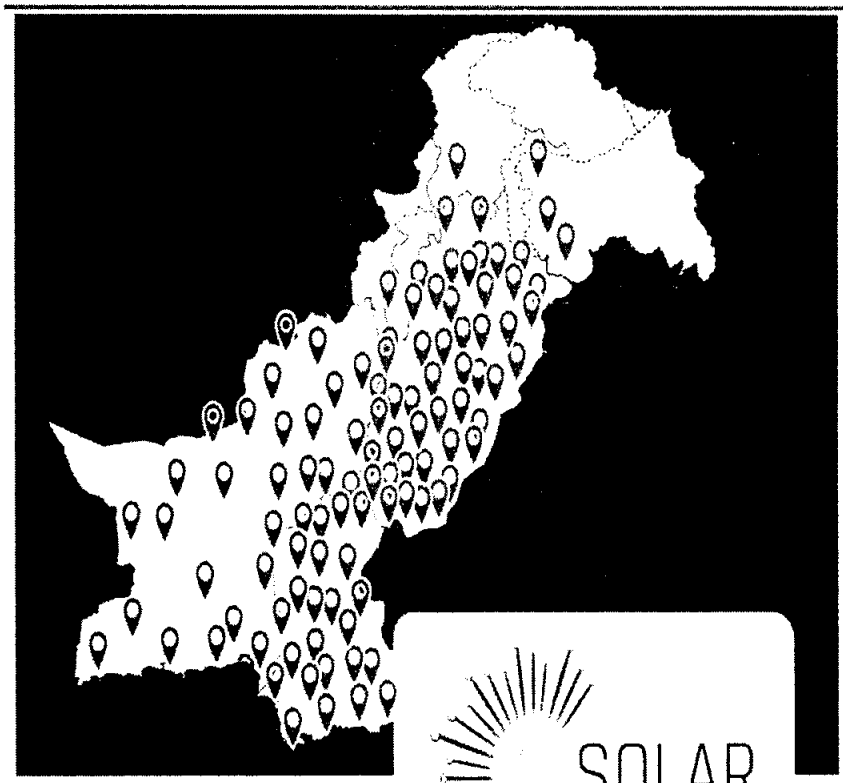
AAMER ABDULLAH , DIRECTOR

Aamer is a business professional with over 20 years experience of financial markets. He currently is a partner at MI Ventures, a New York based early stage fund that makes investments in seed stage technology companies. Previously, he was a Managing Director & Portfolio Manager at a hedge fund and prior to that held senior roles at Deutsche Bank and Credit Suisse in New York City. He holds a Bachelor's degree in Electrical Engineering and Economics from Yale University and an MBA from Columbia University's Graduate School of Business.

SHAZIM CHHAPRA , DIRECTOR

Shazim is a business professional with over 20 years of experience running his family industrial holdings in Pakistan and South Africa. He is credited in turning around two businesses. He holds a Bachelor's degree in Mechanical Engineering from Columbia University and an MBA from NYU's Stern School of Business.

GSolar's Network



GSolar has an extensive network, spread across the nation of blue chip clientele, including renown brands and institutions of the country.

MN TEXTILES

Atlas Honda

DAEWOO EXPRESS

JAFFER

SALAMAT

agriauto INDUSTRIES LIMITED

Atlas Battery

KOTSTEEL (PVT) LIMITED
QUALITY GOODS

Sialkot International Airport

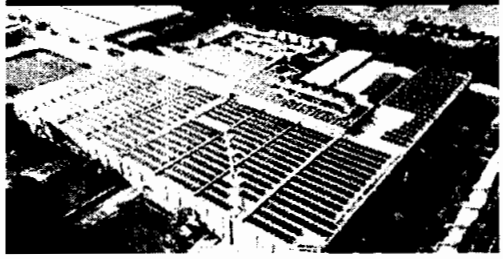
Bur DG (Private) Limited

Reference Install Base

G-PANI - PUNJAB AGRICULTURAL DEPARTMENT

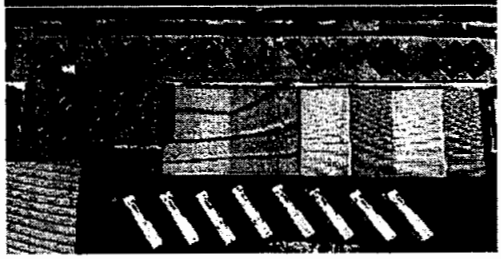
Project size: 4 MWp
Commissioned: 2017-18

ATLAS GROUP



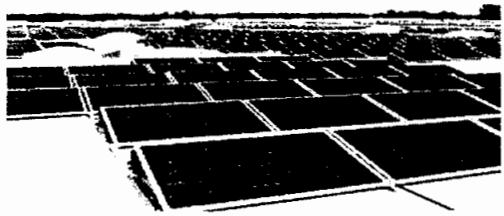
Project size: 1.1 MWp - Sheikhupura & Karachi
Commissioned: 2016, 2020

DAEWOO



Project size: 500 kWp
Underway: 2017-2020

Towellers Dye House



Project size: 332 kWp
Commissioned: 2020

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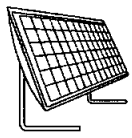
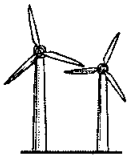
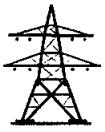
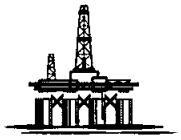
GSolar Consortium

GSolar is one of the largest solar companies in Pakistan with a nationwide presence of 150+ employees & over 4 years of experience. Our shareholders include VITOL. Additionally, we have an exclusive technology partnership with BELECTRIC.

Vitol is the world's largest independent energy trader, with daily trade volumes equivalent to over 10% of global oil demand. In the USA and Europe they trade over 1000 TWh of electricity per year. Their 2018 revenues were in excess of 235 Billion USD.

BELECTRIC (German HQ) is one of the world's largest Solar EPC companies with 15 + years of experience & 2 + GW global installation base spread over 300+ solar PV plants.

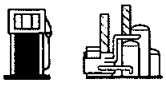
Vitol The World's Largest Independent Energy Trader

Vitol sits at the heart of the global energy flows. For over 50 years we have served world's energy markets, trading seven million barrels of crude oil and products a day and delivering energy products to countries worldwide.

Logistics:
250 vessels making 6,800+ ship journeys undertaken in 2018

Storage:
16m m^3 terminal storage and infrastructure of storage across seven continents.



Distribution:
6,500+ service stations globally

Refining:
480,000 bpd refining capacity across 6 locations.

Investing strategically:
We are invested in a growing portfolio of energy assets that complement our business.

Revenue:
2018: USD 231 billion.

Trading Energy:
Over 9 million tons of jet fuel at 140+ airports worldwide.

7.4 million barrels of crude oil & products traded everyday.

1,000 TWh power traded annually across Europe and the US.

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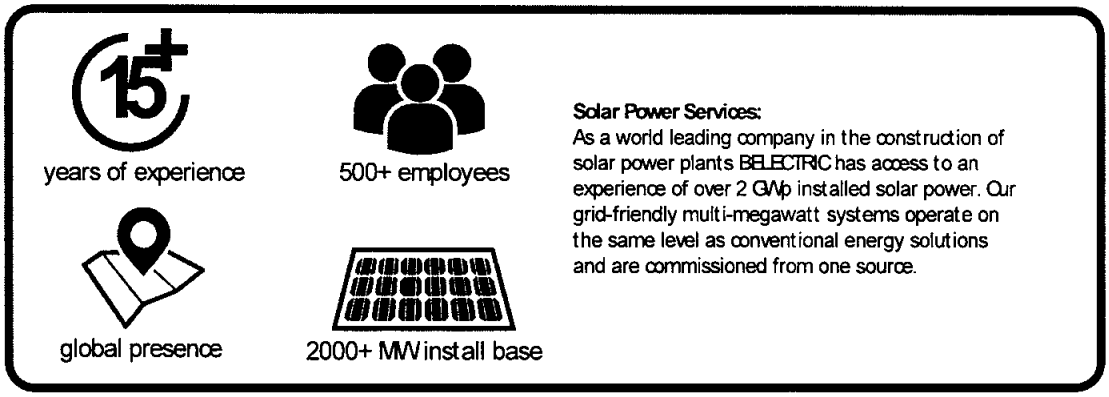
BELECTRIC® One of the World's Largest EPC Companies



Solar Power Services:
As a world leading company in the construction of solar power plants BELECTRIC has access to an experience of over 2 GWp installed solar power. Our grid-friendly multi-megawatt systems operate on the same level as conventional energy solutions and are commissioned from one source.

EPC:
One of the world's largest solar EPC company with an install base of 285 plants in 24 countries totaling 2+ GW. Recently commissioned 800 MW solar plants in Australia & India.

Services:
Full spectrum of services from R&D, product development, components manufacturing, site preparation and system design to full service EPC & O&M.

Intellectual Property:
At the cutting edge of emergent solar technology and trends, BELECTRIC has been granted 100+ patents since 2001.

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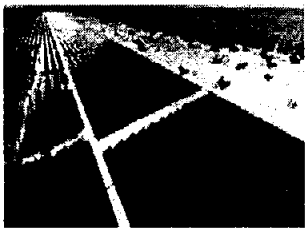
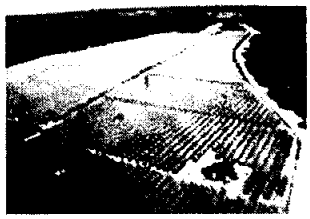
BELECTRIC® Worldwide 300 plants, over 3+ GW

TEMPLIN



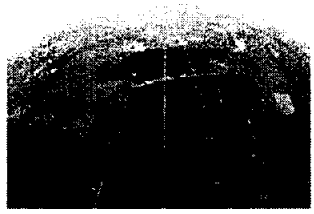
Project size: 128.4MWp
CO2 reduction: 74,300t/p.a.
Country: Germany

ALT DABER



Project size: 67.8MWp
CO2 reduction: 39,000t/p.a.
Country: Germany

LANDMEAD



Project size: 45.9MWp
CO2 reduction: 23,800t/p.a.
Country: United Kingdom

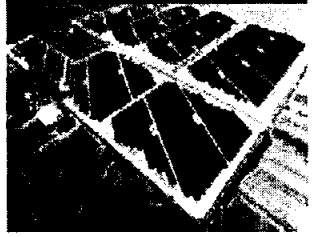
RECKAHN I+II

Project size: 35.9MWp
CO2 reduction: 20,700t/p.a.
Country: Germany

MARYLAND SOLAR (USA)

Project size: 29.0MWp
CO2 reduction: 37,000t/p.a.
Country: USA

BRUCEVILLE (USA)



Project size: 21.9MWp
CO2 reduction: 28,000t/p.a.
Country: USA

For reference, open https://belectric.com/wp-content/uploads/2018/06/BEL_SKW_Referenzliste_2017-10-11_www.pdf
Discover BELECTRIC'S latest reference projects at www.belectric.com/projects

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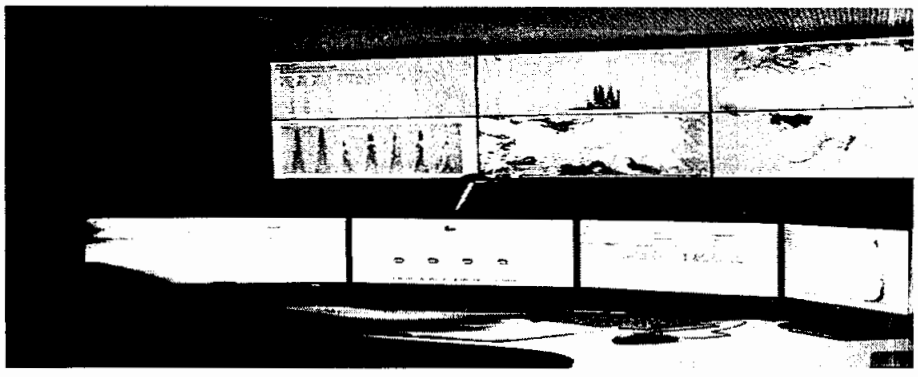
AlsoEnergy The World's Largest Solar Analytics Platform

- AlsoEnergy's platform is critical for solar asset management
- It tracks all project data across multiple systems down to the hardware level with diagnostics and analytics layered on to help all users minimize losses and optimize outcomes
- GSolar is AlsoEnergy's exclusive agent in Pakistan
- Key Features
  - Inverter Neutral
  - Unbiased reporting
  - Customized & scalable data analytics as per client needs
  - Flexible and robust management of multiple sites
  - 3rd Party Independent Carbon Credit Audit



More than **190,000 sites** worldwide

Over 30 GW of power monitored

Over $30 billion of assets under management

Buri DG (Private) Limited

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Recent GSolar EPC Projects

Projects Completed	
Client	kWP
Solarization of HEIS (Govt. Of Punjab, Jaffer Brothers Drip Irrigation)	4,500
Atlas Honda Limited Sheikhupura	1,000
Towellers Ltd. Karachi	332
Ugoki Metalware Sialkot	218

Projects Signed (In progress)	
Client	kWP
Atlas Honda Limited Sheikhupura	5,000
Sialkot International Airport Sialkot	1,000
Pakistan Corrugated Karachi	900
Daewoo Pakistan Lahore, Multan, Islamabad	421
Others	300

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