It's TIME TO GO SOLAR...

EFFICA
ENERGY FOR LIVES

Facing frequent POWER CUT?

Paying huge on ELECTRICITY BILLS?

High running cost for DIESEL GENERATOR?

Ineffective backup solutions on LONGER POWER CUT?

Want to take part in fighting against POLLUTION & CARBON EMISSION?

..... Single answer for all this crisis is .....

GO FOR SOLAR.....Start Generating Green Energy!

ADVANTAGES OF SOLAR SYSTEM :

- 30% capital subsidy from MNRE*
- 80-100% Depreciation benefit *
- 30% Tax saving on investment*
- Saves Diesel & running cost of DG set
- Generation Based Incentives for Domestic users
- Reduces electricity bills and no worry about rising tariff
- Very little maintenance and hence long life span for the system
- Eco-friendly – No noise, No Smoke & No pollution

Conserve Energy...

Preserve Nature !

SOLAR HIGHLIGHTS / KWp*	
Annual Electricity Generation	1500 units/ year
Area required for SPV installation	120 Sqft
CO_2 emission savings	600 kg / annum
Life time of SPV System	25 Years

TN Solar Policy - 6% SPO

Obligated Entities

HT Consumers (HT Tariff I to V)

This category will cover all HT consumers including :

- Special Economic Zones (SEZs)
- Industries guaranteed with 24/7 power supply
- IT parks, telecom towers
- All colleges & Residential Schools
- Building with a built up area of 20,000 sq.m or more

LT Commercial (LT Tariff V)

Exempted Entities

- Domestic Consumers
- Huts
- Cottage and Tiny Industries
- Powerlooms
- LT Industrial
- Agricultural consumers

- **Penalty if SPO not met - Rs.13.40 / kWh (forbearance price of REC)**
- **SPO can be satisfied by**
  - Captive Solar PV Power Plants
  - 3rd party Solar PV power consumption
  - Purchasing REC
  - Purchasing solar PV power from TANGEDCO
- **Net Metering for Domestic Comsumers**

Strategic Partners:

LANCO Always Inspiring

V-GUARD

SMA

DELTA

EMERSON

AEG

Hi-Power

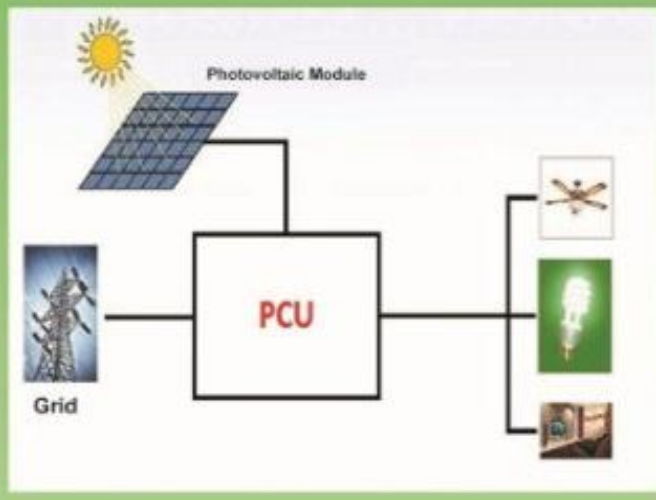
ROCKET

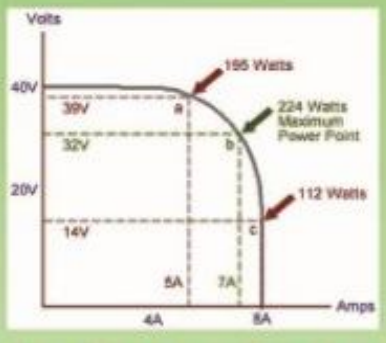
GRID TIED SOLAR SYSTEM

(WITHOUT BATTERY)

Grid Tied solar system consists of number of PV modules arranged in series and parallel combination depending on System voltage and Current requirement. Arrangement of modules in series & parallel makes the PV Array. These arrays feed input DC power to inverters / PCUs that convert it into AC. Inverters are interfaced with LT Panel.

This grid tied system has no battery back -up. Solar energy generated would be fed to the internal grid and consumed on priority and only balance power will be drawn from the grid / diesel generator.





MPPT is an algorithm that included in charge controllers / PCUs used for extracting maximum available power from PV module under certain conditions. The voltage at which PV module can produce maximum power is called 'maximum power point' (or peak power voltage). Maximum power varies with solar radiation, ambient temperature and solar cell temperature.

Buying a Solar System* (A Sample Snapshot)

Project Economics - 100 kWp Rooftop Solar Installation

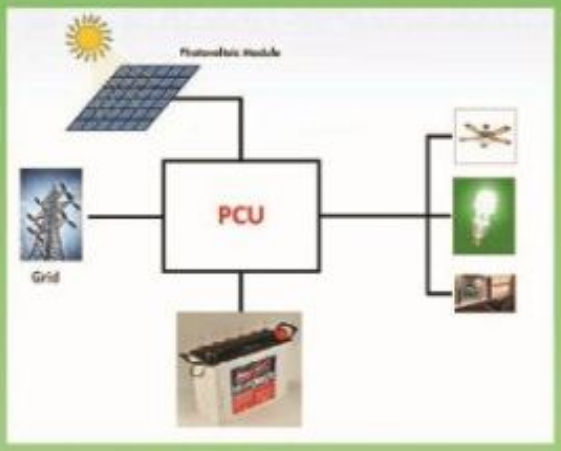
ASSUMPTIONS

- **Project Details**
  - Poly C-Si Modules Fix Tilt
  - Phased capacity addition
- **Annual Generation**
  - 1.55 Lakhs kWh
  - Degrades at 0.5% YoY
- **Tariff and Charges**
  - Grid & Diesel blended Tariff of INR 9.80/kWh (75:25)
  - No other charges for captive off-grid power plant
- **Financing Assumption**
  - Debt. Equity (70:30)
  - Interest rate : 13%, Term : 7 yrs

Parameter	With Subsidy	Without Subsidy
Total Project Cost	(+) INR 100 L	(+) INR 100 L
MNRE Capital Subsidy + Tax Benefit from AD	(-) INR 54 L	(-) INR 32.6 L
Effective Project Cost	INR 46 L	INR 67.4 L
Annual Savings Yr 1	(-) INR 15.1 L	(-) INR 15.1 L
O&M Expenses Yr 1	(+) INR 1.5 L	(+) INR 1.5 L
Effective Savings (Expected) - Yr 1	INR 13.6 L	INR 13.6 L
Payback Period	4 Years	5 Years
Average Cost of Electricity - 25 Years	Rs.7.81 / kWh (Pre Payback) Rs.2.16 / kWh (Post Payback)	Rs.9.83 / kWh (Pre Payback) Rs.2.21 / kWh (Post Payback)

GRID INTERACTIVE SOLAR SYSTEM
(WITH BATTERY)

- SOLAR PV charging batteries and feeding power to the load. In case of solar unavailability, load is fed by Battery.
- If Solar not available and battery goes low, inverter connects to the grid and charges the battery as well as feeds load.
- If Less load, battery fully charged and solar power is available, excess power can be exported to grid.



- 1 KWp to 10 KWp (Recommended)
- 6 hours Average Backup
- Warranty*
  - SPV - 25 Years
  - Inverter - 2 - 5 Years
  - Battery - 3 - 5 Years

SOLAR STREET LIGHT

Comparison between Centralized & Decentralized Solar Lightings:

PARAMETER	CENTRALIZED	DECENTRALIZED
Feasibility	500 Wp/ 5 poles & above	50 – 200 Wp
Supply form	AC is recommended	DC / AC
Installation	Easy & Efficient	Takes More time
Upgradation of conventional lightings to solar	Simple and economical	Not attractive
Operations & Maintenance	Easy	Difficult
Costing	Attractive on higher ratings	Limited with lower ratings
Life of the system	Comparatively More	Less

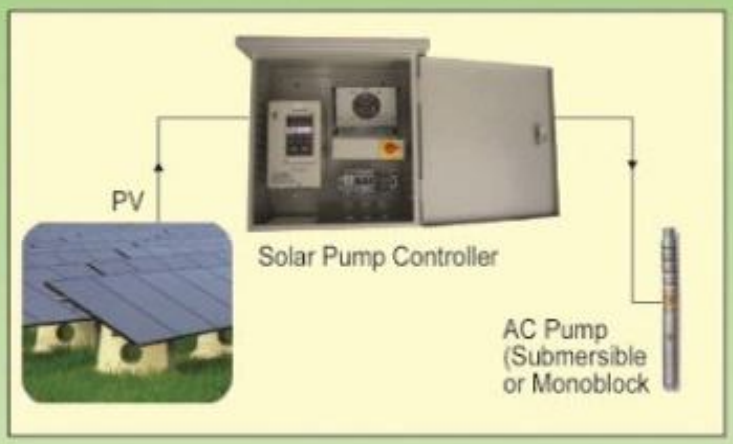
SOLAR PUMP

- 3 HP TO 15 HP
- OPEN WELL / BORE WELL
- OPEN FLOOD / DRIP / SPRINKLER
- AGRICULTURE / INDUSTRIES / DRINKING

SOLAR WATER HEATER

- 60 LPD TO 1000 LPD CAPACITY
- GOVT SUBSIDY AVAILABLE
- BATHING / COOKING / PRE HEATING
- 5 YEARS PERFORMANCE WARRANTY

SOLAR PUMP CONTROLLER



AUTHORIZED DMA / DEALER:

About **EFFICA :**

Effica Energy Pvt. Ltd., is a Leading solar based total solution provider headed by experienced professionals of EPC, PMO, Energy Efficiency, Power plant and O&M.

Enlisted Company by TEDA

We do our projects as per **MNRE** Guidelines

Business network across India

Services Offered : EPC Consulting Training

* Conditions Apply

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