



BHAMBRI

S O L A R

JOIN US IN OUR
ENDEAVOUR
TO MAKE
SUSTAINABILITY
A REALITY

ARCHITECTS SOLAR SERIES



24
APRIL
2021

11:30 AM - 01:00 PM

WELCOME

I am so excited to have you all here to participate in
“RETHINK – Architect Solar Series -1” Program.



WHO IS THIS FOR

Architects: Home, Buildings, Factories, Green Buildings Auditors

Builders: Flats, Societies, Factories, Buildings, Developers

Interior Designers & Designers

Consultants: HVAC, Electrical, Civil & Mechanical

Students



Who Am I

INDIA'S #1 ZERO BILL EXPERT

**17+ YEARS OF EXPERIENCE IN
SOLAR INDUSTRY**

**CREATOR OF “3 STEPS TO ZERO
ELECTRICITY BILL” BOOK**

#1 KYB PROTOCOL EXPERT



The Journey



The Secret

Investing in Self Upgrading my skills



BNI



TONY ROBBINS



Testimonial



Mr. Rohit Nagia
(Greenacular Architect)

Thanks Ruchi!!
For explaining the basics of the Electricity bill so well and giving such simple doable tips.
I immediately implemented these at home and am saving 15% of cost already.

I am sure all my -clients will also benefit from this knowledge in Future.

Ar. Rohit Nagia.
Greenacular Architect |
Sustainability Expert | Author

12:26 PM

Thanks a lot 🙏 12:28 PM ✓✓

You are Welcome Ruchi!!
Keep serving through your Knowledge!



12:30 PM

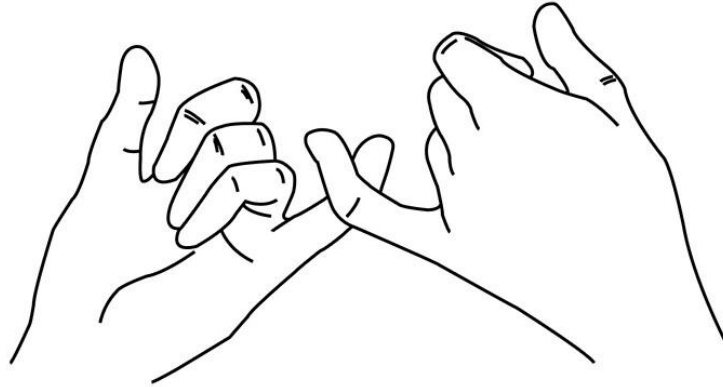
😊🙏🙏🙏 12:30 PM ✓✓

Testimonial



Mr. Sanjeev Jain
(CEO of TNS networking)

“With Air conditioners running 24*7 in summers, the bill was rocket high in summers. Ruchi suggested a solar plant with tracker. We also felt the difference in the cooling in the rooms below. Great products at a wonderful price!!!



**IF I SHOW YOU HOW YOU CAN GET EFFICIENT SOLAR
PLANT WITHOUT CHANGING YOUR DESIGN,
WILL YOU PROMISE ME TO ACTUALLY DO IT ,**

IF SO, TELL ME “READY” NOW IN YOUR CHAT BOX...

2 THINGS

I know this

This is not for me



What Do You See



THOUGHTS



This is the Experience of many Architects, Builders & Interior Designers

- **Solar plants spoiling the looks**
- **Puncturing roof**
- **Confusing Govt. policies**
- **Choosing the right solar system**



TONY ROBBINS



Tony Robbins

THE PURPOSE OF PAIN IS TO MOVE US
INTO ACTION, NOT TO MAKE US SUFFER.

SUCCESS
RESOURCES
YOUR LEARNING PARTNER

TODAY YOU WILL DISCOVER

- ➔ **BUST THE MYTHS AROUND SOLAR**
- ➔ **HOW TO DESIGN THE MOST EFFICIENT SOLAR SYSTEM WITH FASTEST ROI**
- ➔ **DIFFERENT & LATEST SOLAR TECHNOLOGIES WITH LATEST BRANDS**

TODAY YOU WILL DISCOVER

- ➔ **WAYS TO INCREASE EFFICIENCY BY DESIGNING A GOOD CLEANING SYSTEM**
- ➔ **GOVT. POLICIES RELATED TO NOC, NET METERING, DG SYNC AND ZERO EXPORT SOLUTIONS**
- ➔ **BEAUTIFUL ROOFTOP SOLUTIONS CAN ENHANCE AESTHETICS OF THE BUILDING**

Myth #1

Solar energy is expensive
& not economically viable



HOW YOU CAN HAVE SOLAR PLANT

- CAPEX
- LOAN
- RESCO/OPEX

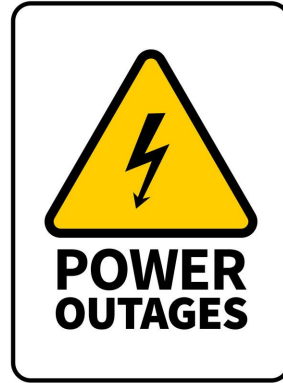
ROI SHEET



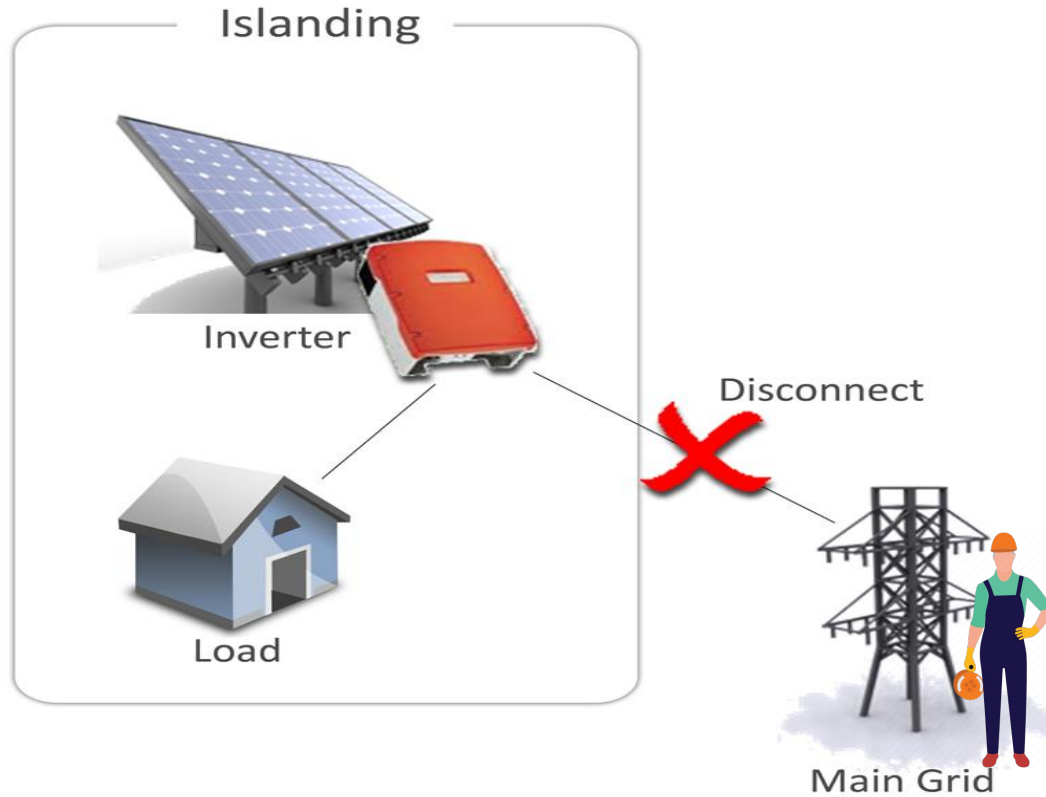
Microsoft Excel
o-Enabled Works

Myth #2

Solar energy can still power my house when the power goes out

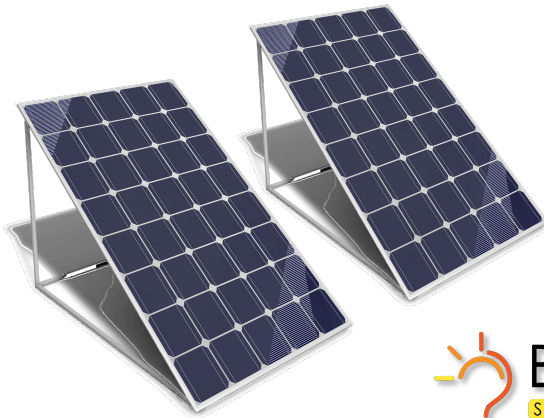


ISLANDING FOR SAFETY



Myth #3

Solar panels do not work in cold, snowy weather or when it is cloudy



Myth #4

Solar Power plant Installation is
Complicated



MY WATERPROOFING



SPOILING MY WATERPROOFING

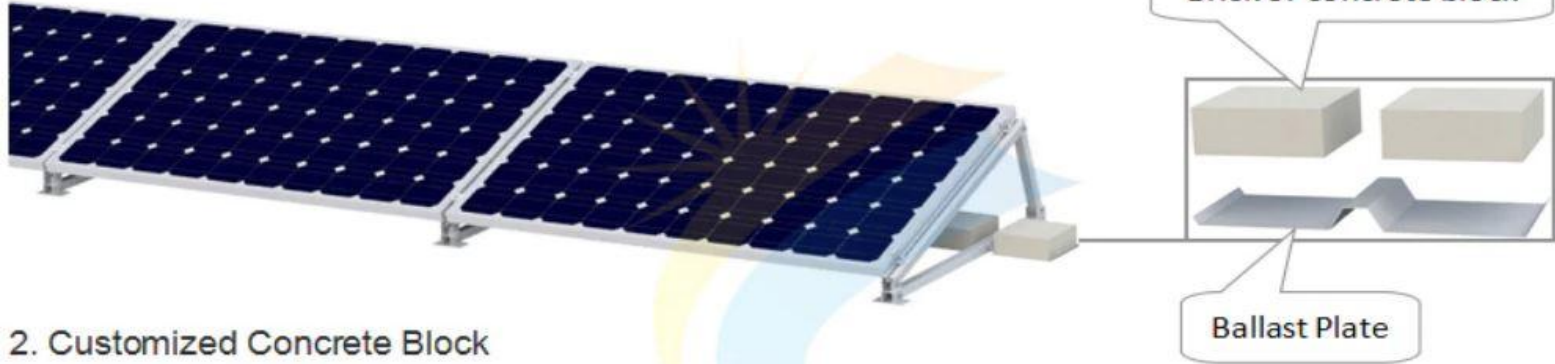


PUNCTURING MY ROOF



BALLAST STRUCTURE

1. Ballast Plate



2. Customized Concrete Block



BALLAST STRUCTURE



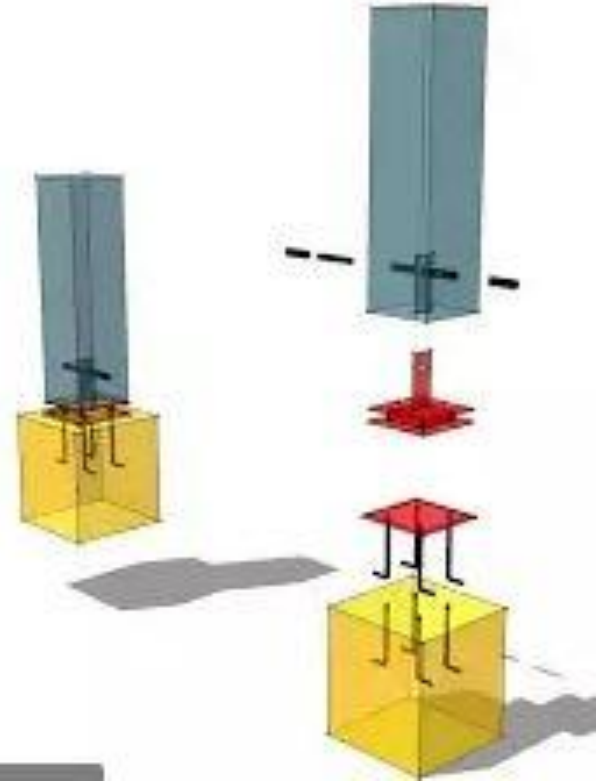
BALLAST STRUCTURE



PARAPET WALL STRUCTURE



WITH USING STEEL BARS OR EXISTING PILLARS



WITH USING STEEL BARS OR EXISTING PILLARS



Myth #5

Solar Power plant spoils beauty of my house



SOLAR LANDSCAPE VIEW



SOLAR WITH BALLAST STRUCTURE VIEW



SUPER STRUCTURE VIEW



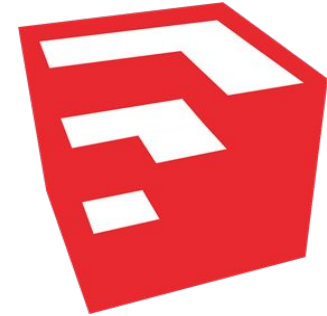
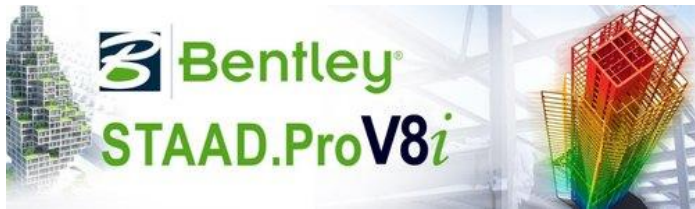
#2

How to design the most efficient solar system for your client

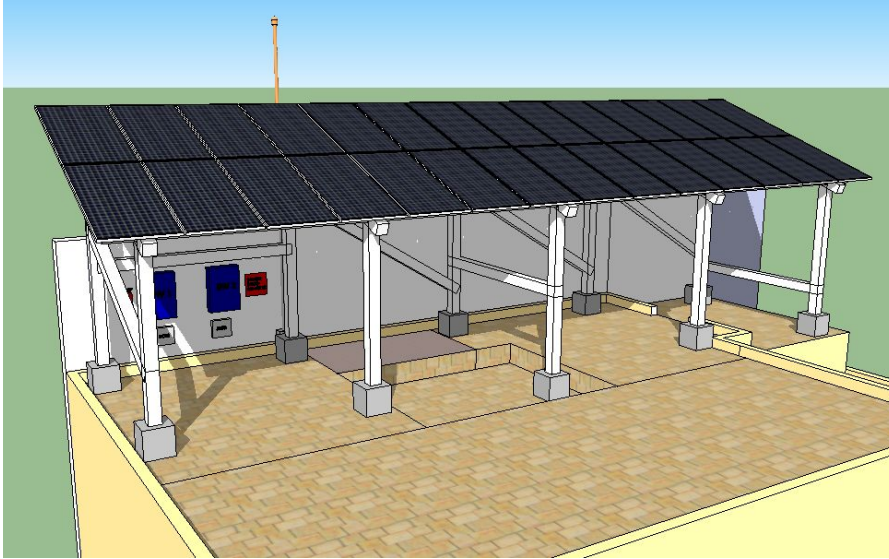
KEY POINTS

- 100 square feet area for 1kw
- Shadow free area required
- Solar panel should face south for northern hemisphere
- 1kw plant generate 4 units a day
- Tilt angle is usually Latitude of the place
- Life of solar power plant up to 20+ years

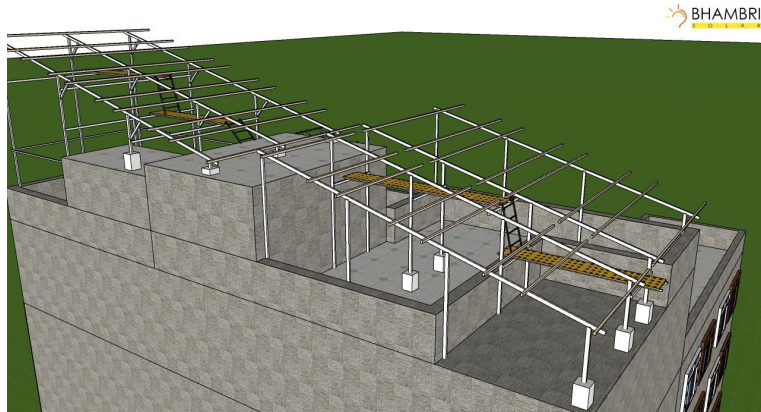
DESIGNING SOFTWARES



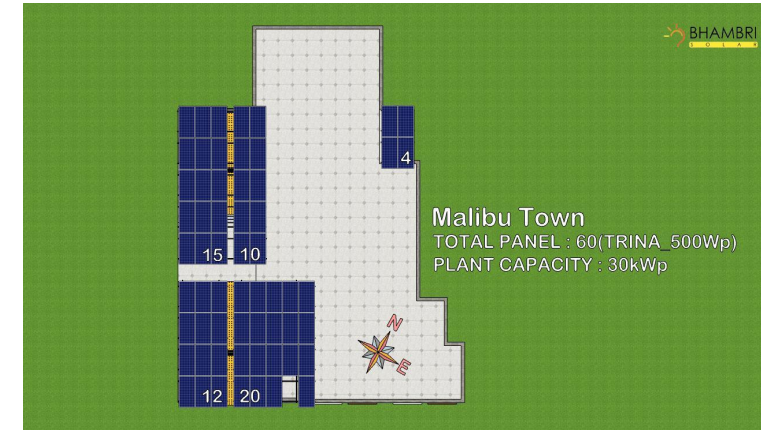
3D DESIGN SIMULATION



3D DESIGN STRUCTURAL



BHAMBRI



BHAMBRI

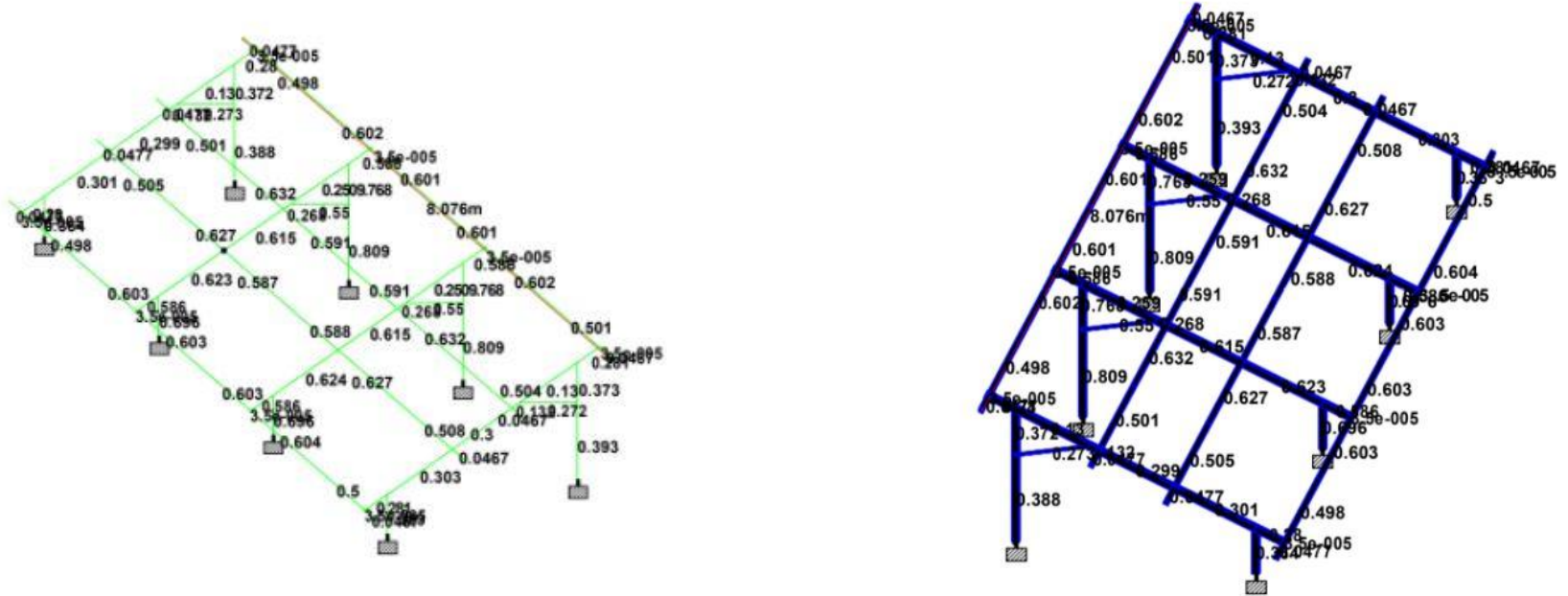
MALIBU TOWN - 30kW

30 KW STRUCTURE

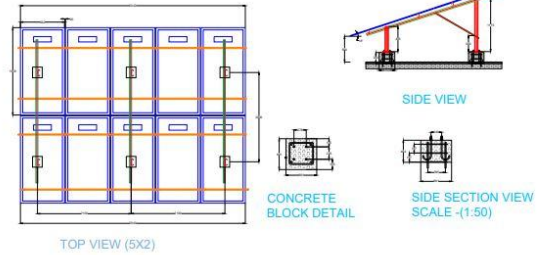
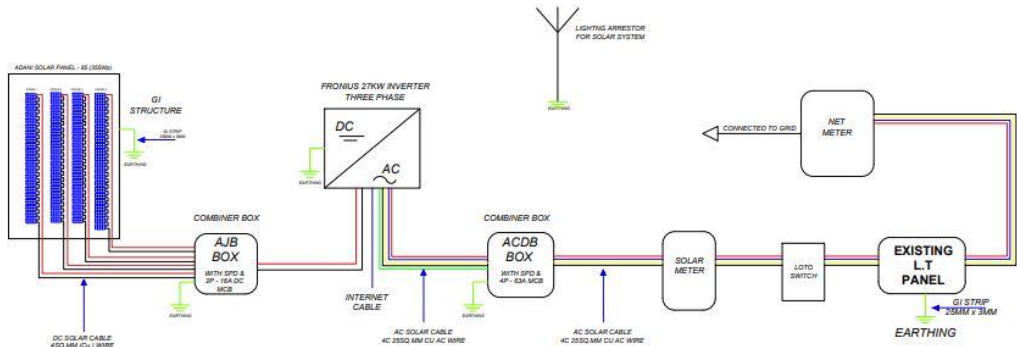
Particulars	Parts	Section (mm)	Length (mm)	QTY/TAB LE	Total length for table	Table Qty.	Total length(mm)	Total Weight (Kg)
20 + 12 Panels TABLE	LEG 1	60X40x2 MM BOX PIPE	1570	4	6280	1	65,280	196
	LEG 2		2200	4	8800			
	LEG 3		2780	4	11120			
	LEG 4		3380	4	13520			
	RAFTER 1	8520	3	25560				
	PURLIN 1	40X40x2 MM BOX PIPE	5,670	8	45360		1	72,880
PURLIN 2	3,440		8	27520				
15+10 Panels TABLE	LEG 5	60X40x2 MM BOX PIPE	330	3	990	1	79,040	237
	LEG 6		3980	2	7960			
	LEG 7		4710	3	14130			
	LEG 8		5440	3	16320			
	LEG 9	1390	1	1390				
	CROSS BRACING	770	9	6930				
	RAFTER 2	10440	3	31320				
	RING BRACING	40X40x2 MM BOX PIPE	15590	1	15590			
	PURLIN 3	6,100	10	61000				
	LEG 10	390	2	780				
	LEG 11	60X40x2 MM BOX PIPE	1060	2	2120		1	10,580
RAFTER 3	3840		2	7680				
4 Panels TABLE	PURLIN 4	40X40x2 MM BOX PIPE	2,320	2	4640	1	4,640	11
	WALKWAY SUPPORT 1	40X40x2 MM BOX PIPE	1,590	5	7950			
WALKWAY SUPPORT 2	4,770		3	14310	1	14,310	34	
WALKWAY PURLIN 1	3,660		2	7320	1	7,320	18	
WALKWAY PURLIN 2	4,670		2	9340	1	9,340	22	
WALKWAY PURLIN 3	3,760		2	7520	1	7,520	18	
WALKWAY PURLIN 4	3,760		2	7520	1	7,520	18	
TOTAL								906

keep 10% extra material on site

MODULE MOUNTING STRUCTURE ANALYSIS



SINGLE LINE DIAGRAM/ LAYOUTS



SLOT/HOLE DETAILS

Sl. No.	Sl. No.	REVISION
1	BASE FLATE	11/10/2019
2	CONCRETE BLOCKS	11/10/2019
3	COLUMN TO SUPPORT	11/10/2019
4	ROOFING TO COLUMN	11/10/2019
5	BRACING TO ROOF	11/10/2019
6	ROOFING TO BRACING	11/10/2019
7	RAILER TO COLUMN	11/10/2019
8	ROOFING TO RAILER	11/10/2019

NOTE:

DESIGN SPECIFICATIONS:

PROJECT TITLE:

CLIENT:

ERC CONTRACTOR:

CONSULTANT:

DRAWING TITLE:

LOGO	INSTALLER INFORMATION	PROJECT DETAIL	SYSTEM DESCRIPTION			INSTALLER INFORMATION		
	BHAMBRI SOLAR PVT. LTD.	ADDRESS	MODULE	ADANI (355Wp)	TILT ANGLE	-	DATE	-
			QUANTITY	85	AZIMUTH	-	DESIGNED BY	LAKSHAY
		PUSHPANJALI FARMS	SYSTEM (DC)	30Kw	INVERTER	FRONIUS	CHECK BY	
			SYSTEM (AC)	-	QUANTITY	1	SHEET SIZE	A4

Sl. No.	DESCRIPTION	TYPE	QUANTITY	TOTAL QTY	TOTAL NO OF	Box CP	LENGTH	GRADE	DETAILS
			(QTY)	(QTY)	OF BOLT	NO.	(M)		
1	COLUMN TO RAILER	MS300	12	3	36	12	36	B30A	SEE DETAIL
2	RAILER TO BRACING	MS300	18	3	54	12	36	B30A	SEE DETAIL
3	COLUMN TO BRACING	MS300	25	3	75	12	36	B30A	SEE DETAIL
4	BRACING TO COLUMN	MS300	65	3	195	0	36	B30A	SEE DETAIL

GENERATION REPORT SIMULATION (PVsyst)

PVSYST V6.88		25/03/21	Page 1/4
Grid-Connected System: Simulation parameters			
Project : O.P. Bhutani			
Geographical Site	Sainik farm	County India	
Situation	Latitude 28.50° N	Longitude 77.22° E	
Time defined as	Legal Time	Time zone UT+5.5	Altitude 238 m
Meteo data:	Albedo 0.20	Meteonorm 7.2 (1981-1990) - Synthetic	
Simulation variant : New simulation variant			
	Simulation date	25/03/21 12h05	
Simulation parameters			
Collector Plane Orientation	System type	No 3D scene defined, no shadings	
Models used	Tilt 20°	Azimuth 0°	
Horizon	Transposition Perez	Diffuse Perez, Meteonorm	
Near Shadings	Free Horizon		
User's needs :	No Shadings		
	Unlimited load (grid)		
PV Array Characteristics			
PV module	Si-mono	Model Eternal series	
Custom parameters definition	Manufacturer Adani		
Number of PV modules	In series 14 modules	In parallel 2 strings	
Total number of PV modules	Nb. modules 28	Unit Nom. Power 370 Wp	
Array global power	Nominal (STC) 10.36 kWp	At operating cond. 9.53 kWp (50°C)	
Array operating characteristics (50°C)	U mpp 504 V	I mpp 19 A	
Total area	Module area 56.5 m²		
Inverter			
Original PVsyst database	Model Hiverteer-Si series		
Characteristics	Manufacturer Hitachi		
Inverter pack	Operating Voltage 160-900 V	Unit Nom. Power 10.00 kWac	
	Nb. of inverters 2 * MPPT 50 %	Total Power 10.0 kWac	Prnom ratio 1.04
PV Array loss factors			
Thermal Loss factor	Uc (const) 20.0 W/m²K	Uv (wind) 0.0 W/m²K / m/s	
Writing Ohmic Loss	Global array res. 437 mOhm	Loss Fraction 1.5 % at STC	
Module Quality Loss		Loss Fraction -1.3 %	
Module Mismatch Losses		Loss Fraction 1.0 % at MPP	
Strings Mismatch loss		Loss Fraction 0.10 %	
Incidence effect, ASHRAE parameterization	IAM = 1 - bo * (1/cos(i) - 1)	bo Param. 0.05	

PVSYST V6.88		25/03/21	Page 2/4					
Grid-Connected System: Main results								
Project : O.P. Bhutani								
Simulation variant : New simulation variant								
Main system parameters								
PV Field Orientation	System type	No 3D scene defined, no shadings						
PV modules	Model Eternal series	Prnom	370 Wp					
PV Array	Nb. of modules 28	Prnom total	10.36 kWp					
Inverter	Model Hiverteer-Si series	Prnom	10.00 kW ac					
User's needs	Unlimited load (grid)							
Main simulation results								
System Production	Produced Energy	19.28 MWh/year	Specific prod. 1851 kWh/Wp/year					
	Performance Ratio PR	84.56 %						
Normalized production (per installed kWp) Nominal power 10.36 kWp								
New simulation variant Balances and main results								
	GlobHor	DiffHor	T_Amb	GlobInc	GlobEff	EArray	E_Grid	PR
	kWh/m²	kWh/m²	°C	kWh/m²	MWh	MWh	MWh	
January	118.2	35.4	13.91	158.5	154.3	1.495	1.463	0.991
February	137.1	36.3	17.79	171.8	167.5	1.581	1.546	0.970
March	188.2	50.1	23.72	214.7	209.4	1.920	1.877	0.944
April	209.6	64.5	29.61	235.8	231.3	2.184	2.139	0.922
May	221.9	87.4	33.18	236.9	231.7	2.178	2.133	0.916
June	196.4	106.7	32.52	187.2	181.3	1.646	1.607	0.928
July	166.6	100.0	31.54	160.1	154.6	1.422	1.388	0.937
August	159.7	90.6	30.46	159.8	154.8	1.422	1.388	0.928
September	170.7	69.4	28.98	185.3	180.1	1.645	1.595	0.936
October	164.8	47.8	26.18	198.2	193.5	1.746	1.725	0.940
November	128.9	32.9	20.22	171.7	167.2	1.572	1.538	0.965
December	115.3	29.9	15.65	160.8	156.5	1.563	1.471	0.983
Year	1974.3	744.0	25.34	2280.7	2140.3	19.729	19.276	0.946
Legend:				Legend:				
GlobHor	Horizontal global irradiation		GlobEff	Effective Global, corr. for IAM and shadings				
DiffHor	Horizontal diffuse irradiation		EArray	Effective energy at the output of the array				
T_Amb	T amb.		E_Grid	Energy injected into grid				
GlobInc	Global incident in coll. plane		PR	Performance Ratio				

PVSYST V6.88		25/03/21	Page 4/4
Grid-Connected System: Loss diagram			
Project : O.P. Bhutani			
Simulation variant : New simulation variant			
Main system parameters			
PV Field Orientation	System type	No 3D scene defined, no shadings	
PV modules	Model Eternal series	Prnom	370 Wp
PV Array	Nb. of modules 28	Prnom total	10.36 kWp
Inverter	Model Hiverteer-Si series	Prnom	10.00 kW ac
User's needs	Unlimited load (grid)		
Loss diagram over the whole year			
		<p>Horizontal global irradiation Global incident in coll. plane</p> <p>1974 kWh/m²</p> <p>+11.5% IAM factor on global</p> <p>2140 kWh/m² * 27 m² coll. efficiency at STC = 18.36%</p> <p>-2.74% Effective irradiation on collectors</p> <p>PV conversion</p> <p>22.21 MWh</p> <p>-0.42% Array nominal energy (at STC eff.)</p> <p>-0.87% PV loss due to irradiance level</p> <p>Module quality loss</p> <p>19.73 MWh</p> <p>-1.22% Mismatch loss, modules and strings</p> <p>-1.14% Ohmic wiring loss</p> <p>Array virtual energy at MPP</p> <p>-2.24% Inverter Loss during operation (efficiency)</p> <p>-0.05% Inverter Loss over nominal inv. power</p> <p>-0.05% Inverter Loss due to max. input current</p> <p>-0.05% Inverter Loss over nominal inv. voltage</p> <p>-0.05% Inverter Loss due to power threshold</p> <p>-0.05% Night consumption</p> <p>Available Energy at Inverter Output</p> <p>Energy injected into grid</p> <p>19.28 MWh</p> <p>19.28 MWh</p>	

GENERATION REPORT WITH DESIGN (SOLAR LAB)

Mr. Nipun

Sultanpur farm

30.26 kWp

(28.48749, 77.15874)



[Click to View 3D Model](#)

The Solar Labs

Generated with The Solar Labs

info@bhambrienterprises.com
9711918862
www.kingsunsolarproducts.com



System Metrics



Module DC Nameplate
30.26 kWp

Load Ratio
1.12

AC Nameplate
27.00 KW

Weather Dataset
Meteonorm

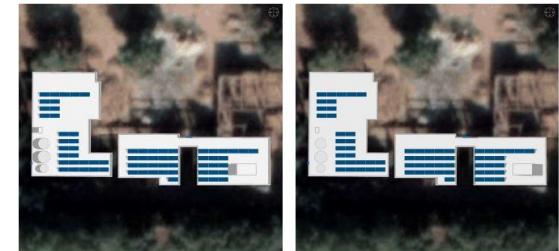
The Solar Labs
Generated with The Solar Labs



Shadow Analysis

June 21 9:00 AM

June 21 04:00 PM



The Solar Labs
Generated with The Solar Labs



#3

DIFFERENT & LATEST SOLAR TECHNOLOGIES WITH LATEST BRANDS

#1 FLOATING SOLAR FARMS



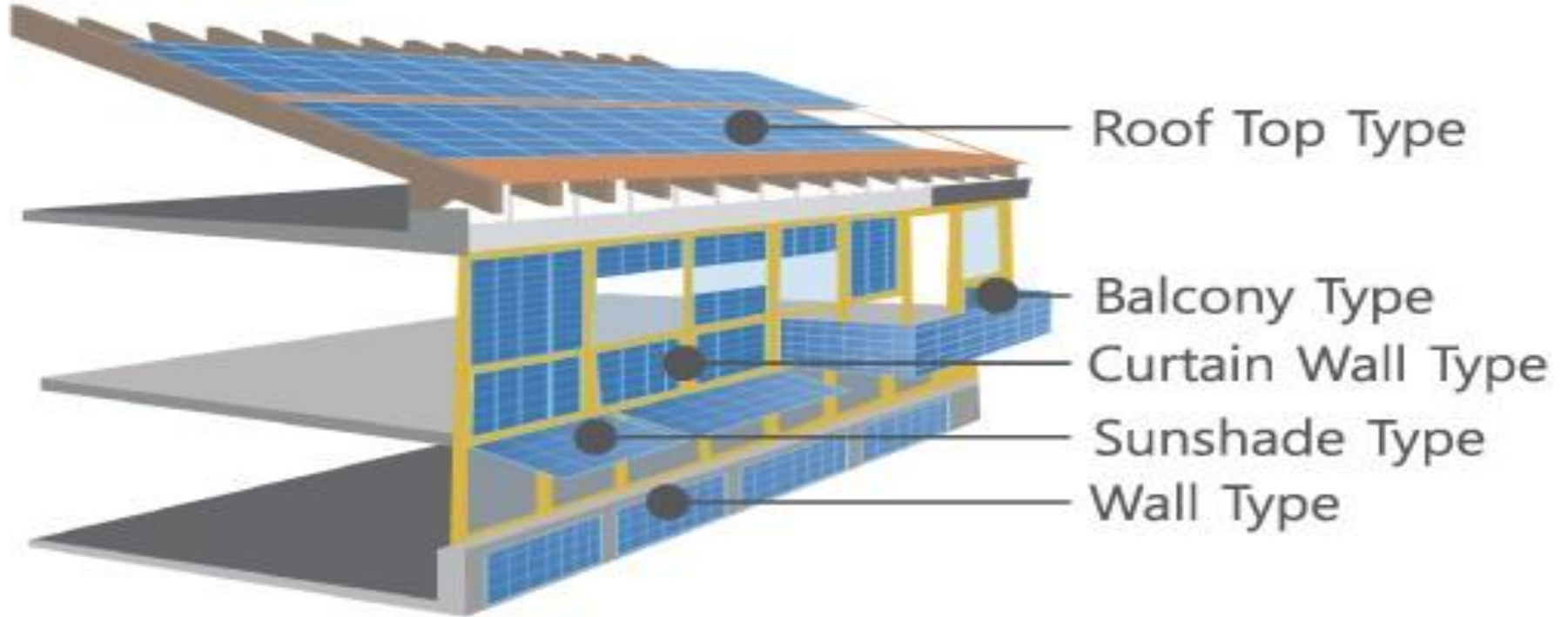
SOLAR FARM FLOATING



SOLAR FARM AERIAL VIEW



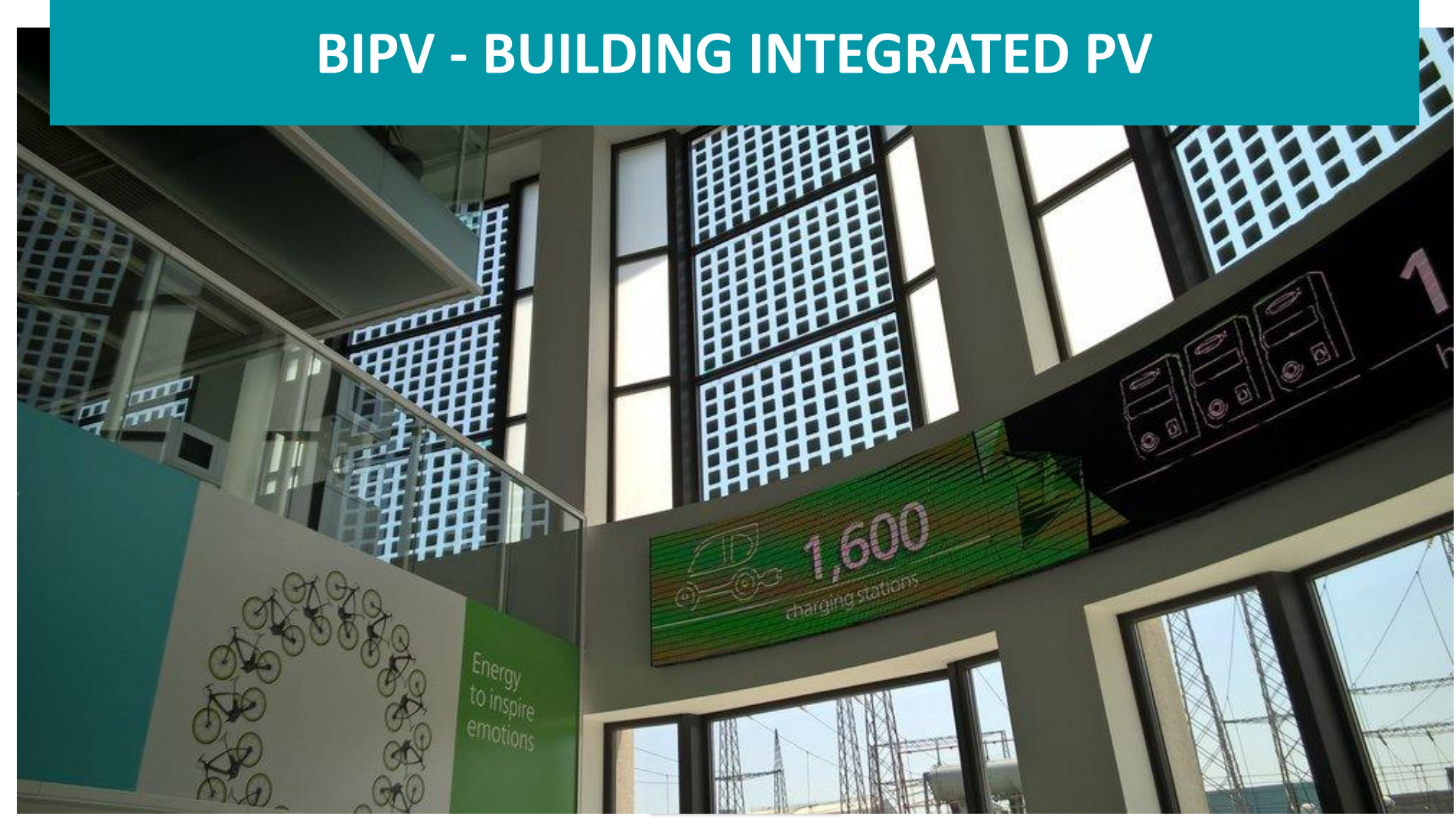
#2 BIPV - BUILDING INTEGRATED PV



BIPV - BUILDING INTEGRATED PV



BIPV - BUILDING INTEGRATED PV



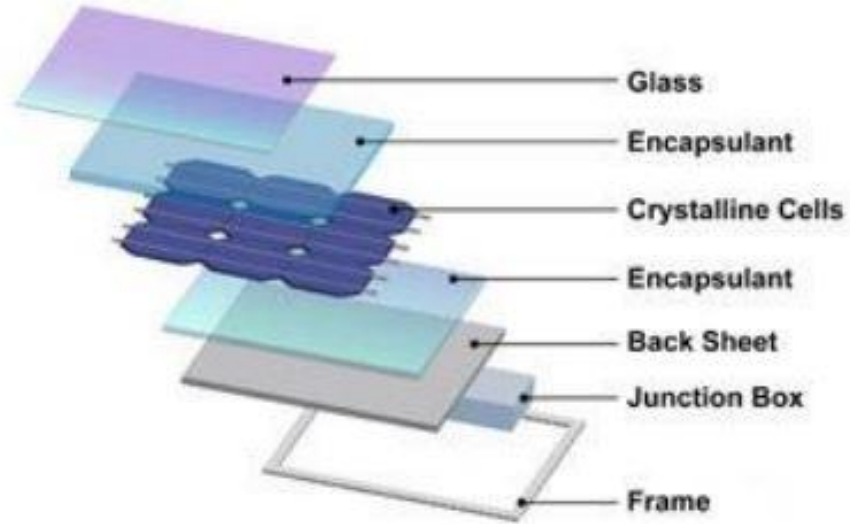
#3 SOLAR SKINS



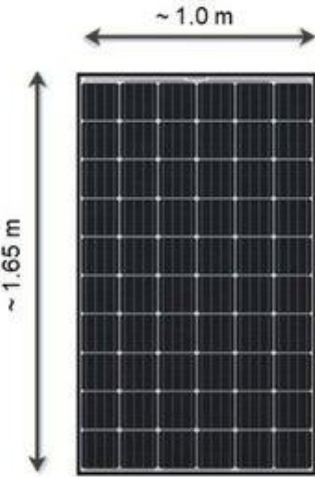
LATEST SOLAR PV CELL TECHNOLOGY

- **PERC** - Passivated Emitter Rear Cell
- **Bifacial** - Dual sided panels and cells
- **Multi Busbar** - Multi ribbon and wire busbars
- **Split cells** - half-cut and 1/3 cut cells
- **Shingled Cells** - Overlapping cells
- **High-density Cells** - Removing inter-cell gaps
- **IBC** - Interdigitated Back Contact cells
- **HJT** - Heterojunction cells

INTERNAL STRUCTURE OF MODULE



Solar Panel Evolution



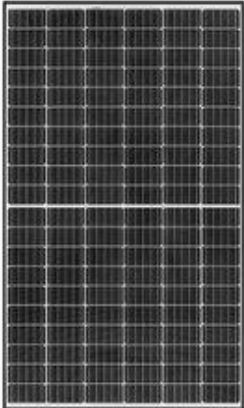
60 cell panel



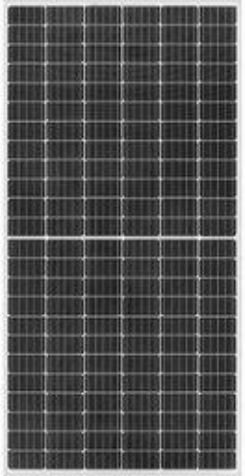
72 cell panel



96 cell panel



120 half-cut cells



144 half-cut cells

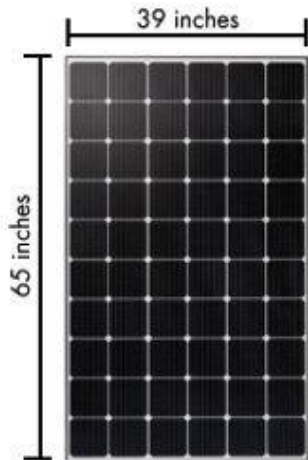
In...

1954

2012

2015

A solar panel this size:



Was:

6% efficient

15% efficient

20% efficient

And could produce:

20 watts

200 watts

265 watts

Enough to power:



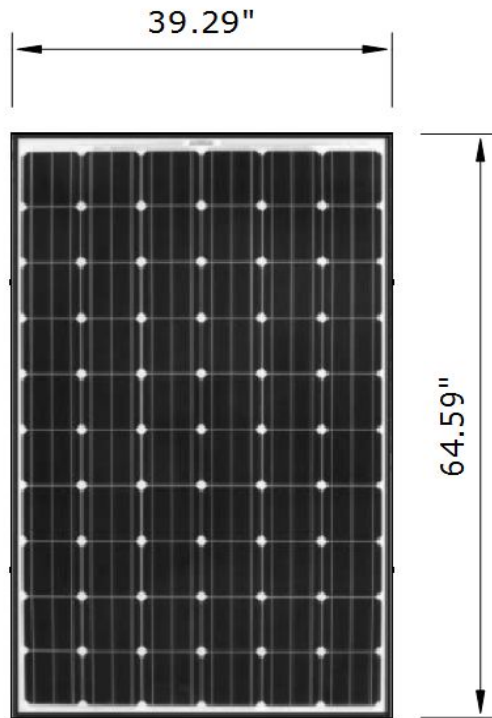
1/3 of a 60-watt bulb



3 and 1/3 60-watt bulbs

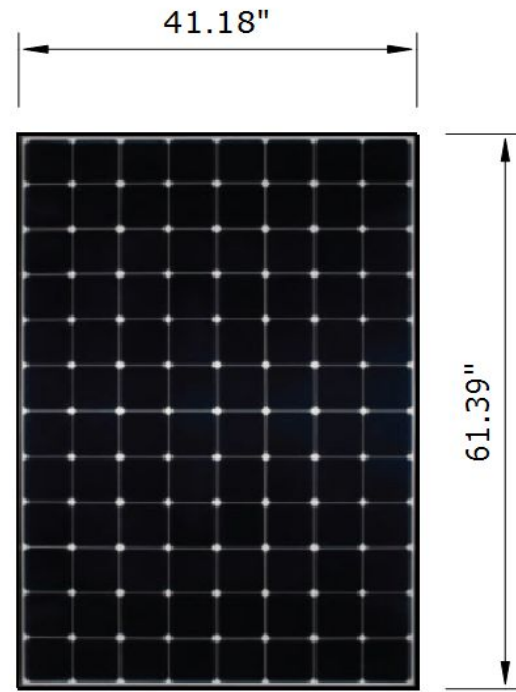


4 and 2/5 60-watt bulbs



280W Rating
17.62 square feet
15.89 W/sf

17.1% cell efficiency



345W Rating
17.55 square feet
19.65 W/sf

21.5% cell efficiency

Solar Panel Datasheet



TRINA SOLAR PANEL

ELECTRICAL DATA (STC)

Peak Power Watts- P_{MAX} (Wp)*	480	485	490	495	500	505
Power Tolerance- P_{MAX} (W)	0 ~ +5					
Maximum Power Voltage- V_{MPP} (V)	42.0	42.2	42.4	42.6	42.8	43.0
Maximum Power Current- I_{MPP} (A)	11.42	11.49	11.56	11.63	11.69	11.75
Open Circuit Voltage- V_{OC} (V)	50.8	51.1	51.3	51.5	51.7	51.9
Short Circuit Current- I_{SC} (A)	11.99	12.07	12.14	12.21	12.28	12.35
Module Efficiency η_m (%)	20.1	20.3	20.5	20.7	20.9	21.1

TEMPERATURE RATINGS

NMOT (Nominal Module Operating Temperature)	41 °C (± 3 °C)
Temperature Coefficient of P_{MAX}	-0.36%/°C
Temperature Coefficient of V_{OC}	-0.26%/°C
Temperature Coefficient of I_{SC}	0.04%/°C

MAXIMUM RATINGS

Operational Temperature	-40 ~ +85 °C
Maximum System Voltage	1500V DC (IEC)
Max Series Fuse Rating	20A

Solar Cells	Monocrystalline
Cell Orientation	150 cells
Module Dimensions	2176 × 1098 × 35 mm (85.67 × 43.23 × 1.38 inches)
Weight	26.3 kg (58.0 lb)

EFFICIENCY OF DIFFERENT SOLAR PV CELLS

Polycrystalline - 15 to 18%

Monocrystalline - 16.5 to 19%

Polycrystalline PERC - 17 to 19.5%

Monocrystalline PERC - 17.5 to 20%

Monocrystalline N-type - 19 to 20.5%

Monocrystalline N-type HJT - 19 to 21.7%

Monocrystalline N-type IBC - 20 to 22.6%

PERC - PASSIVATED CELLS

PERC Cell

Front Electrode (Fingers) —

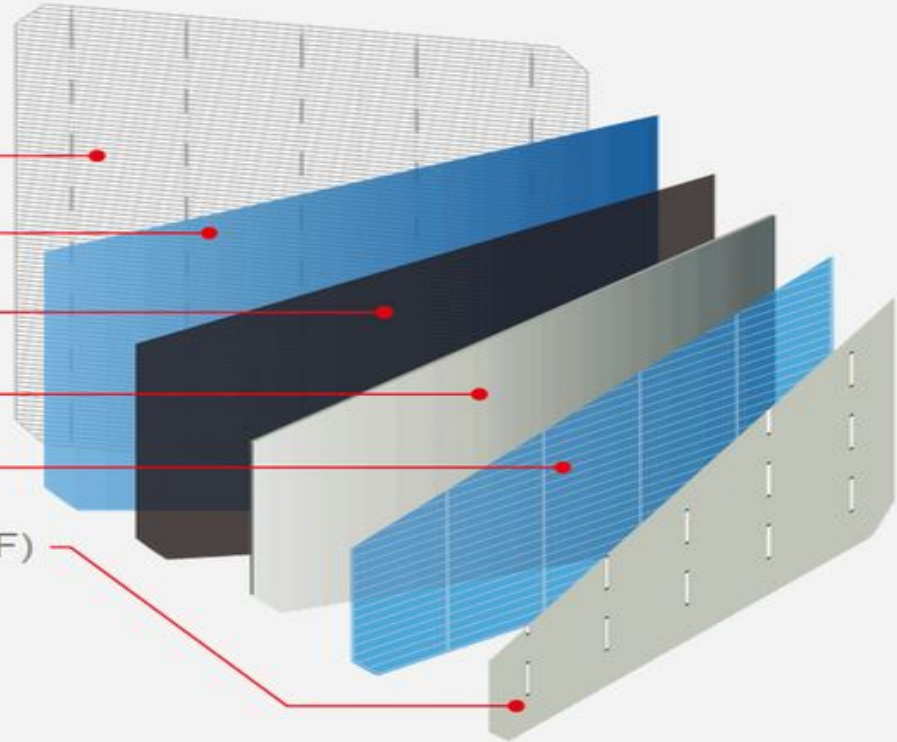
SiN_x Anti-Reflection Coating —

N-Type Emitter —

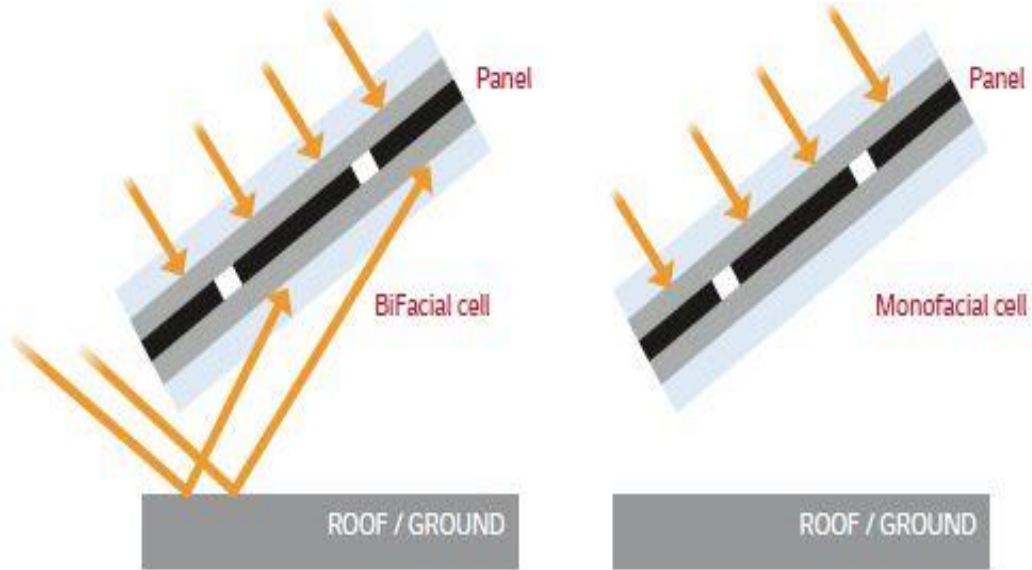
P-Type Silicon Wafer —

Rear side Passivation (PERC) —

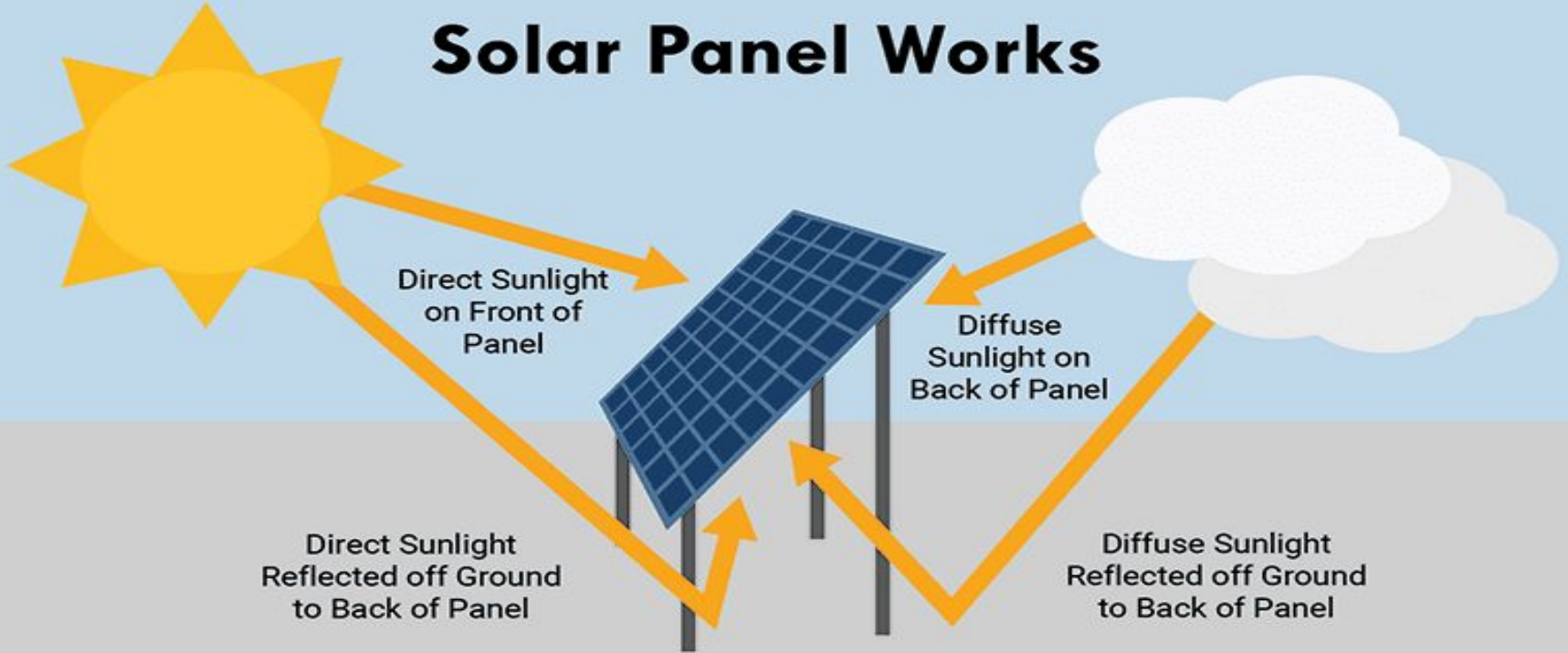
Aluminum Back Surface Field (BSF) —



BIFACIAL SOLAR MODULES



How a Bifacial Solar Panel Works





MAKE YOUR OFFICE/HOME MORE BEAUTIFUL



MULTIPLE WIRE/BUS BARS



Standard Busbars



Ribbon Busbars

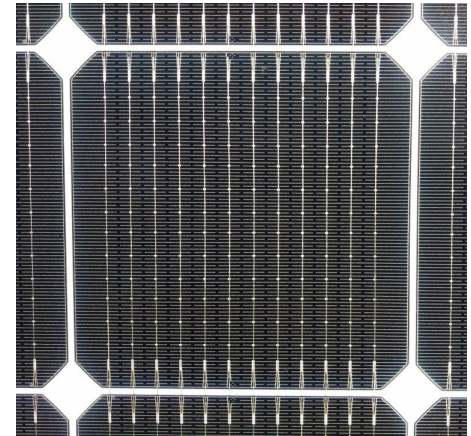
Fingers

Multiple Busbars - MBB



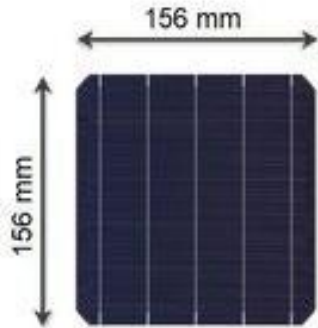
Round-wire Busbars

Fingers



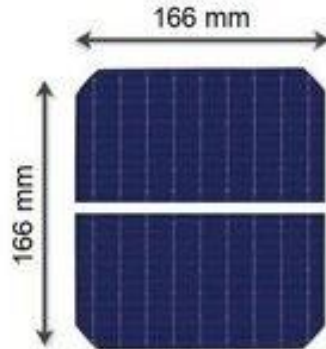
SPLIT MODULE WITH HALF CUT CELLS

New Solar PV Cell Formats



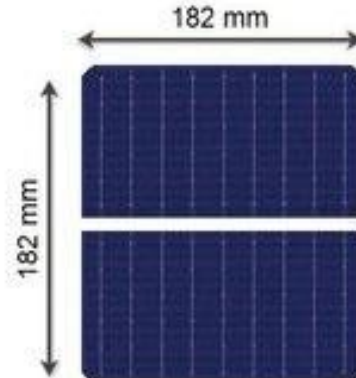
156 mm

Introduced 2012



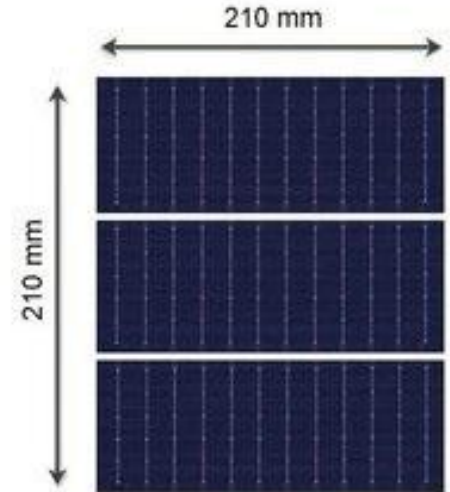
166 mm
Half-cut

New cell size 2019



180 - 182 mm
Half-cut

New cell sizes in 2020



210 mm
Third-cut

LATEST BRANDS AVAILABLE IN MARKET

- ADANI
- VIKRAM
- WAAREE
- PANASONIC
- CANADIAN SOLAR
- TRINA
- RENEWSYS
- RENESOLA
- JA SOLAR ... Etc



JUNCTION BOX

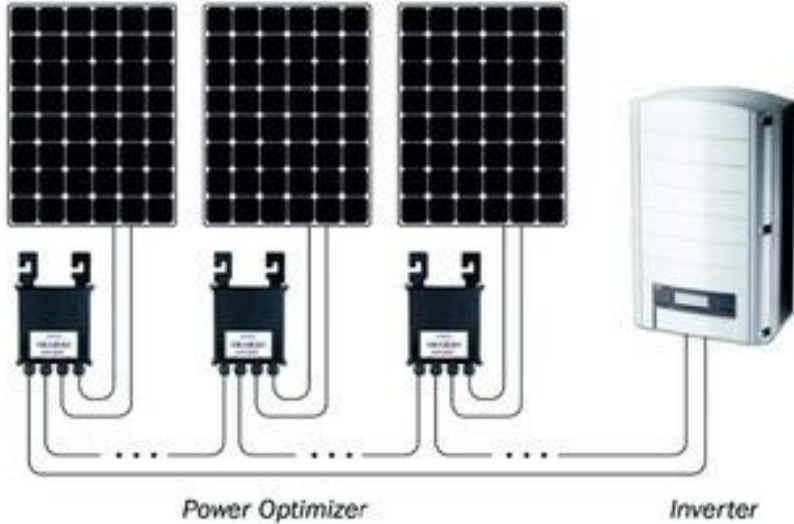


DIFFERENT BRANDS OF SOLAR INVERTER



SOLAR EDGE INVERTER

solar**edge**



GRID TIED SOLAR POWER INVERTER



HYBRID INVERTER TECHNOLOGY



Hybrid solar systems

Generate power in the same way as a common grid-tie solar system but use special hybrid inverters and batteries to store energy for later use.

This ability to store energy enables most hybrid systems to also operate as a backup power supply during a blackout, similar to a UPS system.

BENEFITS TO HOTELS

Investing in renewable & Eco Friendly resources can help in improving your hotel's overall profit margin

Tourists prefer to accommodate themselves at an environment friendly hotel room rather than an ordinary hotel room.

Rising electricity prices and increasing pressure to cut carbon emissions, saving energy is the no.1 on a hotelier's priority list

Operational cost goes down

BENEFITS TO HOTELS

Enjoy 40% depreciation benefits

Low maintenance requirement

Guaranteed & Proven ROI

No more payment of heavy bills

Establish an environment friendly identity

Solar makes your roof cooler than normal conditions and Air conditioner consumption will be low.



How about promoting your hotels as Eco Freindly



Carbon Footprint Calculator

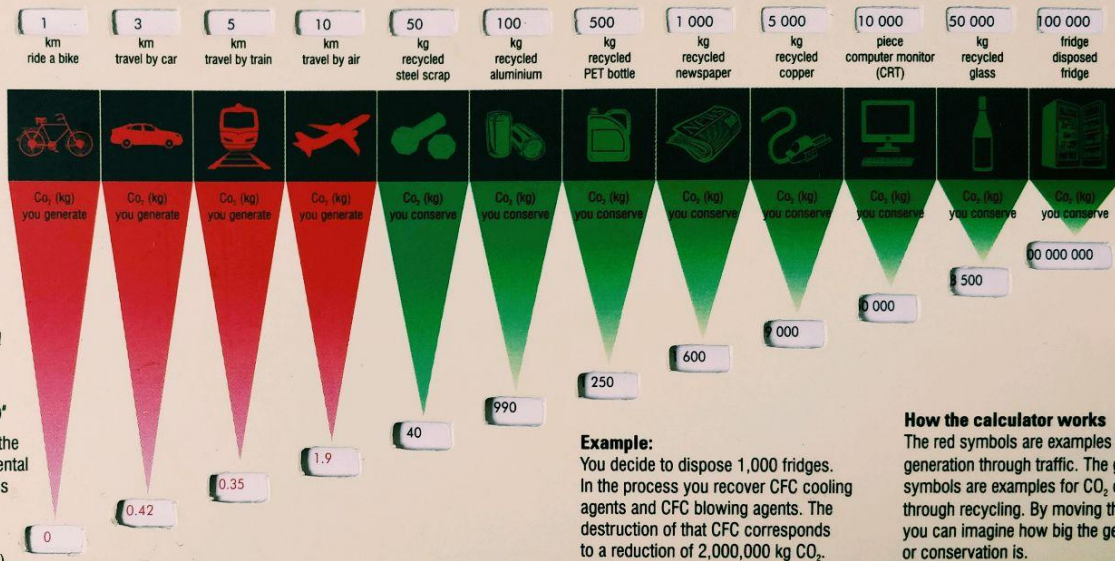
We at ITC Hotels, annually off-set carbon emissions equivalent to the carbon footprint created by traveling across the globe almost 1,200 times!

FIRST ON EARTH

ITC PRESENTS THE GREENEST LUXURY HOTEL CHAIN IN THE WORLD*

We've adopted contemporary green business practices that also harness the elements of nature, to provide the best in luxury with the lowest environmental footprint. A fine balance between the man-made and natural environment is what we call 'Responsible Luxury'.

*Ten ITC Hotels are LEED® Platinum Certified by the US Green Building Council and Indian Green Building Council (LEED® - Leadership in Energy & Environmental Design)



How the calculator works
The red symbols are examples for CO₂ generation through traffic. The green symbols are examples for CO₂ conserved through recycling. By moving the stripe, you can imagine how big the generation or conservation is.

ROI FOR 100 KW
SAVINGS IN CO2

TESLA POWERWALL



BATTERY



Batteries are the most common power source for basic handheld devices to large scale industrial applications.

A battery can be defined as; it is a combination of one or more electrochemical cells that are capable of converting stored chemical energy into electrical energy.

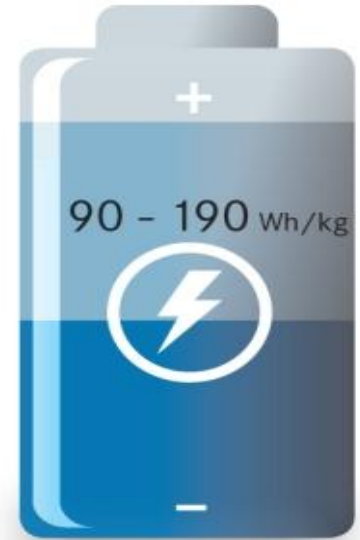
Wh/Kg COMPARISON



Lead acid
battery



Nickel metal
hydride battery



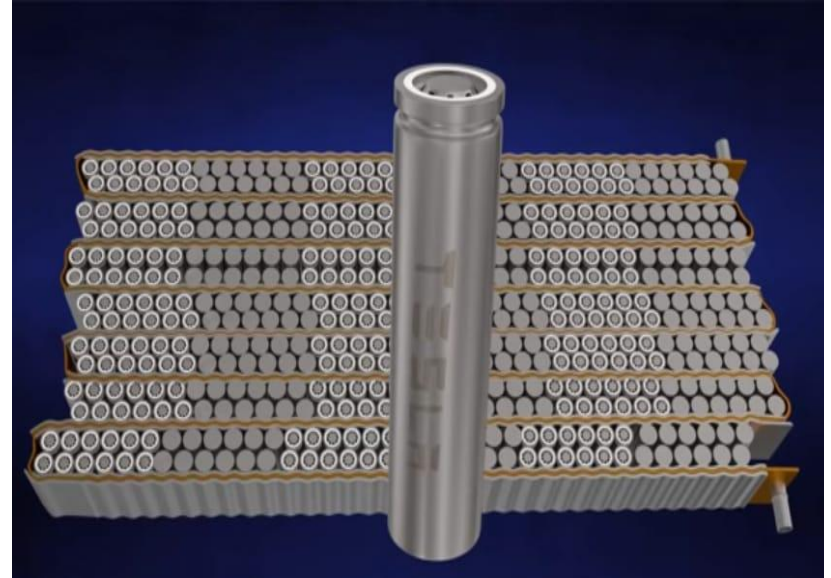
Lithium-ion
battery

LITHIUM -ION BATTERY

- High energy density
- Low self discharge
- Low maintenance
- Higher cell voltage



LI-ION EXAMPLE

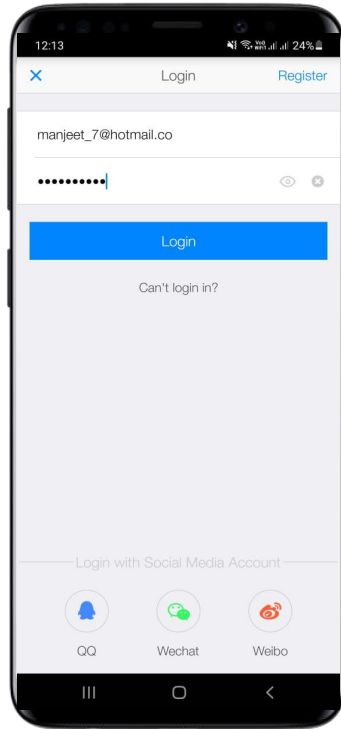


Tesla Battery Pack

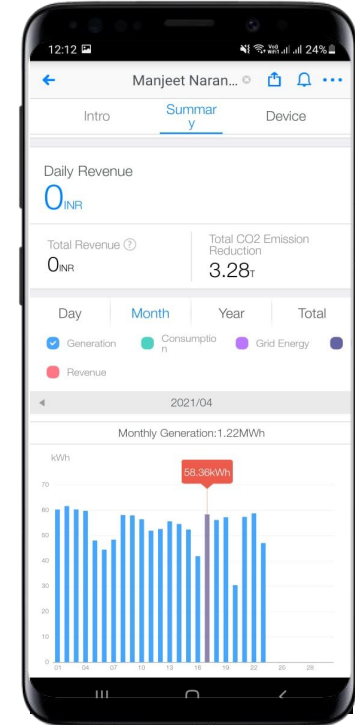
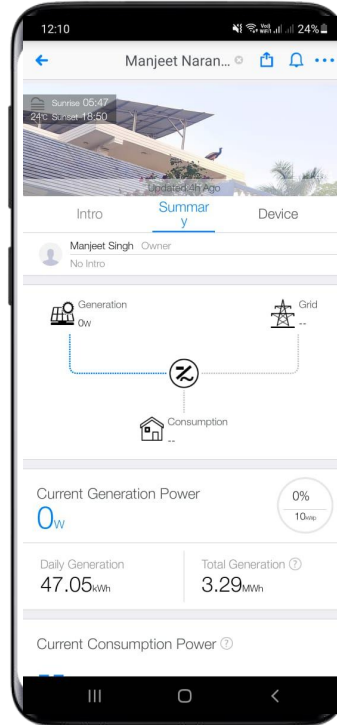
ONLINE MONITORING



ONLINE MONITORING



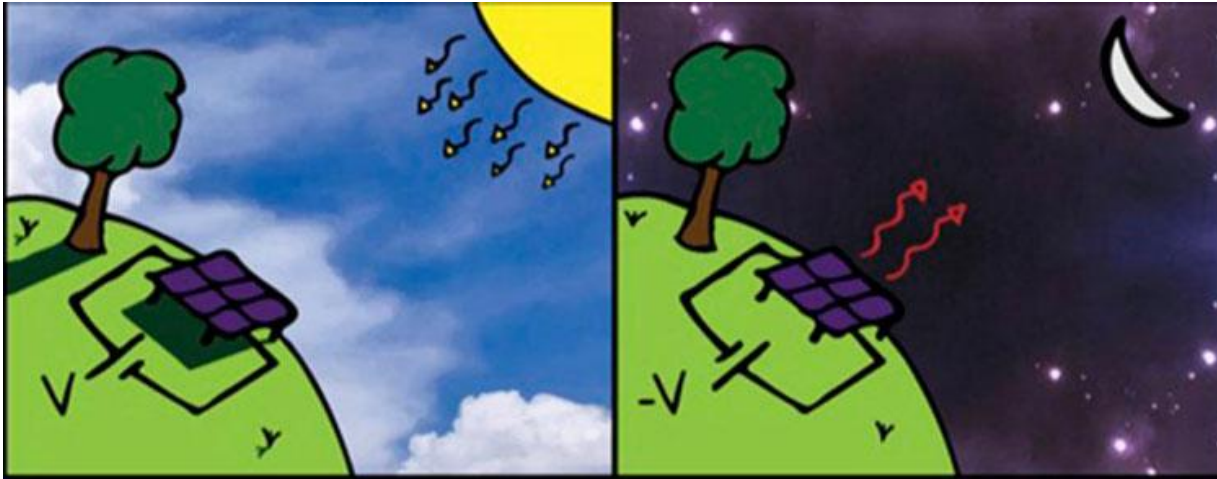
Login ID Page



Monthly Generation

UPCOMING TECHNOLOGY

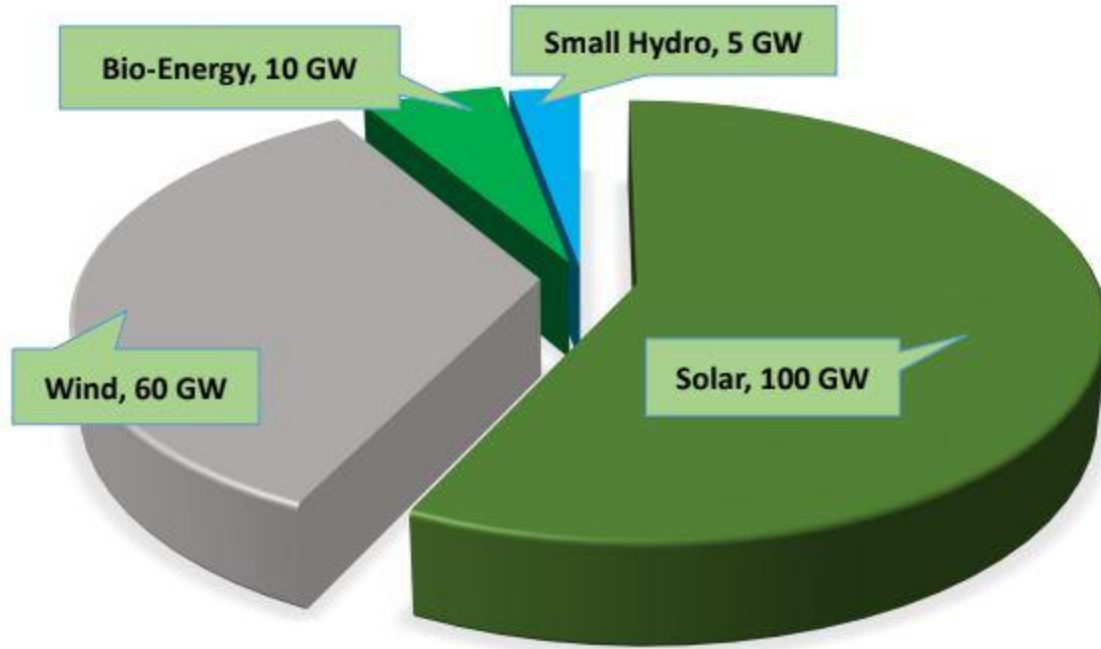
Scientists have developed a new prototype of night time solar cells that can produce electricity at night through a radiative cooling mechanism.



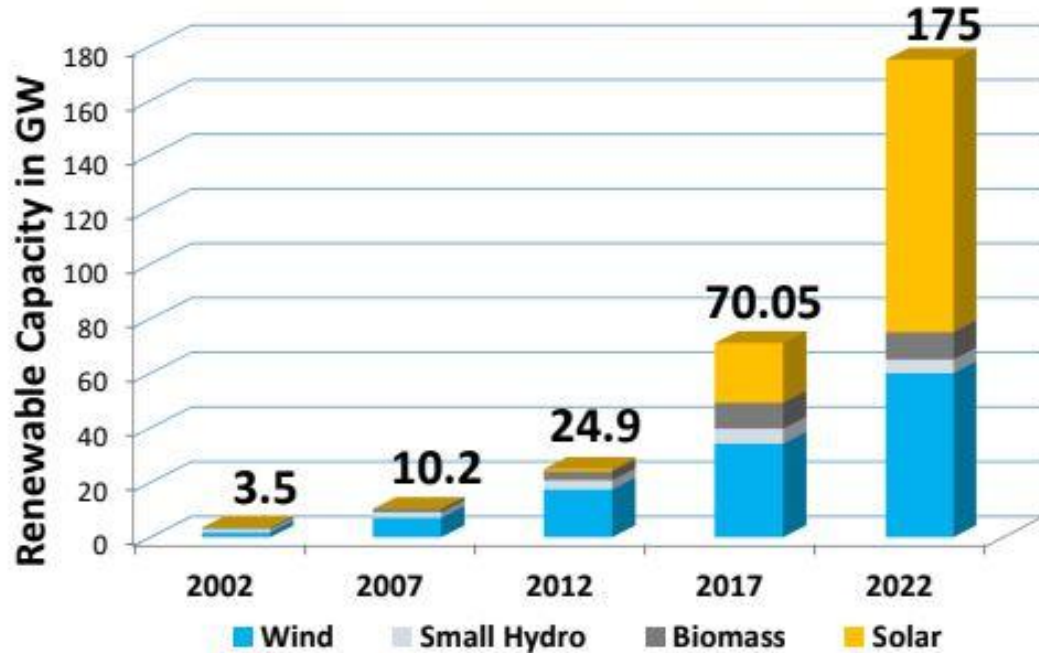
#4

**GOVT. POLICIES RELATED TO NOC, NET
METERING, DG SYNC AND ZERO EXPORT
SOLUTIONS**

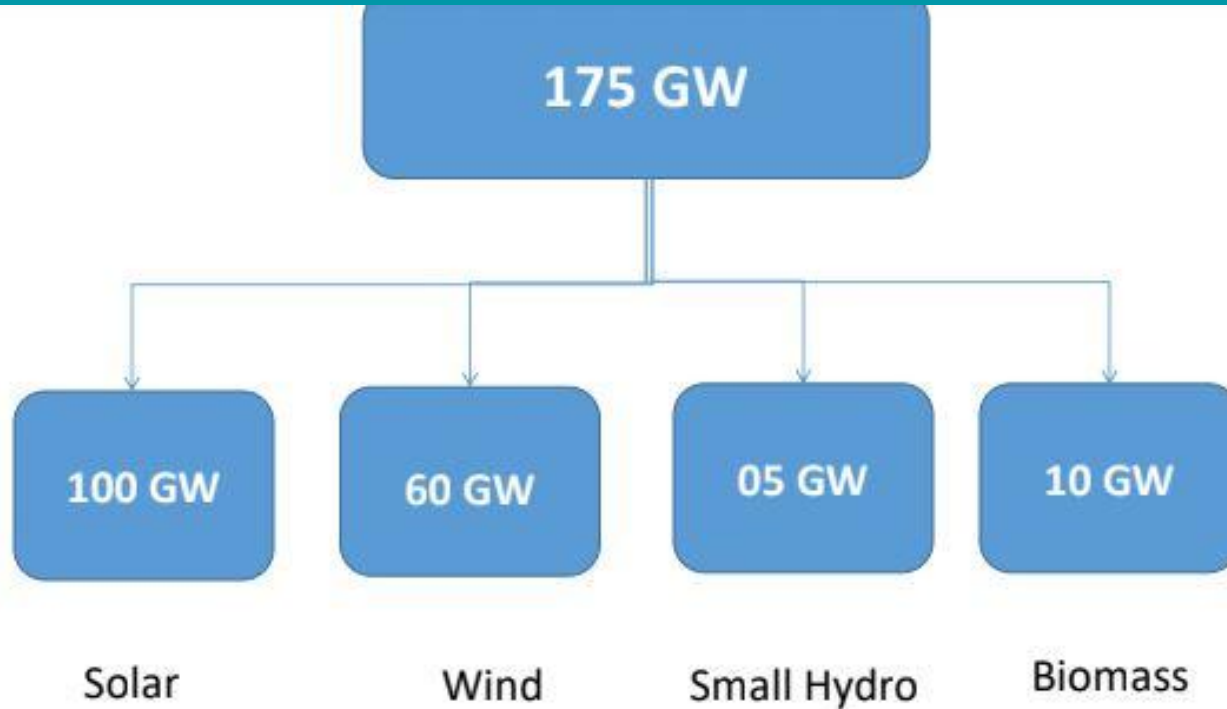
GOVT. TARGET BY 2022 : (175 GW)



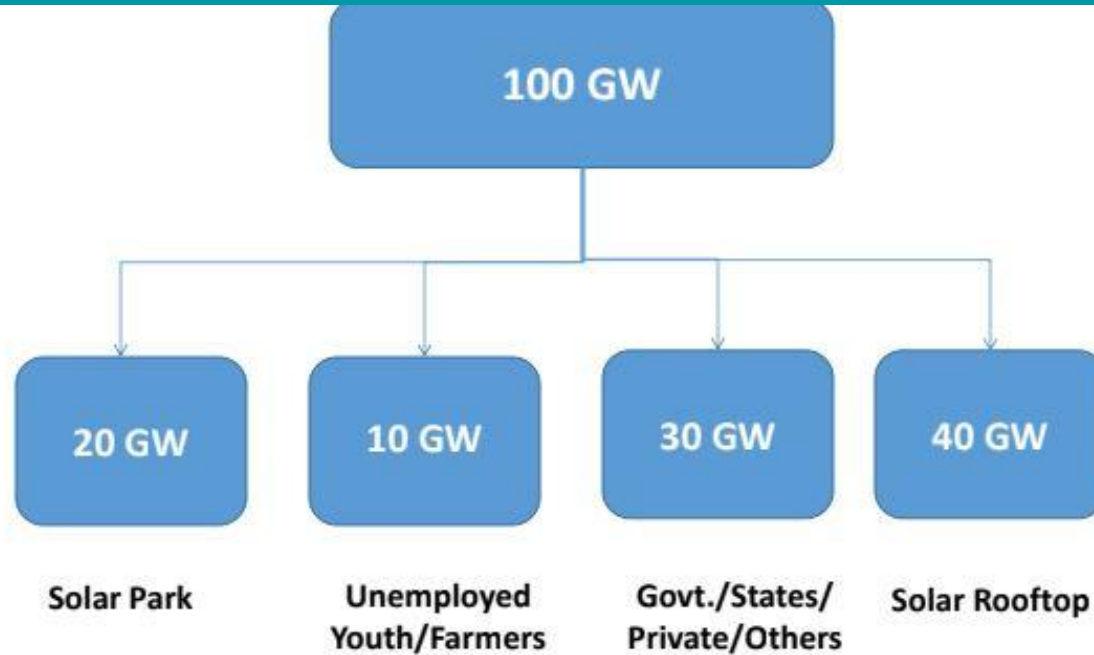
EXPONENTIAL GROWTH



ROAD MAP 2022



ROAD MAP FOR SOLAR 2022



SOLAR POLICIES HARYANA

- Mandatory installation of Solar power plants The State Govt. has mandated installation of solar power plant of **3% to 5% of connected load** for categories of all residential buildings built on a plot size of **500 Square Yards and above**.
- All government and private Educational Institutes, Schools, Colleges, Hostels, Technical/Vocational Education Institutes, Universities, Offices having connected load of 30 Kilo Watt (KW) and
- Above all private Hospitals and Nursing Homes, Industrial Establishments, Commercial Establishments, Malls, Hotels, Motels, Banquet Halls and Tourism Complexes, having connected load of 50 Kilo Watt (KW) and above, all new Housing Complexes, developed by Group Housing Societies, Builders, Housing Boards, on a plot size of 0.5 Acre and above and all water lifting stations of Irrigation Department.

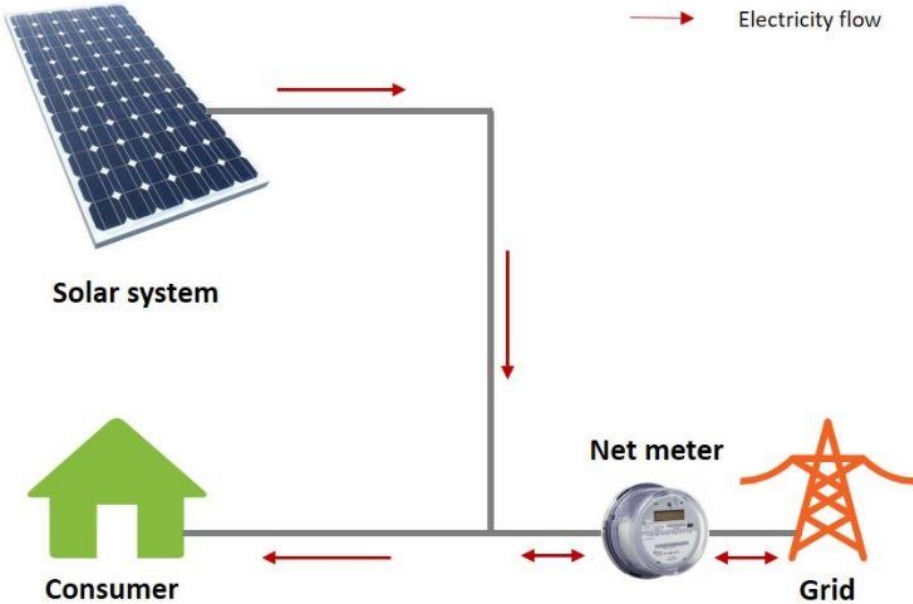
REGULATIONS FOR RESIDENTIAL

- In the residential sector, its mandatory enforcement shall be for the new residential buildings only whereas the installation of the rooftop solar power plants in the existing residential buildings shall be promoted by providing financial incentives.
- For other sectors even the existing buildings will be covered. If the user covered under the mandatory provision is not installing the rooftop solar power plant as per the notification, then penalty shall be imposed as per government rules and regulations.

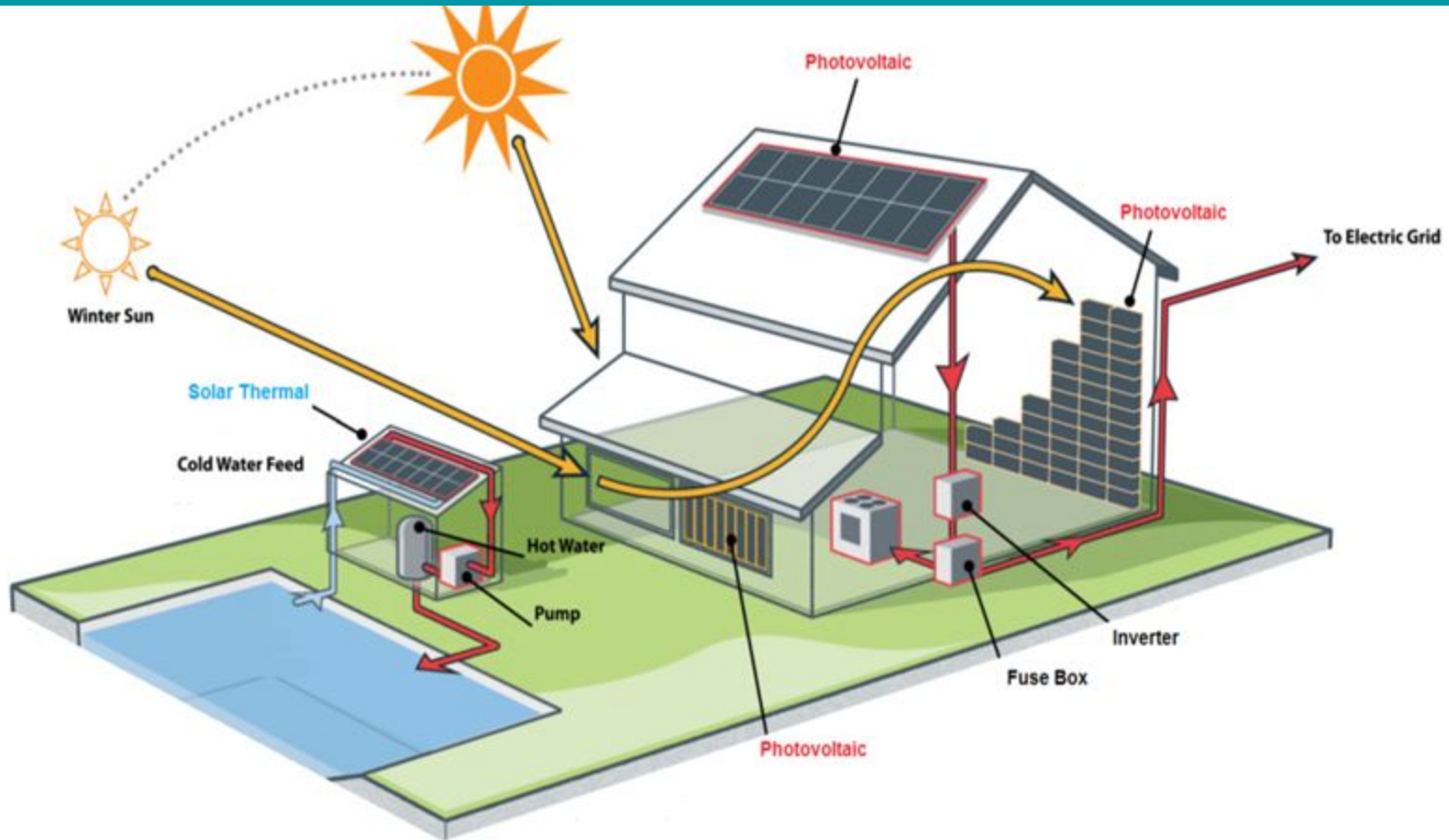
REGULATIONS FOR OTHER ESTABLISHMENT

- There is a great potential to generate solar power through installation of rooftop solar power plants in the State. Accordingly the installation of 1kWp to 1 MWp.
- Grid connected & up to 50 kWp Solar roof-top Power Plants on the rooftops of Industries, Public and Private Institutes, Schools, Colleges, Commercial & Social Institutions/Establishments, Charitable Trust Bhawans, Hospitals and Residential Buildings etc. shall be promoted for their captive use/net meter as per the State Govt. Regulation.
- For installation of rooftop solar power plants the State Government shall provide capital /generation subsidy/ incentives.
- **Currently upto 30% Subsidy available for residential rooftop in few states.**

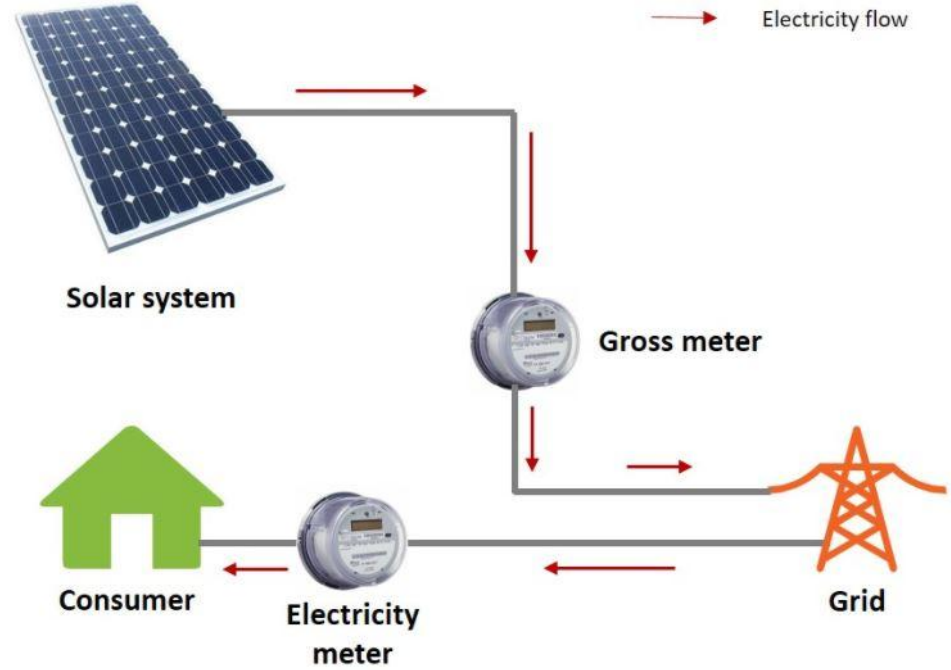
NET METER



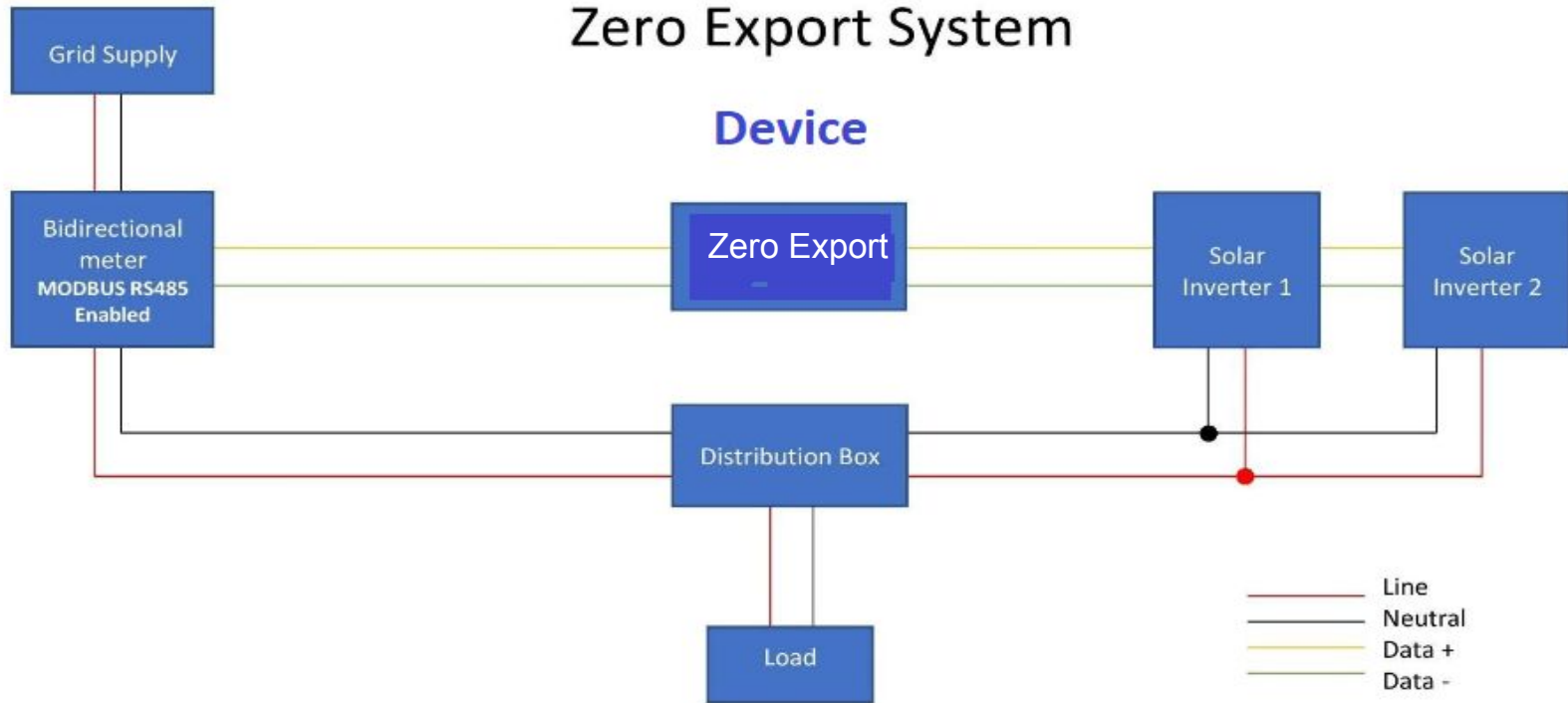
HOW SOLAR WORKS AT YOUR HOME



GROSS METER

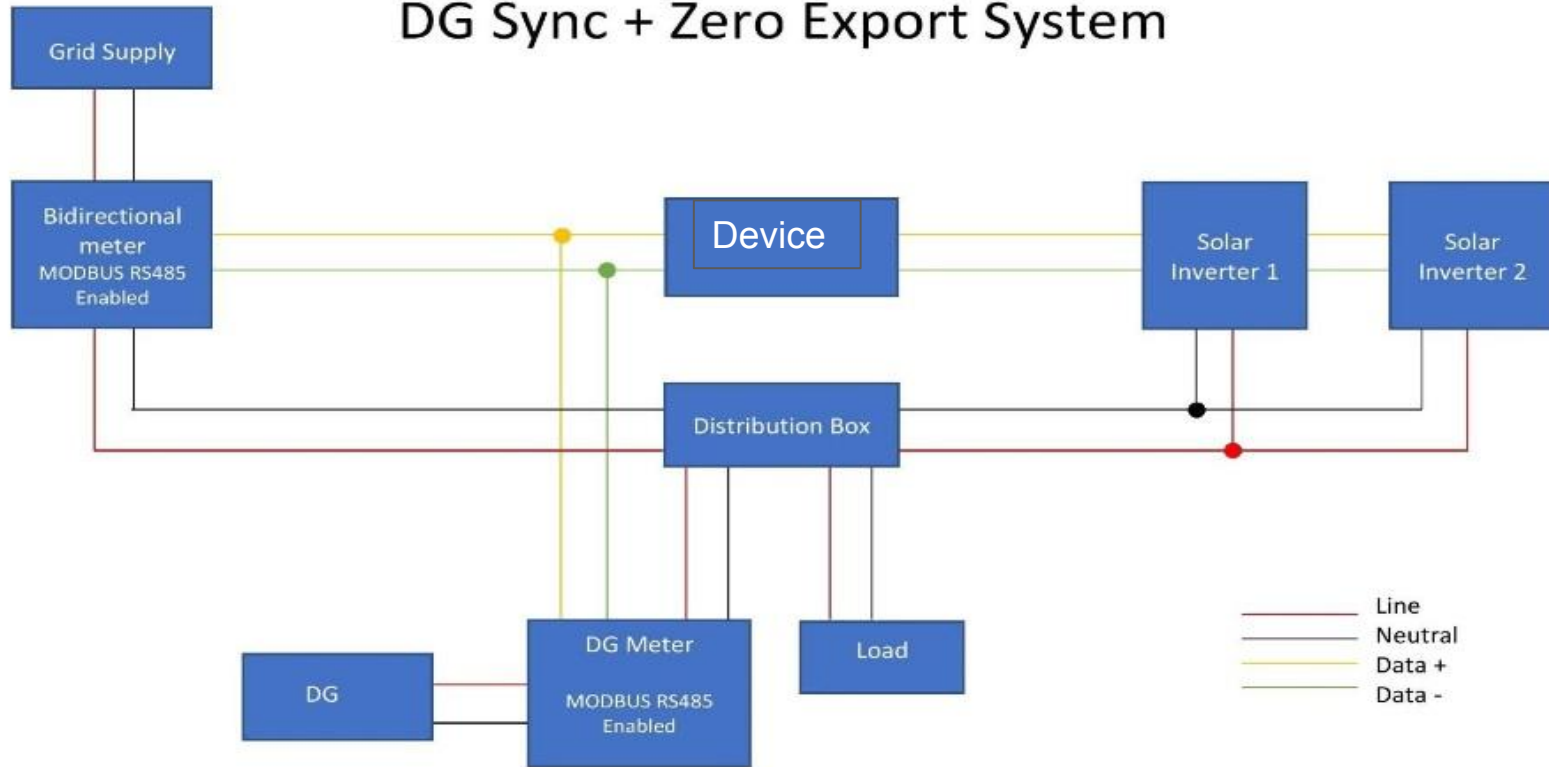


ZERO EXPORT SYSTEM FOR SOLAR



DG SYNC AND ZERO EXPORT FOR SOLAR

DG Sync + Zero Export System



ZERO EXPORT & DG SYNC SYSTEM

1. Ethernet Switch
2. IONEST.X /IONEST.D/IONEST.XD
3. SMPS/UPS
4. Circuit Breaker/MCB
5. Terminals for mounting com cable
6. Terminals for mounting power cable
7. HMI Panel- Optional
8. MFM Panel -Optional*
9. Sensors & Transducers - Optional*
10. Enclosure-IP55/66/67*
11. Enclosure- Sheet Steel/ Polycarbonate*

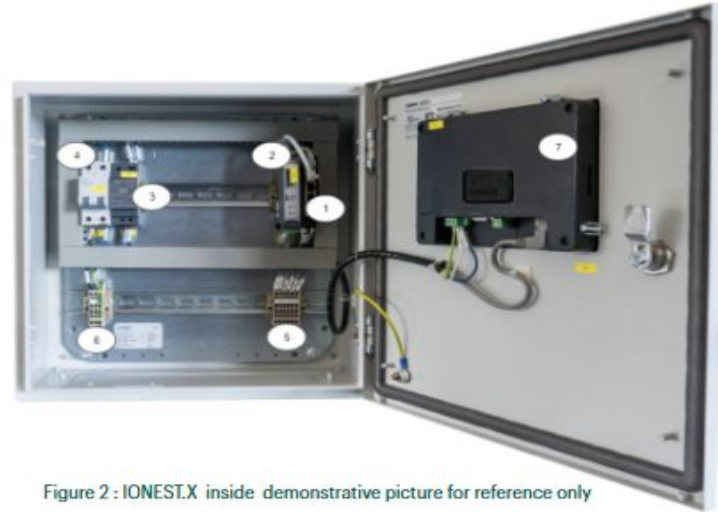


Figure 2 : IONEST.X inside demonstrative picture for reference only

SOLAR CAPEX vs OPEX (RESCO)



CAPEX



System Installer

Installs the solar power system at customer's site.

Install the solar power system



Solar Power Plant

CAPEX is the most common type of rooftop deployment in India.

Generate power with the help of solar energy



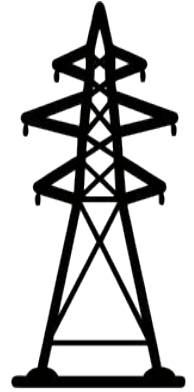
Customer

- Owns the system.
- Aims to reduce his power cost.
- Bears the entire expenditure from installation to O&M.

Excess energy sold to Grid

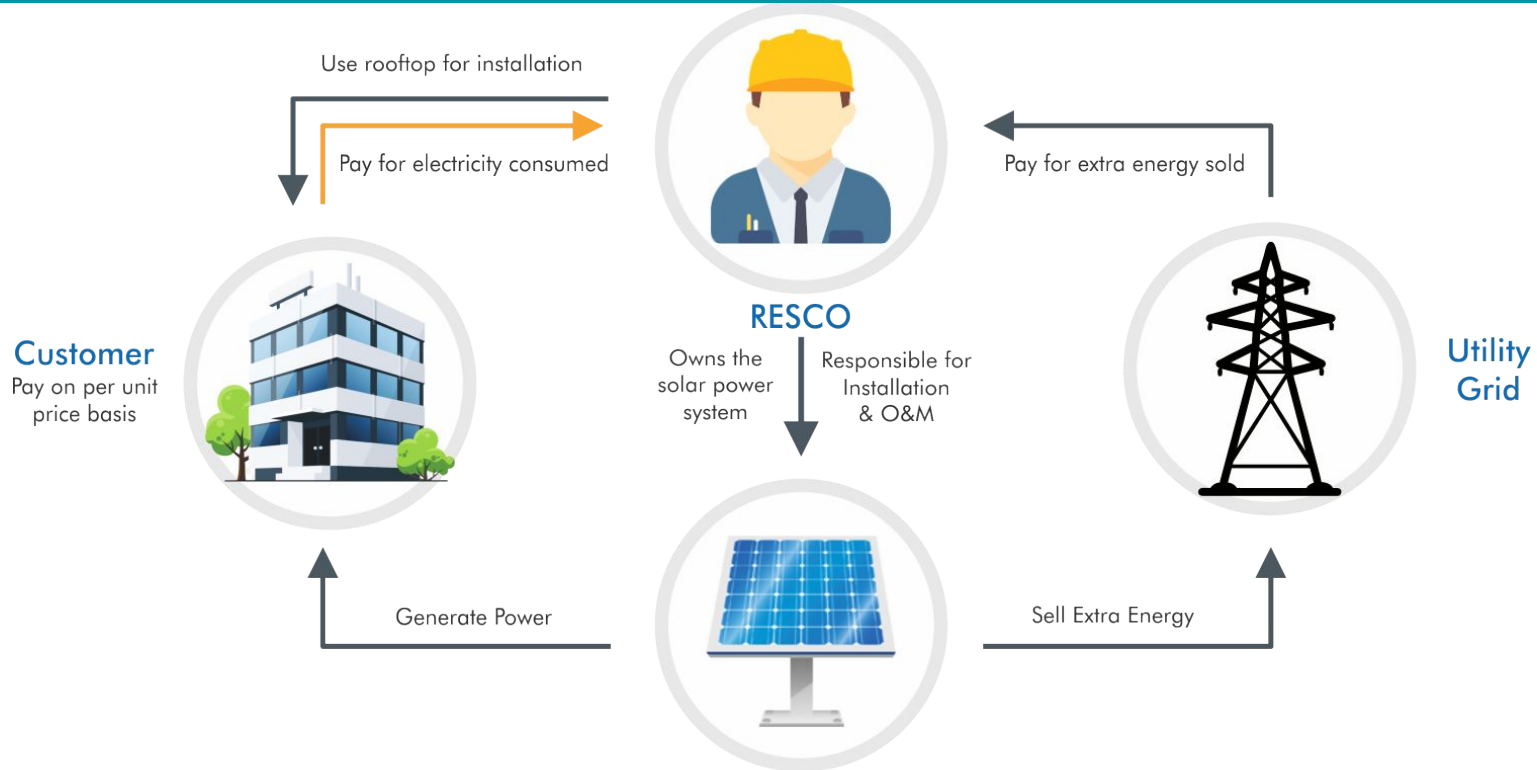


Makes Settlement for excess energy



Utility Grid

OPEX/RESCO

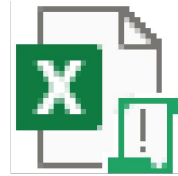


OPEX

CAPEX

OPEX	CAPEX
Customer does not have to finance the plant. Business owner signs a Power Purchase Agreement.	100% investment borne by the customer
The O&M of the plant is also taken care of by the solution provider	Customer pays separately for O&M to manage equipment and downtime losses
Levelized cost of solar is above INR 5/unit	Levelized cost of solar is below INR 5/unit
Customer only pays tariff for the consumption of energy generated and enjoys savings on monthly energy bills from day 1	Customer enjoys cheap electricity and overall savings after cost of installation is recovered. Payback period is around 4 to 5 years
Solution provider bears all the performance and maintenance risk and is incentivized to maximize generation because revenues are linked entirely to generation	Customer bears all maintenance and performance risks
No Tax benefits for customer	Customer can claim tax benefit through accelerated depreciation

CAPEX & OPEX COMPARISON

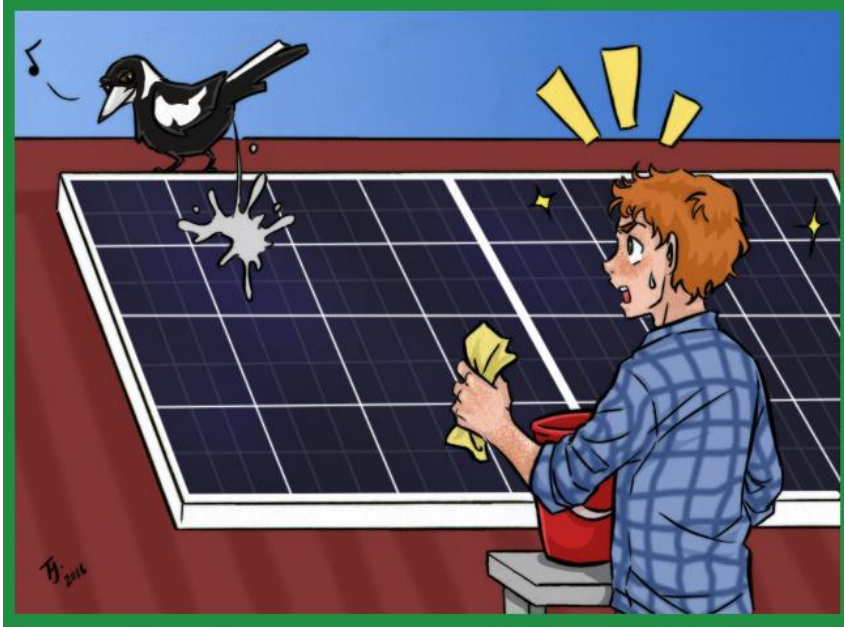


Microsoft Excel
o-Enabled Works

#5

**WAYS TO INCREASE
EFFICIENCY BY DESIGNING
A GOOD CLEANING SYSTEM**

UNDERESTIMATE PART OF SOLAR POWER PLANT



Birds residual over Solar Modules



Dust and Pollution over Solar Module

WHEN SYSTEM REQUIRES CLEANING



MANUAL CLEANING

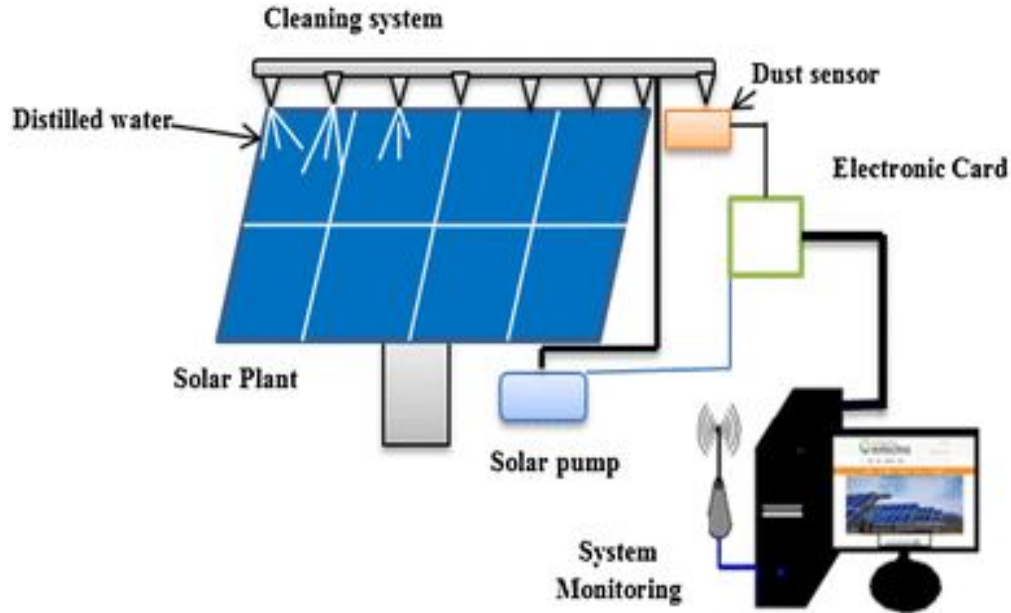


Manual Dry Cleaning



Manual Wet Cleaning

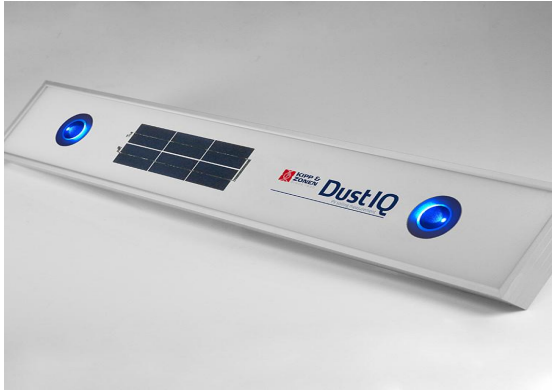
AUTOMATIC CLEANING



SPRINKLERS WATER CLEANING



DUST SENSOR



Dust Sensor provides the information for solar energy plant management systems so that you can decide exactly when and where to clean.

When? - you can set alarms in your system software to indicate when a certain soiling ratio has been reached and cleaning is needed.

Where? - thanks to the cost-effective price, you can install a network of Dust sensor unit to monitor the variation in soiling over across the plant

ROBOTIC CLEANING



System was designed for cleaning the surface of the PV panels automatically to maximize the output of energy composed of a cleaning head and a drive system.

The cleaning head has two cylindrical brushes traveling upward and downward along the panel surface edges by a pair of motorized trolleys to generate a clean PV panel

NANO COATING



- Increase efficiency
- Reduce water usage
- Reduce time

#6

**BEAUTIFUL ROOFTOP
SOLUTIONS CAN ENHANCE
AESTHETICS OF THE
BUILDING**

BEAUTIFUL SOLUTIONS TO CLIENTS



BEAUTIFUL
ROOFTOP SOLUTIONS
THAT REDUCE
ELECTRICITY BILLS.

SOLAR WITH PERGOLA



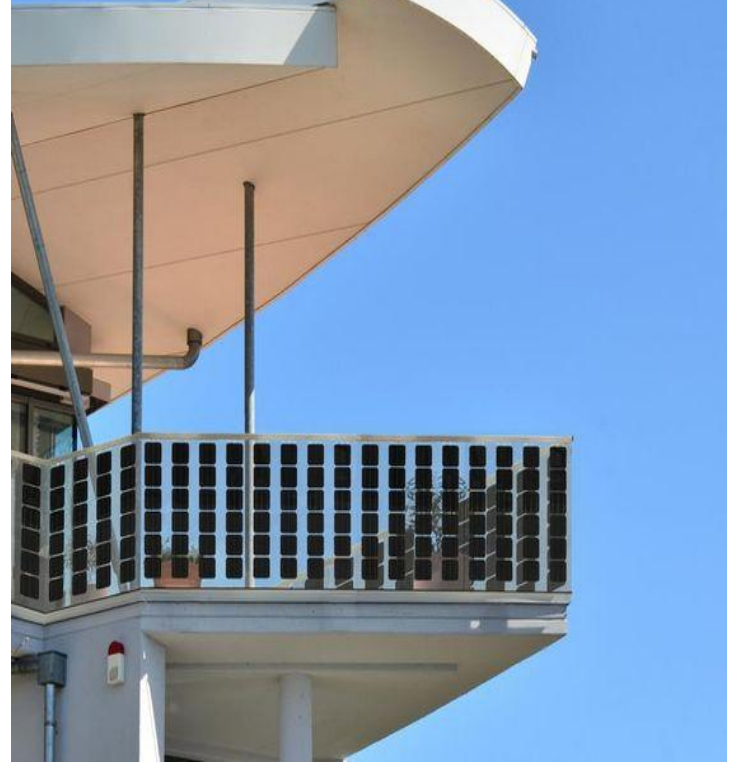
SOLAR WITH PERGOLA



SOLAR AESTHETIC



SOLAR FENCING



SOLAR AESTHETIC FOR RESTAURANTS



SOLAR CAR PARKING



SOLAR FOR SWIMMING POOL



SOLAR FOR EV CHARGING



EV CHARGING STATION WITH SOLAR POWER PLANT



TESTIMONIAL

“I am extremely Happy with my system . My bill is zero . I have already recovered my investment . I did not want to have excess units to be given to grid , so I bought an E bike ,which I charge with my solar system , so now I am travelling free . Thank you Team Bhambri for a wonderful system.”



Sanjeev Solanki

**Nawada
(6Kw)**

BONUS



Know Your Bill Protocol (KYB)

KNOW YOUR BILL (KYB)

Key Aspects of High Electricity Bill

- Maximum Demand (MDI)
- Power Factor (PF)



ELECTRICITY UNIT

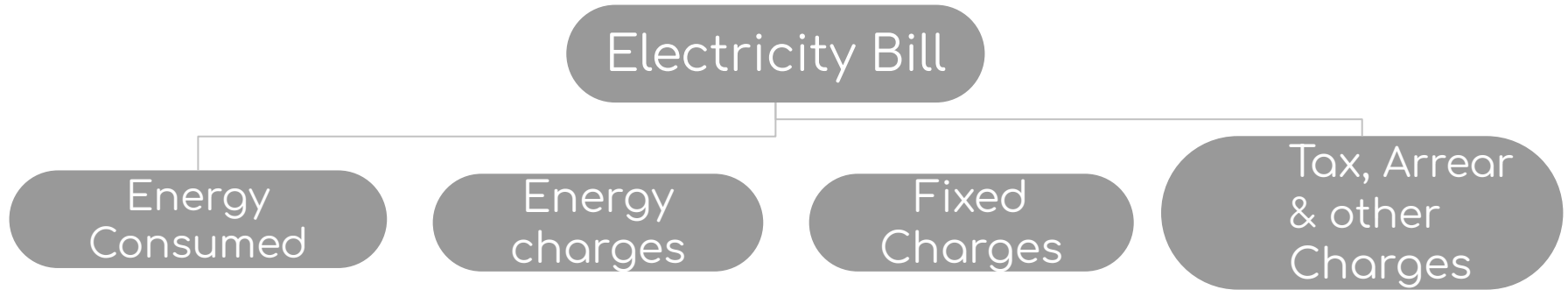
Electrical Energy = input power (Kw) x Time (Hr)

Standard unit of electrical energy is KWH

Amount of power consumed in one hour is known as unit

1 Unit = 1 KWH

ELECTRICITY BILL ANALYSIS



Energy Consumed = Present Reading (kwh) - Past Reading (Kwh)

Fixed Charges = connected Load (Kw) X Load Fixed Charges

ELECTRICITY UNIT SLAB

S. No.	CATEGORY	FIXED CHARGES	ENERGY CHARGES				
1	DOMESTIC						
1.1	INDIVIDUAL CONNECTIONS		0-200	201-400	401-800	801-1200	>1200
			Units	Units	Units	Units	Units
A	Upto 2 kW	20 Rs./kW/month	3.00 Rs./kWh	4.50 Rs./kWh	6.50 Rs./kWh	7.00 Rs./kWh	8.00 Rs./kWh
B	> 2kW and ≤ 5 kW	50 Rs./kW/month					
C	> 5kW and ≤ 15 kW	100 Rs./kW/month					
D	>15kW and ≤ 25 kW	200 Rs./kW/month					
E	> 25kW	250 Rs./kW/month					
1.2	Single Point Delivery Supply for GHS	150 Rs./kW/month	4.50 Rs./kWh				
2	NON-DOMESTIC						
2.1	Upto 3kVA	250 Rs./kVA/month	6.00 Rs./kVAh				
2.2	Above 3kVA	250 Rs./kVA/month	8.50 Rs./kVAh				
3	INDUSTRIAL	250 Rs./kVA/month	7.75 Rs./kVAh				
4	AGRICULTURE	125 Rs./kW/month	1.50 Rs./kWh				
5	MUSHROOM CULTIVATION	200 Rs./kW/month	6.50 Rs./kWh				
6	PUBLIC UTILITIES	250 Rs./kVA/month	6.25 Rs./kVAh				
7	DELHI INTERNATIONAL AIRPORT LTD. (DIAL)	250 Rs./kVA/month	7.75 Rs./kVAh				
8	ADVERTISEMENT & HOARDINGS	250 Rs./kVA/month	8.50 Rs./kVAh				
9	TEMPORARY SUPPLY						

ELECTRICITY BILL READING

Sanctioned Load

MDI

Power Factor

Fixed Charges

BSES BSES Rajdhani Power Limited

Bill of Supply for Electricity

Due Date (बिल तिथि): 13-09-2017

Name: SURYI SOLANKI
 Billing Address: S/O LATE DHARAM BEER 6/F HOUSE NEAR POLE NO NEW LINE VILL MATI NEAR MANOHAR NEW DELHI 110049
 Mobile / Tel. No: 8010095192
 District / Division: Dwarka
 Meter Reading Status: OI
 Bill Month: SEP-17
 Bill Date: 26-08-2017

Sanctioned Load : 7.00 (KW)
 Contract Demand : MDI : 2.34 (KW)
 Power Factor : 1.000
 Pole No. : DWKPV01251
 Walking Sequence : MATD1012A2AA
 Cycle No. : 11
 Tariff Category : Domestic (Residential)

CA No. : 103370891
 Energisation Date : ---
 Meter Type : IPSK
 Supply Type : LT
 Bill No. : 100453220395
 Bill Basis : Actual

Customer Care Centre No. (ग्राहक सेवा केंद्र क्र. 39 99 97 07)

Meter No. (मीटर नं.)	Unit (यूनिट)	Billed Consumption (Current) (बिलिंग के लिए वर्तमान)	Billed Consumption (Previous) (बिलिंग के लिए पिछले)	Multiplication Factor (गुणक)	Current Consumption (वर्तमान)
40333401	KWH	2871.00	2627.00	1.00	244.00
40333401	KW	2.34	2.34	1.00	2.34

Billing Details (बिल का विवरण): 25-07-2017 to 23-08-2017

Current Period Charges (वर्तमान अवधि का शुल्क) 25-07-2017 to 23-08-2017

Fixed Charges "A"	Consumption Measured During (मापी गई उपभोग)	Energy Units Consumed (इकाई की संख्या)	Blockwise Energy Charge (ब्लॉक-वार ऊर्जा शुल्क)	PPAF Amount (PPAF राशि)	Tax (टीडीएस)	TOU Surcharge (TOU सजावट)	TOU Rebate (TOU छूट)	Surcharge @ 1% on Energy Charge (ऊर्जा शुल्क पर 1% सजावट)	Electricity Tax @ 5% on Energy Charge (ऊर्जा शुल्क पर 5% बिजली कर)	Total Amount (कुल राशि)
880.00	194.00	4.60	776.00					99.43	57.07	1403.28
	50.00	5.56	297.60							
PPAF on Fixed Charge = "D"										
Total Units = 244		Total (B) = 1073.60		Total (C) =		Total (D) =				

Past Dues / Refunds / Subsidy (पिछला बकाया / वापसी / सहायता)

Amount (राशि)	Period to which it relates (इस अवधि से संबंधित है)	Late Payment Surcharge (LPSC) (दिले में बुराया पर सजावट)	Other Charges, if any (अन्य शुल्क, यदि हो तो)	Total Charges Payable (कुल देय शुल्क)	Refunds / Subsidy (वापसी / सहायता)	Net Amount Payable (कुल देय राशि)
			0.34	1400.60	(536.75)	863.85

Bill Amount Payable (बिल देय राशि)

₹ 860.00

Due Date of Payment (भुगतान देय तिथि): 13-09-2017

If payment is made after the due date, LPSC for the delay, shall be charged in the next bill. (यदि भुगतान देय तिथि के बाद भुगतान किया गया है, तो अगले बिल में देय तिथि के लिए देय राशि का शुल्क चार्ज किया जाएगा.)

Current Reading

Previous Reading

Unit

Bill Amount

MAXIMUM DEMAND INDICATOR

- This is the maximum power value, usually the average of 15 minutes, reached during the billing period.
- Once the value is higher than the Sanctioned load/contracted power, the customer will pay a penalty on the electricity bill.

SANCTIONED LOAD AND MDI

Bill of Supply for Electricity

KH.NO.1507, 074	Sanctioned Load	: 45.00 (kVA)
	Contract Demand	:
	M D I	: 60.00 (kVA)
	Power Factor	: 0.991
	Pole No.	: SKTPE522S1
	Meter Reading Status	: DL
	Cycle No.	: 0E

EXAMPLE

Approved Load - 100KW

Extra Load - 50KW

Total Load - 150KW

BILL CALCULATION

Total bill= Total unit charges + fixed charges

Fixed Charge up to Approved Load

For 100kw

Fixed charges= $250 \times 100 = \text{Rs } 25,000$

Fixed Charge more than Approved load

For 150kw

Fixed charges= $250 \times 100 = \text{Rs } 25,000$

Penalty = Excess load x fixed charge x 30%

Penalty = $50 \times 250 \times 30\% = \text{Rs } 16,250$

Fixed charge = $25,000 + 16,250$

Total Fixed charge = $\text{Rs } 41,250$

THINGS TO DO WHEN MDI IS EXCEEDING

- You do profiling ,watch when does the load goes beyond sanctioned load
- If it goes too high for continuous number of days then you need to get the load enhanced
- If it is too less than the sanctioned load(below 80%) then you should get the sanctioned load reduced.
- If the increase is just 10-15% then you can set up an auto cut off of non essential load the moment it exceeds Sanctioned Load

TESTIMONIAL



Thank you Ruchi.

It was a real eye opener. We were totally unaware that we are draining atleast 20,000 per month, despite considering ourselves very progressive.

You are really doing appreciable work

More powers to you

**Mr. Amit (Director)
Agromech pvt. ltd.**

POWER FACTOR

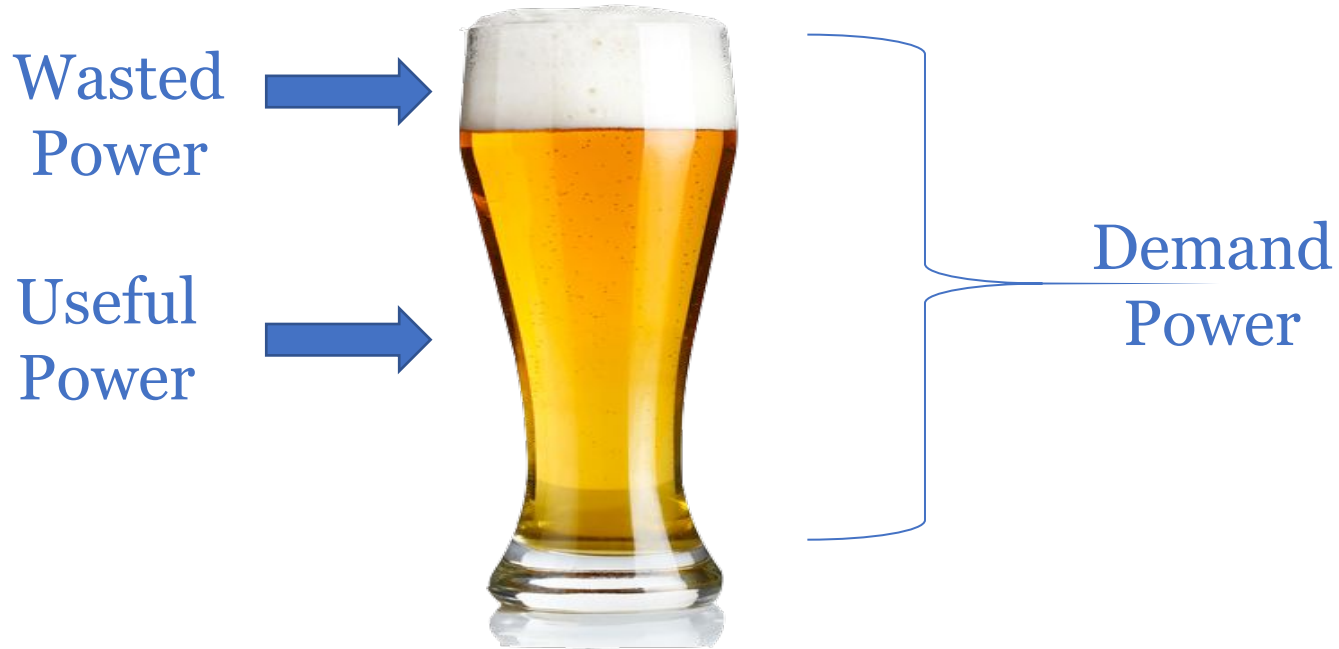
A



B



EXAMPLE



POWER FACTOR CALCULATION

Power factor (PF) is the ratio of true power, measured in kilowatts (kW), to apparent power, measured in kilovolt amperes (kVA). Apparent power, also known as demand, is the measure of the amount of power used to run machinery and equipment during a certain period. It is found by multiplying (kVA = V x A). The result is expressed as kVA units.

$$\text{Power Factor} = \frac{\text{True Power in Kw}}{\text{Apparent Power in Kva}}$$

HAPPY CUSTOMER



BEFORE POWER FACTOR

Meter Reading and Other Details			
Description	New	Old	Units
Reading Date	01/01/2019	01/12/2018	
Reading KWH	388581.0000	382569.0000	6012
Reading KVAH	420171.0000	413175.0000	6996
MDI Reading	19.220		
General Hours	309009.00	303946.00	5063.00
0530-0800 Hrs	28676.00	28184.00	492.00
1730-1800 Hrs	9570.00	9408.00	162.00
1800-1830 Hrs	10301.00	10137.00	164.00
1830-1900 Hrs	10496.00	10326.00	170.00
1900-2100 Hrs	34950.00	34305.00	645.00
2100-2200 Hrs	17169.00	16869.00	300.00
TOD 8	0.000	0.000	0.000

$$PF = \frac{\text{True Power in Kw}}{\text{Apparent Power in Kva}}$$

$$PF = \frac{6012 \text{ Kwh}}{6996 \text{ Kvah}} = 0.85$$

AFTER POWER FACTOR

Meter Reading and Other Details			
Description	New	Old	Units
Reading Date	01/05/2019	01/04/2019	
Reading KWH	411671.0000	404232.0000	7439
Reading KVAH	446216.0000	438775.0000	7441
MDI Reading	18.670		
General Hours	328054.00	322562.00	5492.00
0530-0800 Hrs	30910.00	30295.00	615.00
1730-1800 Hrs	10115.00	9958.00	157.00
1800-1830 Hrs	10839.00	10681.00	158.00
1830-1900 Hrs	11019.00	10874.00	145.00
1900-2100 Hrs	36997.00	36440.00	557.00
2100-2200 Hrs	18282.00	17965.00	317.00
TOD 8	0.000	0.000	0.000

$$PF = \frac{\text{True Power in Kw}}{\text{Apparent Power in Kva}} \quad PF = \frac{7439 \text{ Kwh}}{7441 \text{ Kvah}} = 0.99$$

TESTIMONIAL

“Ruchi visited our convent & school, she saw all our bills. She explained what was best for minimizing the bill at each place & helped us to get the govt subsidies. Ruchi is very friendly and professional. The solar system installed by Bhambri solar has exceeded our expectations and we are very happy with her and her team.”



TESTIMONIAL

“Hum dil khol kr AC chalte hai din raat aur bill humara zero aa raha hai. Thank you Ruchi”



Gurpreet Khurana
(Director of Le Vastram)

ZERO BILL



Date of Print Out: 17.07.2020 BSES Rajdhani Power Ltd.
Bill of Supply for Electricity
 GSTIN : 07AAGC31871Z23 **Due Date:**

Name : NARINDER PAL SINGH KHURANA & GURPREET SINGH KHURANA
 Billing Address : S/O GURBACHAN SINGH & S/O
 NARINDER PAL PLOT NO- M-116 S/F BLOCK-M VIKAS
 PURI NEW DELHI 110018

Sanctioned Load : 5.00 (kW)
 Contract Demand :
 M D I : 4.74 (kW)
 Power Factor : .997
 Pole No. : VKPPJ314S1
 Meter Reading Status : DL
 Cycle No. : 0N

CA No. : 152898674
 Energisation Date : 20.07.2019
 Meter Type : 30SK
 Supply Type : LT
 Bill No. : 100036154405
 Bill Basis : Actual
 O.D. No. : R2010189206225
 CCTV Tagged : No
 Street Light Tagged : No
 W-Fi Tagged : No

Mobile / Tel. No. : 9810699931
 Email ID :
 District / Division : Vikas Puri
 Walking Sequence : VKP010158Q0BS
 Bill Month : JUL-20
 Bill Date : 15-07-2020

Tariff Category : Domestic [Residential]

Customer Care Centre No. 39999707

Meter Details in Annexure

Billing Details		Current Period Charges (02-06-2020 to 08-07-2020)											
Fixed Charges (A)	Sub-wise Energy Charges	PPAC on Fix Chg(G)	CCTV Units	Street Light Units	W-Fi Units	TOTAL ->	PPAC on Fix Chg(G)	CCTV Bill Amount (I)	Street Light Points (B)	W-Fi Units			
	Conts. Measrd During										Billed Units	Unit Rate	Amount (B)
506.19	1.23	24.30									24.50	434.34	800.97
							Penon Surcharge @3.80% (F)						
							CCTV Bill Amount (I)						
							Street Light Points (B)						
							W-Fi Units						
							TOTAL ->						
Past Dues / Refunds / Subsidy													
Amount		Period to which it relates		Late Payment Surcharge (LPSC)		Other Charges, if any *		Total Charges Payable		Subsidy / Rebate		Net Amount Payable	
(214.46)				12.60		0.00		599.11		0.00(1500.97)		(201.86)	
Amount not immediately payable, if any.			Rs. 0.00		Reasons		Bill Amount Payable						
Service connection development charges paid			Rs. 14364.99		Security Deposit with DISCOM		Rs. 0.00						
Interest accrued for FY 2019-20 already adjusted in bill No.100095746337 (generated for the period 12-03-2020 to 1-04-2020).			Rs. (218.20)				Due Date of Payment						
Interest for FY 2020-21 will be adjusted in your first bill to be generated in FY 2021-22							If payment is made after the due date, LPSC for the delay, shall be charged in the next bill.						

Last payment Rs. 15700.00 received on 24-03-2020 Payment Accounted Upto: 12-07-2020
 The connection shall be liable for disconnection on non payment of all dues(including arrears of previous bill(s)) by due date, after notice as per Section 56(1) of the Electricity Act, 2003.



Meter Details Annexure

BSES Rajdh



CA No. : 152898674
 Bill No. : 100036154405
 Bill Date : 15-07-2020
 Name : NARINDER PAL SINGH KHURANA & GURPREET SINGH KHURANA
 Billing Address : S/O GURBACHAN SINGH & S/O NARINDER PAL PLOT NO- M-116 S/F BLOCK-M VIKAS PURI NEW DELHI 110018

Net Meter Consumption Details (Date of Reading : 08-07-2020)

Total Solar Generation Units	For The Billing Period		Cumulative Generation in FY		Solar Installation Details			Date of Installation		Capacity kWp			
		4768		5450					02-01-2020		10.73		
B/F Units (If any)	Export Reading			Import Reading			Net Difference			Moderated Units			C/F Units (If any)
	Normal	Peak	Offpeak	Normal	Peak	Offpeak	Normal	Peak	Offpeak	Normal	Peak	Offpeak	
0	3116	0	0	1710	0	0	(1406)	0	0	0	0	0	(1406)

(Consumption in the above table are in kWh/kVAh, as applicable)

Meter No	Units	Billed Consumption (Current)		Billed Consumption (Previous)		Multiplication Factor	Current Consumption	
		Date of Meter Reading	Reading	Date of Meter Reading	Reading		Days	Units
47001468	kWh	08-07-2020	6,952.50	01-06-2020	2,184.59	1.00	37	4,768.00
47001468	kW	08-07-2020	8.26			1.00		8.26
47001468	kVAh	08-07-2020	6,953.30	01-06-2020	2,185.30	1.00	37	4,768.00
47001468	kVA	08-07-2020	8.26			1.00		8.26
48650966	kWh	08-07-2020	3,321.50	01-06-2020	1,611.58	1.00	37	1,710.00
48650966	kW	08-07-2020	4.74			1.00		4.74
48650966	kVAh	08-07-2020	3,329.50	01-06-2020	1,613.09	1.00	37	1,716.00
48650966	kVA	08-07-2020	4.74			1.00		4.74
48650966	kWh_N	08-07-2020	4,922.00	01-06-2020	1,805.83	1.00	37	3,116.00



TESTIMONIAL

“Thank you Ruchi, with your suggestions and strategies I was able to reduce my electricity bill from Rs 20,000 to Rs 6,000 a month.”



Mr. Solomon
(Director of Solo sales)

BEFORE



A/C No : 2469299591

Name - SMT JALTI SINGH W/O R.K.S SINGH		Bill No - 2469275483	Bill Due Date - 22/05/2020 04:41:23 PM
Address - A-16 SEC-31 (B) NAGAR Noida (UP 201301) IND		Bill Date - 14-MAY-2020	Disconnection Date - 07-JUN-2020
Circle - CEN133	Block No - 14/022/19531	Bill Month - MAY-2020	
Division - DV141022	SC No - PV_263507		
Sub-Division - SDD410222	Account No - 2469299591		
K.No.	Mobile No.		

Meter Badge No.	Meter No.	Ratior d Omd	Previosn	Current	DIF	M.F	Billed Units	Period (Months)	Meter Read	Meter Status	
1947528	7947528	3	OK	05-AMAY-20 17324	14-AMAY-20 19410	2090	1	2090	2	OK	A
1947528	7947528	3	OK				1	2090	2	OK	A

Assesment Units		Adjustment Units		Total Billed Units
KWH	KVAH	KVA		2090

Category	Amount(₹)	Units	Rate	Amount	Description	Tariff Code	Connection Details	LSDF(1)
Arrears	4670.47						Supply Type	10
Previous Late Paymet Surcharge	0.00	3000	5.5	16500.00	Energy Charge (ST-10B)		Sanctioned Load	8.00 KWH
Miscellaneous Arrears	0.00				Energy Charge (ST-10B)		Security Deposit (₹)	0.00
Total	4670.47				Energy Charge (ST-10B)		Inoperative Balance (₹)	0
					Energy Charge (ST-10B)		Additional Security	0
					Energy Charge (ST-10B)		Security Deposit Interest	0.00

Bill Details (₹)		Bill Details (₹)		Last Payment Status	
Electricity Charges	13652.00	Instalment Amount	0.00	Amount (₹)	6005.00
Fixed/Churned Charges	1200.00	Arrears/Instalment Number		Receipt No.	2469299591
Rural/Dept Rebate	0.00			Receipt Date	06-FEB-2020
Load Factor Rebate	0.00			Payment Details	6005.00
Power Loan Rebate	0.00				
Amount for Min Charges	0.00				
Distortion Charge	0.00				
Solar Heater Rebate	0.00	Total Payable	20990		
Fuel Surcharge	0.00	Amount (₹)			
LT Metering surcharge	0.00				
Surcharge exceeding Demand	0.00				
Capacitor Surcharge	0.00	Payable Amount in words	Twenty Thousand Three Hundred Ninety Three Rupees Only		
Current Bill LPSC	214				
Electricity Duty	748.60				
Regulatory Surcharge1	0.00				
Regulatory Surcharge2	0.00				
Deferred F.C.	0.00				
Provisional Adjustment	0.00				
Tariff Adjustments	0.00				
Debit	0.00				
Credit	0.00				
Current Payable Amount(₹)	18722.74				

Book No.	Receipt No.	Counter No.	Old Acct No.	Acct No.	Bill No.
141022219531	24692997320	EBPPO1		2469299591	246929756483
Recvd Amount (₹.)	Parity	Chapter No.	Chapter Dt.	Sm.	Strike
20349	198907124807				
(Total Amt in Figures)	20349	(In Words)	Twenty Thousand Three Hundred Forty Nine Rupees Only		

Customer Name	Received By	Collection Date	Due Date
EBPP Techprocess	SOMYASAI	29-MAY-20	31-MAY-2020
Transfer Source	Cashier Signature		Total Amount Payable by due Date(₹)
			20393

NCTE Pay your Bill online www.upgnonline.com Pay DD/Cheque in favour of EXECUTIVE ENGINEER - EUDD-2 NOIDA Please update your Mobile #

DIAL TOLL FREE 1912 FOR BILL & SUPPLY COMPLAINTS

on Date		Due Date	31-MAY-2020
Y-20	Cashier Signature	Total Amount Payable by due Date(₹)	20393

DD/Cheque in favour of EXECUTIVE ENGINEER - EUDD-2 NOIDA Please update your Mobile #

EE 1912 FOR BILL & SUPPLY COMPLAINTS

MAY-2020
AMOUNT=Rs.20393/-



AFTER



PASHCHIMANCHAL VIDYUT VITRAN NIGAM LTD.
(CIN: U31200UP2003GOC02745E)
Uda Bhawan, Victoria Park, Meerut (UP) - 250001



A/C No: 2469299591

Name - SMT LALTI SINGH W/O SH R K SINGH Address - A-16 SEC-31 GB NAGAR Noida UP 201301 IND		Bill No: 2469299591	Bill Due Date: 10-JUN-2020
Order - CDR/41022	Book No: 14102291001	Bill Date: 03-JUN-2020	Disconnection Date: 17-JUN-2020
Sub Division - SD/01410222	SC No: PV_203507	Bill Month: JUN-2020	
R No:	Account No: 2469299591		

Meter No.	Meter No.	Record	Bill	Previous	Current	DIFF	M.F	Billed	Period	Meter	Meter
		d	Basis	Read Date	Read	Read Date	Read	Units	(Month)	Read	Status
7947528	7947528	3	OK	14-MAY-20	19410	03-JUN-20	20296	856	1	856	OK
7947528	7947528	3	OK					1	3 KW	1	OK

Assessed Units			Adjustment Units			Total Billed Units		
KWH	KVAH	KVA						
								856

Arrears Details(₹)		EC Calculation				Connection Details	
Category	Amount(₹)	Units	Rate	Amount	Description	Ferril Code	LFY1
Arrears	44.48				Energy Charge (ST-10B)	Supply Type	10
Previous Late Payment Surcharge	-0.27	155	8	950.00	Sanctioned Load	Security Deposit (₹)	6.00 KW
Miscellaneous Arrears	0.00	155	6.5	825.00	Energy Charge (ST-10B)	Inoperative Balance (₹)	0
Total	44.21	300	6.5	1300.00	Energy Charge (ST-10B)	Additional Security	0.00
		398	7	2492.00	Energy Charge (ST-10B)	Security Deposit Interest	0.00

Bill Details (₹)		Bill Details (₹)		Last Payment Status				
Electricity Charge	2017.00	Installation Amount	0.00	Amount (₹)	20349.20			
Fixed Demand Charges	960.00	(Adjustment)		Receipt No	24692991328			
Rural/Expt Rebate	0.00	Number		Receipt Date	29-MAY-2020			
Load Factor Rebate	0.00			Payment Details	20349.00			
Power Loan Rebate	0.00							
Amount for Min Charge	0.00							
Dishonor Charge	0.00							
Solar Heater Rebate	0.00	Total Payable	8521					
Fuel Surcharge	0.00	Amount (₹)		Previous Consumption Pattern				
LT Metering surcharge	0.00	Payable Amount in words	Six Thousand Five Hundred Twenty One Rupees Only	Bill Month	Units (KWH)	Units (KVAH)	Revised	Status
Surcharge exceeding Demand	0.00			MAY-2020	2026	3	3.88	OK
Commodity Surcharge	0.00			MAY-2020	605	3	3.41	OK
Current Bill LPSC	308.80			FEB-2020	882	3	3.41	OK
Electricity Duty	0.00			JUN-2020	106	3	3.19	OK
Regulatory Surcharge1	0.00			DEC-2019	424	3	3.78	OK
Regulatory Surcharge2	0.00			NOV-2019	588	3	3.00	OK
Deferred FC	0.00							
Professional Adjustment	0.00							
Terrif Adjustment	0.00							
Debit	0.00							
Credit	-44.48							
Current Payable Amount(₹)	6479.39							

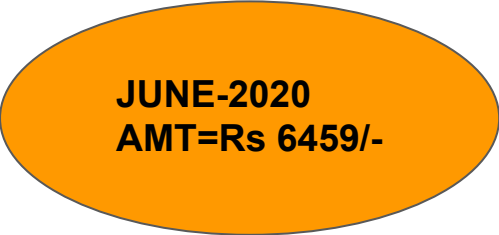
Note: If the Bill is not paid by Due Date, the supply will be disconnected without any further notice.

Book No.	Receipt No.	Counter no.	Old Acct No	Acct No	Bill No.
141022 9591	24692991324	1001		2469299591	24692991324
Recd Amt(In Rs.)	Payable	Chqtd No	Chqtd Dt	Bank	Bank
8521	8521				
(Total Amt In Figure)		(In Words)			
			Six Thousand Five Hundred Twenty One Rupees Only		
Counter Name	Received by	Collection Date	Due Date		
SBMT/TEAM	SBMT/TEAM	04-JUN-20	10-JUN-2020		
Source		Cashier Signature	Total Amount Payable by due Date(₹)		6459

Collection Date	Due Date	Total Amount Payable by due Date(₹)
14-JUN-20	10-JUN-2020	6459

Pay DD/Cheque in favour of EXECUTIVE ENGINEER - EUDD-2 NOIDA Please update your Mobile #

FREE 1912 FOR BILL & SUPPLY COMPLAINTS



NOTE: Pay your Bill online - www.upclnms.com Pay DD/Cheque in favour of EXECUTIVE ENGINEER - EUDD-2 NOIDA Please update your Mobile # EXECUTIVE ENGINEER - EUDD-2 NOIDA

DIAL TOLL FREE 1912 FOR BILL & SUPPLY COMPLAINTS

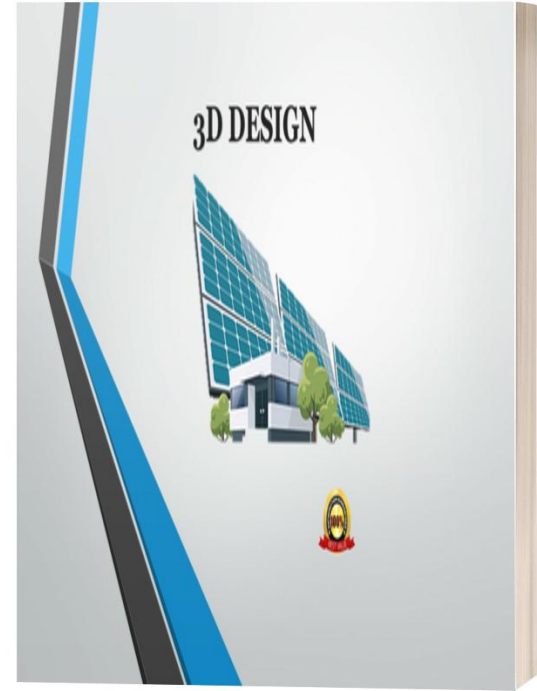


MENTOR'S GIFT

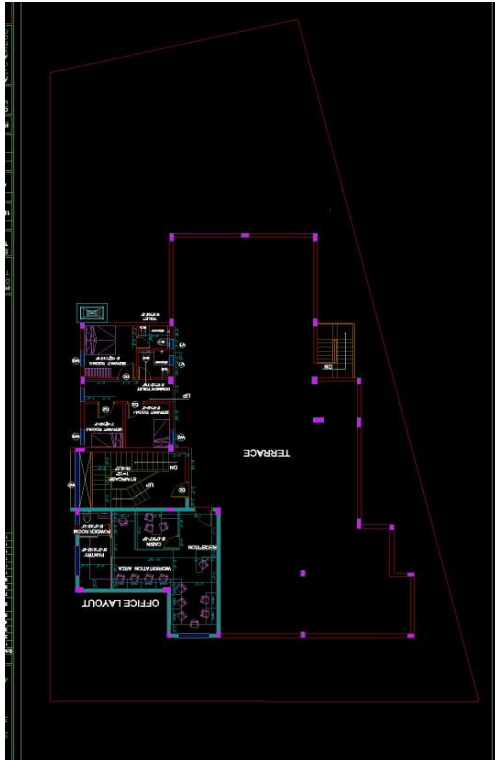
A SPECIAL GIFT FOR YOUR VALUABLE TIME



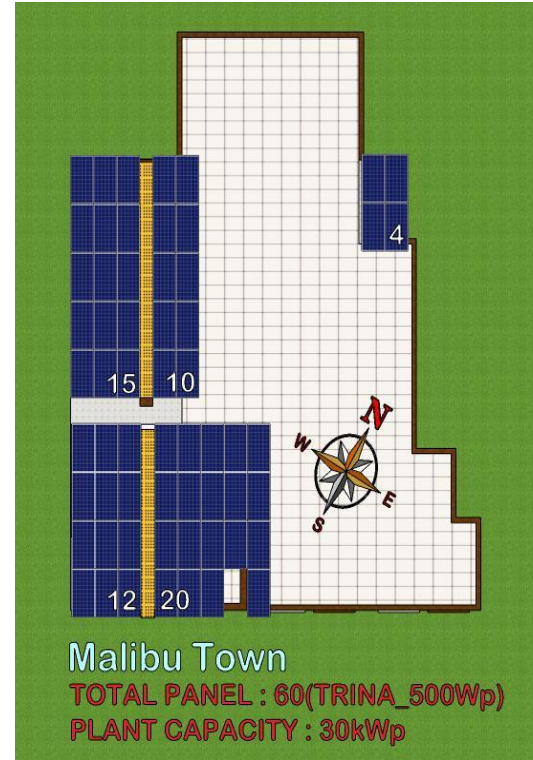
COMPLETE 3D DESIGN



COMPLETE 3D DESIGN



Autocad Design
to 3D Design



Malibu Town

TOTAL PANEL : 60(TRINA_500Wp)

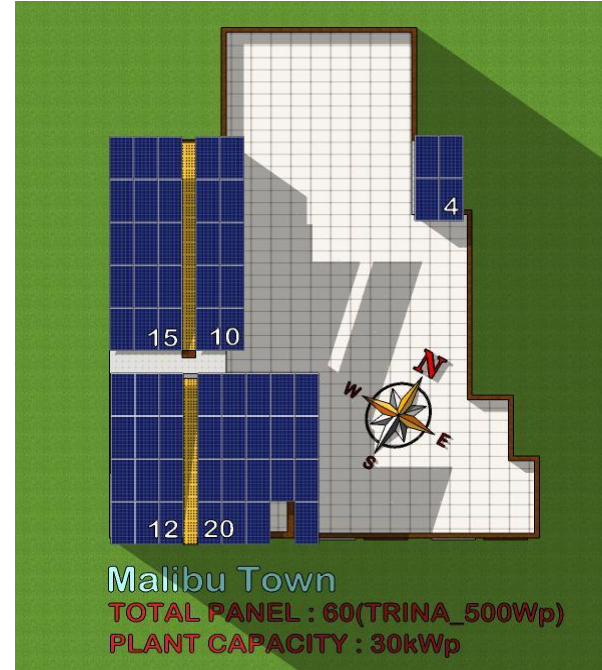
PLANT CAPACITY : 30kWp

SHADOW ANALYSIS



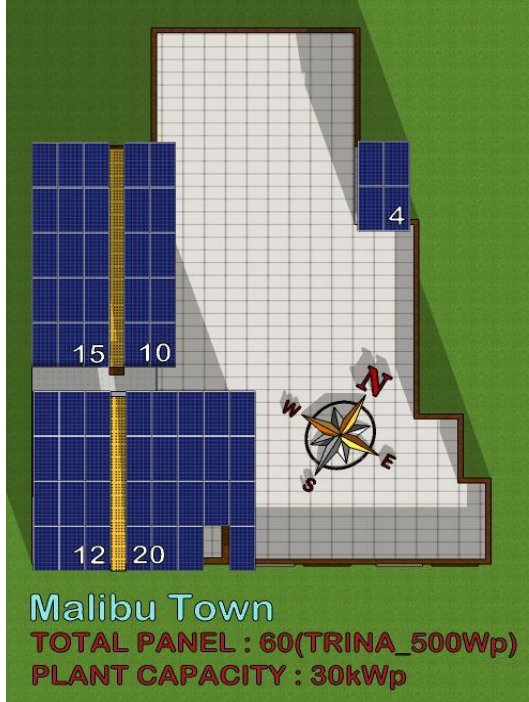
21 JUNE 9:00 AM

Summer Solstice



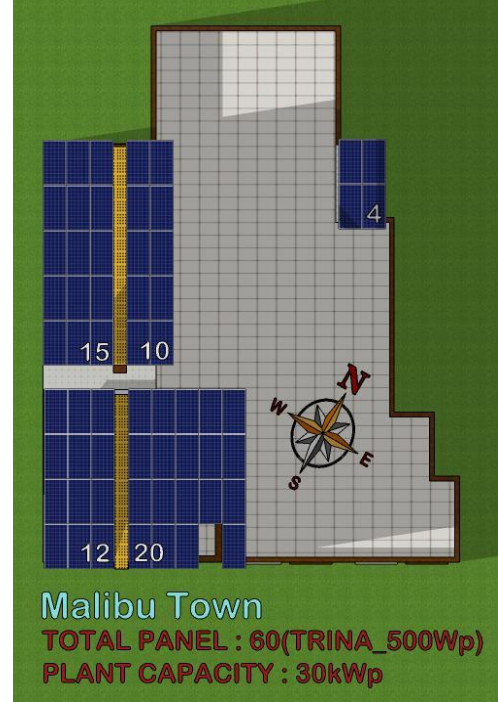
21 JUNE 4:00 PM

SHADOW ANALYSIS



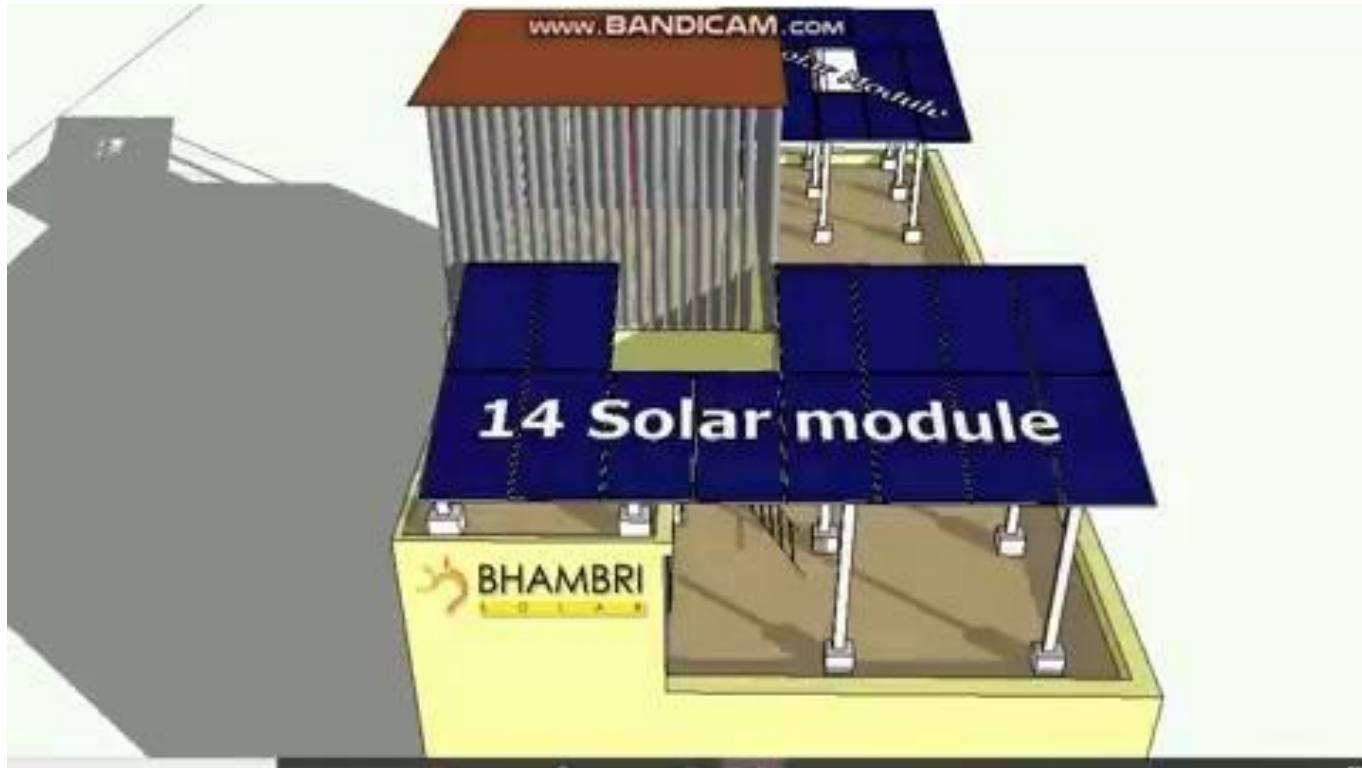
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Winter Solstice

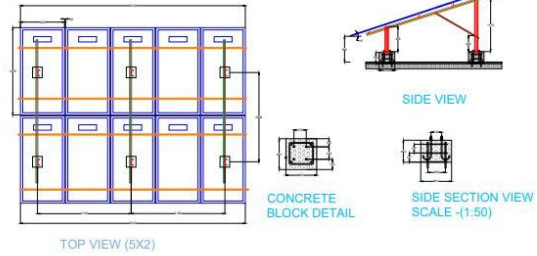
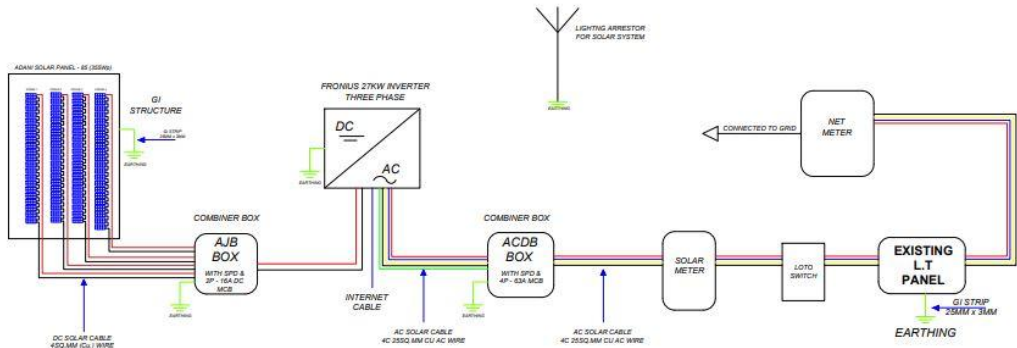


21 DECEMBER 4:00 PM

3D MODELLING OF SOLAR DESIGN



SINGLE LINE DIAGRAM/ LAYOUTS



Sl. No.	Sl. No.	REVISION
1	BASE FLATE	11/10/2019
2	CONCRETE FOUNDATION	11/10/2019
3	COLUMN TO SUPPORT	11/10/2019
4	BRACKET TO COLUMN	11/10/2019
5	BRACKET TO SUPPORT	11/10/2019
6	RAIL TO BRACKET	11/10/2019
7	RAILER TO COLUMN	11/10/2019
8	RAILER TO RAILER	11/10/2019

NOTE:

DESIGN SPECIFICATIONS:

PROJECT TITLE:

CLIENT:

ERC CONTRACTOR:

CONSULTANT:

LOGO	INSTALLER INFORMATION	PROJECT DETAIL	SYSTEM DESCRIPTION			INSTALLER INFORMATION		
	BHAMBRI SOLAR PVT. LTD.	ADDRESS	MODULE	ADANI (355Wp)	TILT ANGLE	-	DATE	-
			QUANTITY	85	AZIMUTH	-	DESIGNED BY	LAKSHAY
		PUSHPANJALI FARMS	SYSTEM (DC)	30Kw	INVERTER	FRONIUS	CHECK BY	
			SYSTEM (AC)	-	QUANTITY	1	SHEET SIZE	A4

Sl. No.	DESCRIPTION	TYPE	QUANTITY	TOTAL QTY	TOTAL NO OF	Box CP	LENGTH	GRADE	DETAILS
			(QTY)	(QTY)	OF BOLT	NO.	(M)		
1	COLUMN TO RAILER	MS200	12	3	36	12	30	B3004	SPRING WASHER
2	RAILER TO BRACKET	MS200	18	3	54	12	30	B3004	SPRING WASHER
3	COLUMN TO BRACKET	MS200	25	3	75	12	30	B3004	SPRING WASHER
4	BRACKET TO COLUMN	MS200	60	3	180	0	30	B3004	SPRING WASHER

GENERATION REPORT WITH DESIGN (SOLAR LAB)

Mr. Nipun

Sultanpur farm

30.26 kWp

(28.48749, 77.15874)



[Click to View 3D Model](#)

The Solar Labs

Generated with The Solar Labs

info@bhambrienterprises.com
9711918862
www.kingsunsolarproducts.com



System Metrics



Module DC Nameplate
30.26 kWp

Load Ratio
1.12

AC Nameplate
27.00 KW

Weather Dataset
Meteonorm

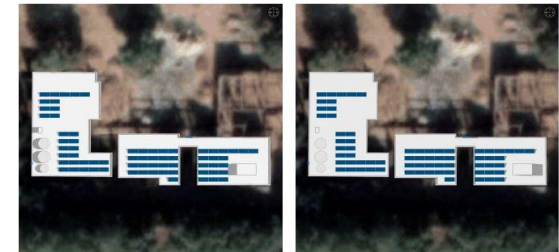
The Solar Labs
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Shadow Analysis

June 21 9:00 AM

June 21 04:00 PM



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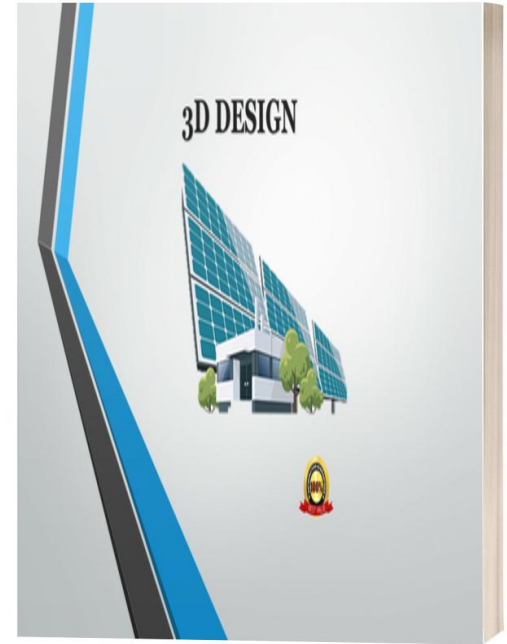


3D DESIGN OFFERING

**Complete 3d design for
your site**

Worth Rs ~~25000/-~~

15000/-

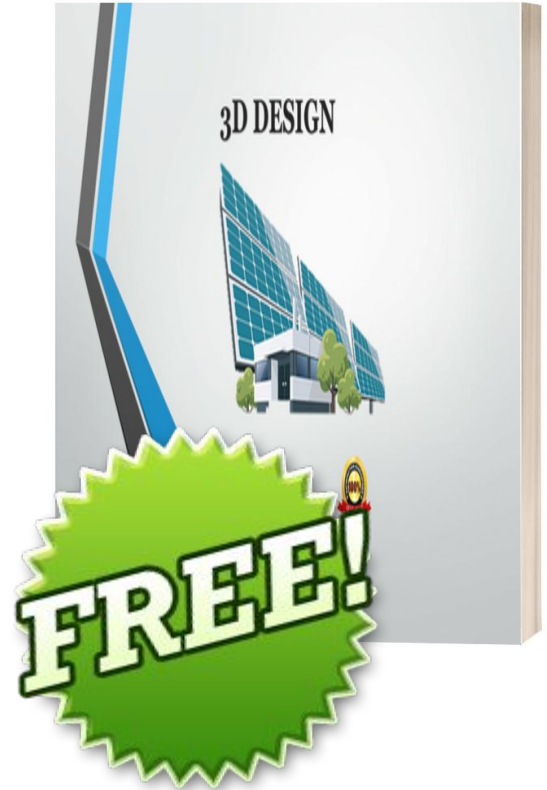


3D DESIGN

ONLY FOR TODAY PRICE IS

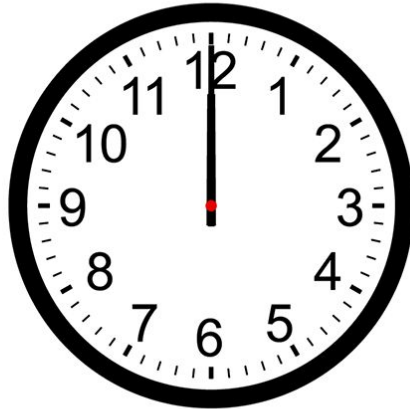
~~15,000/-~~

NIL



FOR FREE 3D DESIGN

REGISTER ON THE LINK BELOW , VALID FOR NEXT **30 MIN**



<https://bit.ly/3elhT8w>

thank
you



From Team

