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Harnessing the power of Sun to Energy

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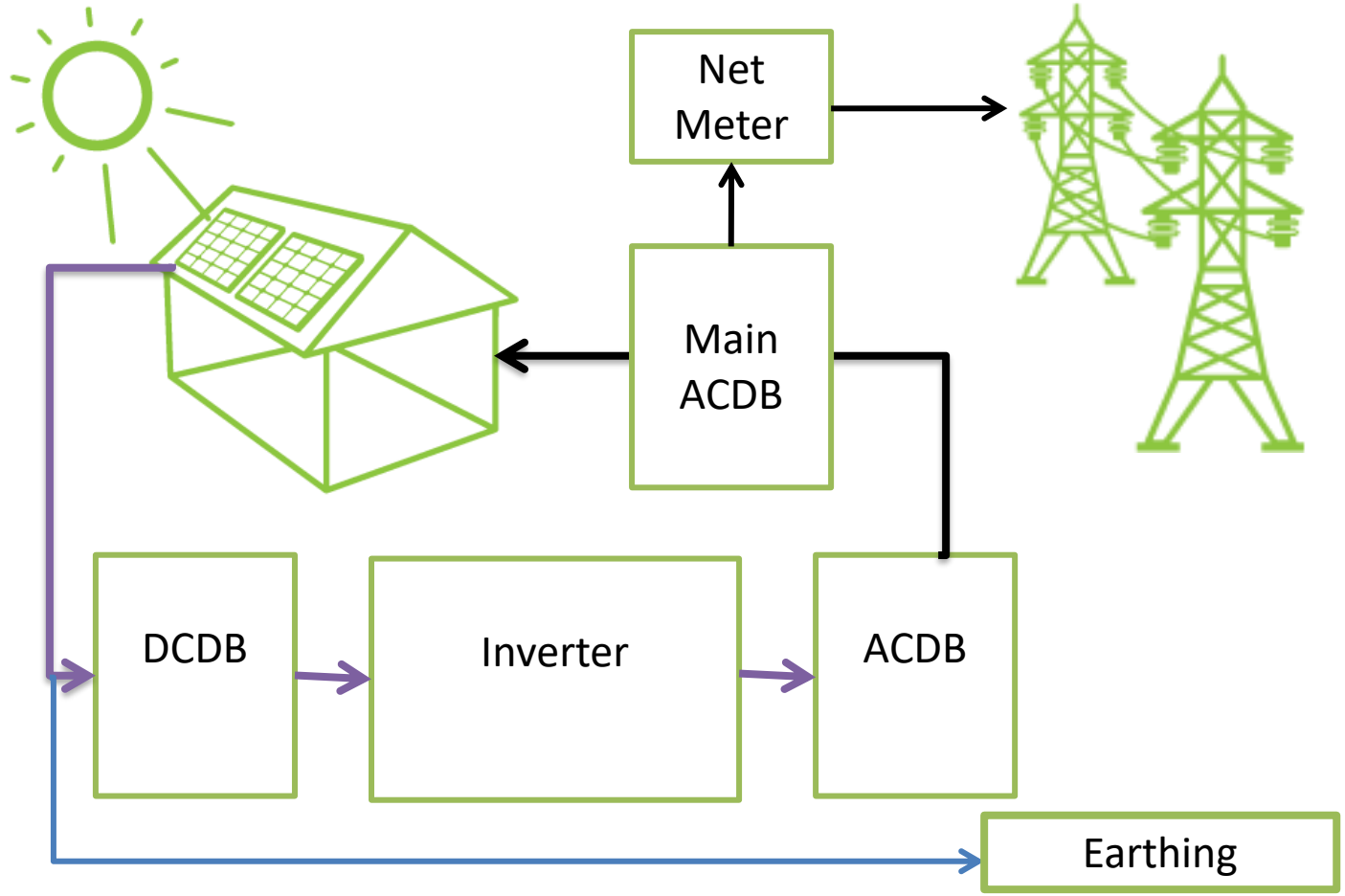
Rooftop Diagram

FLOW OF ELECTRICITY IN SOLAR ON-GRID ROOFTOP DIAGRAM



What is a solar rooftop system?

A rooftop photovoltaic power station, or simply a solar rooftop system, is a photovoltaic system that has its electricity generating solar panels mounted on the rooftop of a residential or commercial building or a structure. The various components of such a system include photovoltaic modules, mounting systems, cables, solar inverters and other electrical accessories.

Colloquially, such systems are called rooftop, but the installations can be anywhere- windows(vertical), sheds, ground, raised platform or on rooftop.

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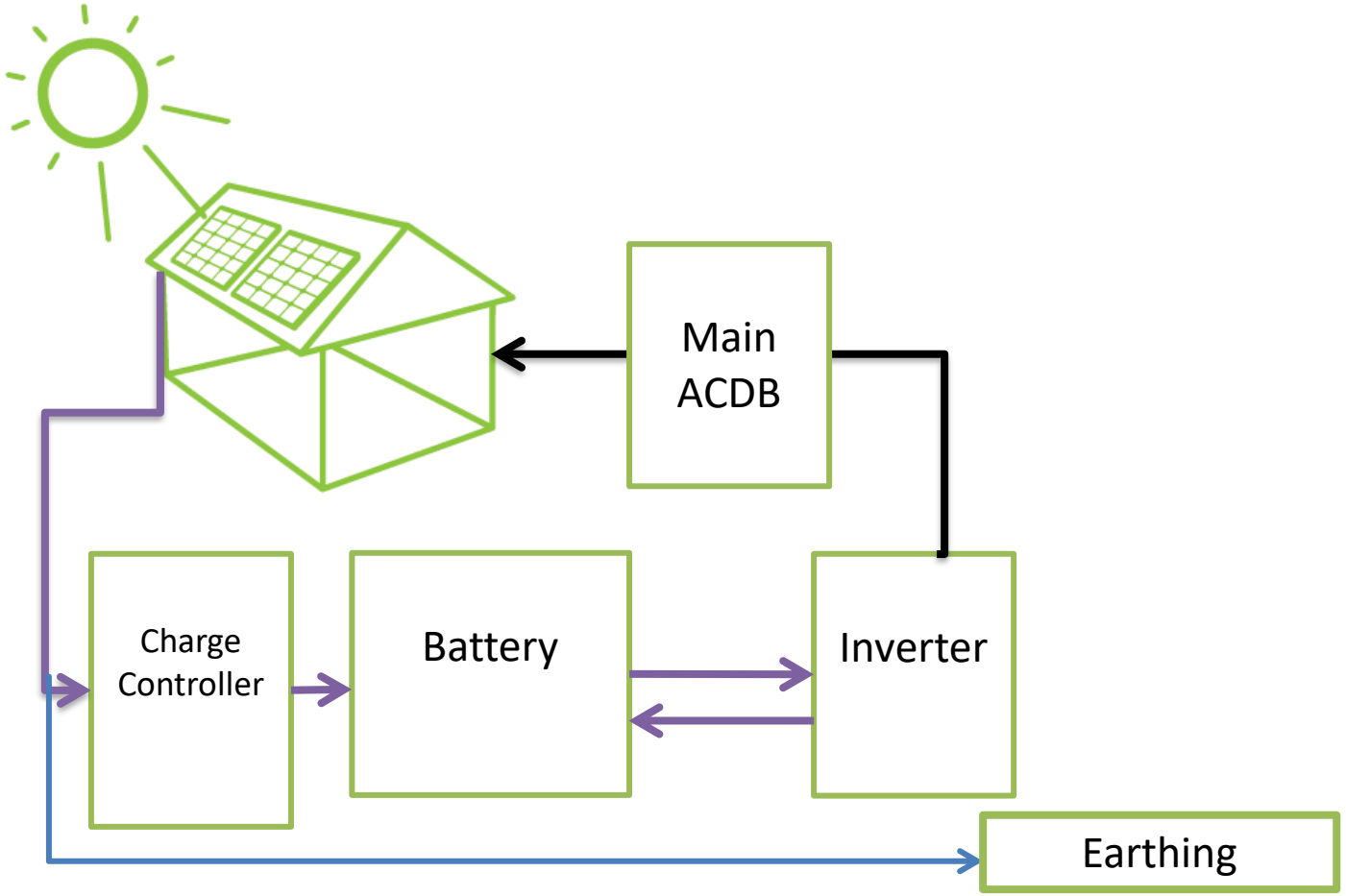
Rooftop Diagram

FLOW OF ELECTRICITY IN SOLAR OFF –GRID ROOFTOP DIAGRAM



What is a solar Off Grid rooftop system?

An off-grid system is not connected to the electricity grid and therefore requires battery storage. An off-grid solar system must be designed appropriately so that it will generate enough power throughout the year and have enough battery capacity to meet the home's requirements, even in the depths of winter when there is less sunlight. The high cost of batteries and inverters means off-grid systems are **much more expensive** than on-grid systems and so are usually only needed in more remote areas that are far from the electricity grid. However battery costs are reducing rapidly, so there is now a growing market for off-grid solar battery systems even in cities and towns.

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Material Reach and Structure Preparation

✓We send material within quickest possible time after the purchase order
✓We ensure safety of the material by keeping the material especially modules by keeping in proper location

STRUCTURE PREPARATION
We use 4 kinds of structure depending on the
a) Type of Roof
b) Client's Requirement

1. Hot Galvanized (GI) Structure
2. Elevated Structure
3. POSMAC Structure

} *On RCC Roof*

4. Aluminum Rail Structure - *On Tin shade Roof*

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Applications of Solar On-Grid Sysytem

- All self owned premises like Homes, Schools, Commercial complex, Hospitals etc. with permanent supply of Grid connected electricity.
- On-Grid Solar Power System generate power using a solar power system and are directly connected to the utility power grid. These systems send excess power generated by the solar system to the utility grid and consumer get compensated for the extra power fed back. These system work in collaboration with power grid.

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Features & Benefits of Solar On-Grid System

- Setup Plant on your rooftop.
- Net effect: **SAVINGS** in power used from Grid.
- Minimum size: 3 KW (Single Phase).
- World Class, Top quality equipment.
- Low Maintenance.
- Minimum life of **25 Years.**
- Payback Period **3 to 5 years.**
- Freedom from **rising Electricity Tariff.**

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A Quick FAQ: Understanding your needs

- ✓ *Rooftop area required for installation of solar system is 100 sq. Ft. per Kw. (Unshaded).*
- ✓ *Commercial premises can charge 60% depreciation of the cost of the system in the first year.*
- ✓ *Solar On-Grid systems doesn't provide power backup in case of grid failure. The units generated by the system will be deducted from the monthly electricity bill.*
- ✓ *Our System efficiency – 4 units per day per KW (yearly avg). For example, a 5 KW System will be generating 20 Units x 30 Days x 12 Months = 7,200 units in a year i.e. Rs.57,600/- (Electricity cost @ R.8/-) savings in electricity bills.*

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Site Survey

Note : All photos used in the presentation are actual site photographs.

SITE SURVEY

✓We first do Site Survey using Measuring Tape and Magnetic Compass - and create internal site survey report

✓Internal site report is used by our design team and will have all the necessary information regarding -

- ✓ Shade free area of the site
- ✓ Construction of the roof
- ✓Electricity bills

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GI Structure and Aluminium Rail Structure

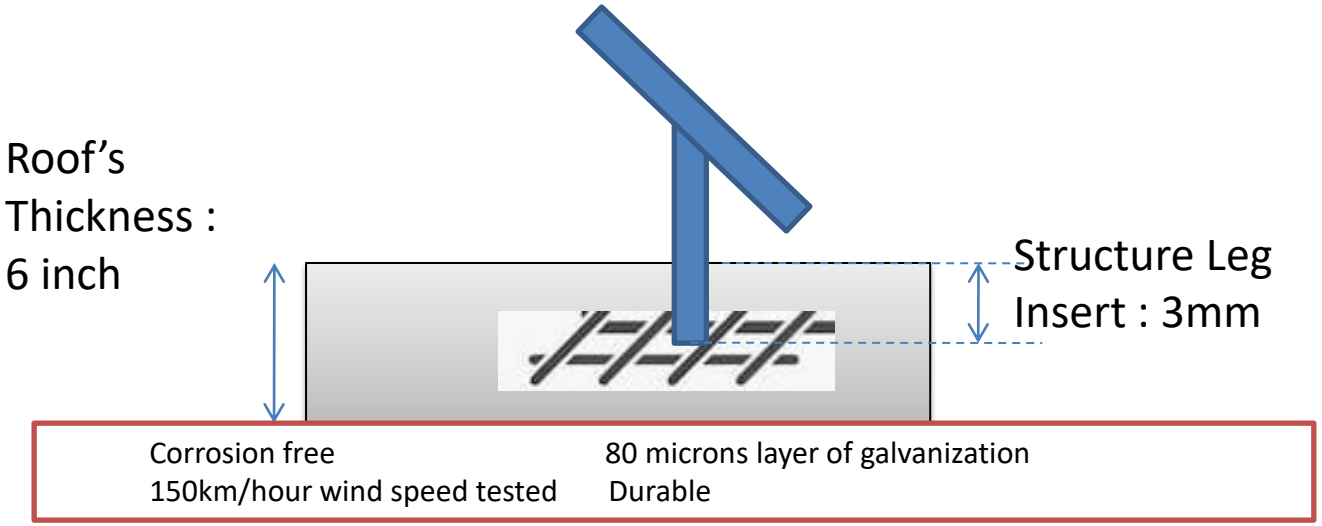

Illustration of GI Structure

GI Structure

Requires construction for inserting legs of structure

Keeps Terrace free and allows movement

Tin Shade Structure

Aluminium Rail structure is a corrosion free structure usually used on Tin Shade

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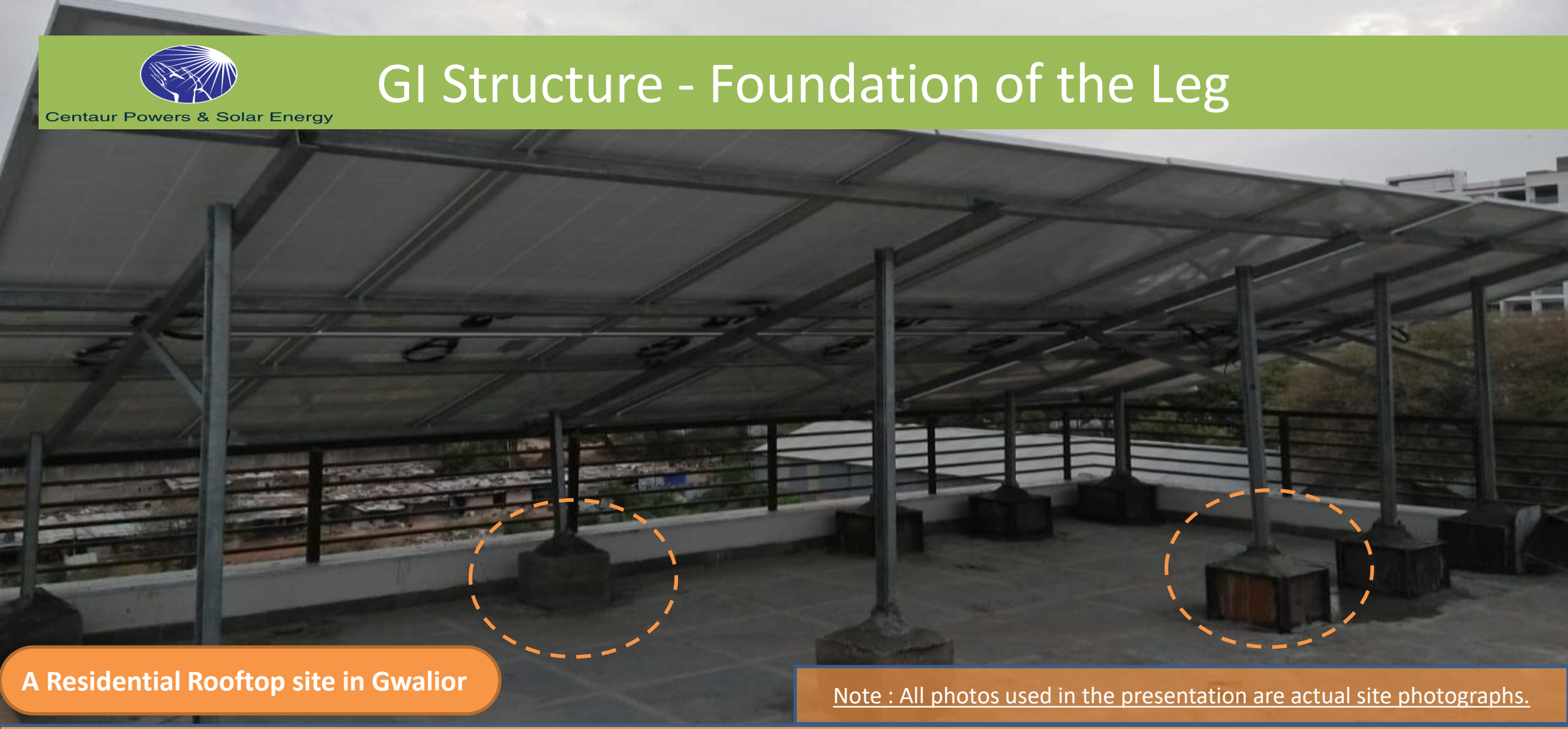
GI Structure - Foundation of the Leg



A Residential Rooftop site in Gwalior

Note : All photos used in the presentation are actual site photographs.

RCC FOUNDATION

✓To ensure longevity of the whole rooftop solar system, a RCC Foundation is built on the leg of the structure

- ✓ Provides protection from heavy wind flow
- ✓ Gives overall strength to the system

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GI Structure - Modules Mounting

MOUNTING OF MODULES

✓Modules are mounted on the top of the mounting structures built.
✓ Leg of the structure are checked for their right vertical alignment using SPIRIT LEVEL TECHNIQUE (a magnetic method)
✓Technique helps in leveled panel – with zero wave formation and correctly fitted panels on tile structures

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POSMAC Structure – Innovative and Easily Installable

- ✓POSMAC Structure is an **innovative U- Shaped Structure**
- ✓ Easy to install and does not require drilling and construction work for insertion of legs
- ✓Portable System
- ✓PCC bricks are used to provide weight to the U-shaped sructure
- ✓Tested for wind flow up to 150 km/hr
- ✓PCC brings provides strength to the whole system and ensures protection from heavy wind
- ✓Ensures no damage to Roof as there is no construction involved
- ✓Can be put on Porous roof as well

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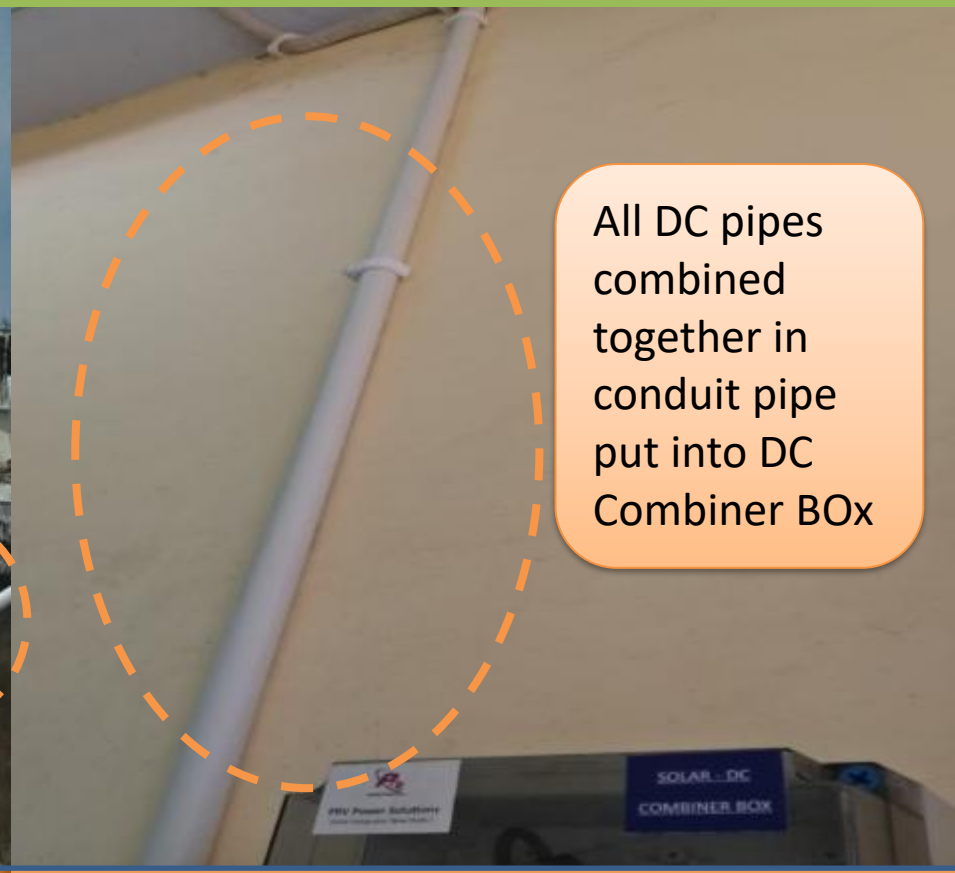
DC CABLE WIRING



All DC pipes combined together in conduit pipe put into DC Combiner BOx

All the DC cables from the panels together are then send together through conduit pipe to DCDB.
Conduit Pipes are used to ::

✓Protect DC Wires from external damage like tearing by rodents and other external factors

✓ Protection from Current Leakage

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Lightening Arrestor

COPPER LIGHTENING ARRESTOR

Protects the whole rooftop system from the cloud lightening.

We provide both Earthing Chemical and Earthing Rods

Irrespective of plant size, Earthing is done for both ::: 1) Earthing for Modules and 2) Earthing for Inverter

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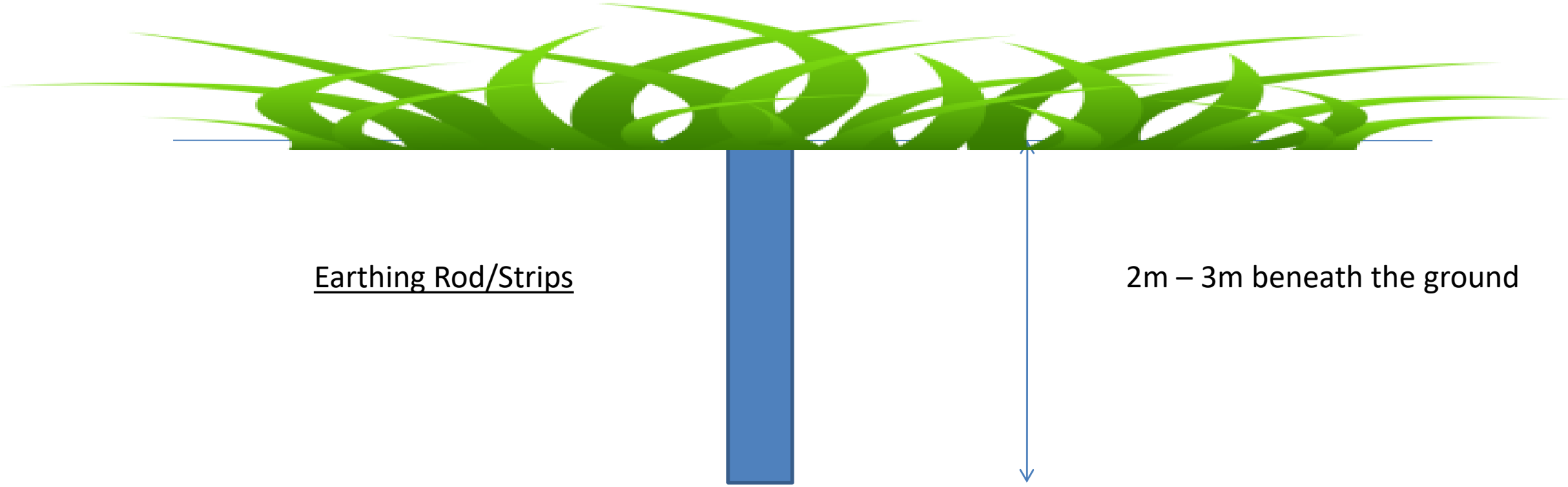
Earthing of the whole system



Earthing Rod/Strips

2m – 3m beneath the ground

EARTHING OF THE ROOFTOP SYSTEM

Earthing rod is inserted 2m-3 m inside the ground to ensure maximum protection

The whole system is earthed to provide

✓Protection from Electric Surge

✓ Protection from Current Leakage

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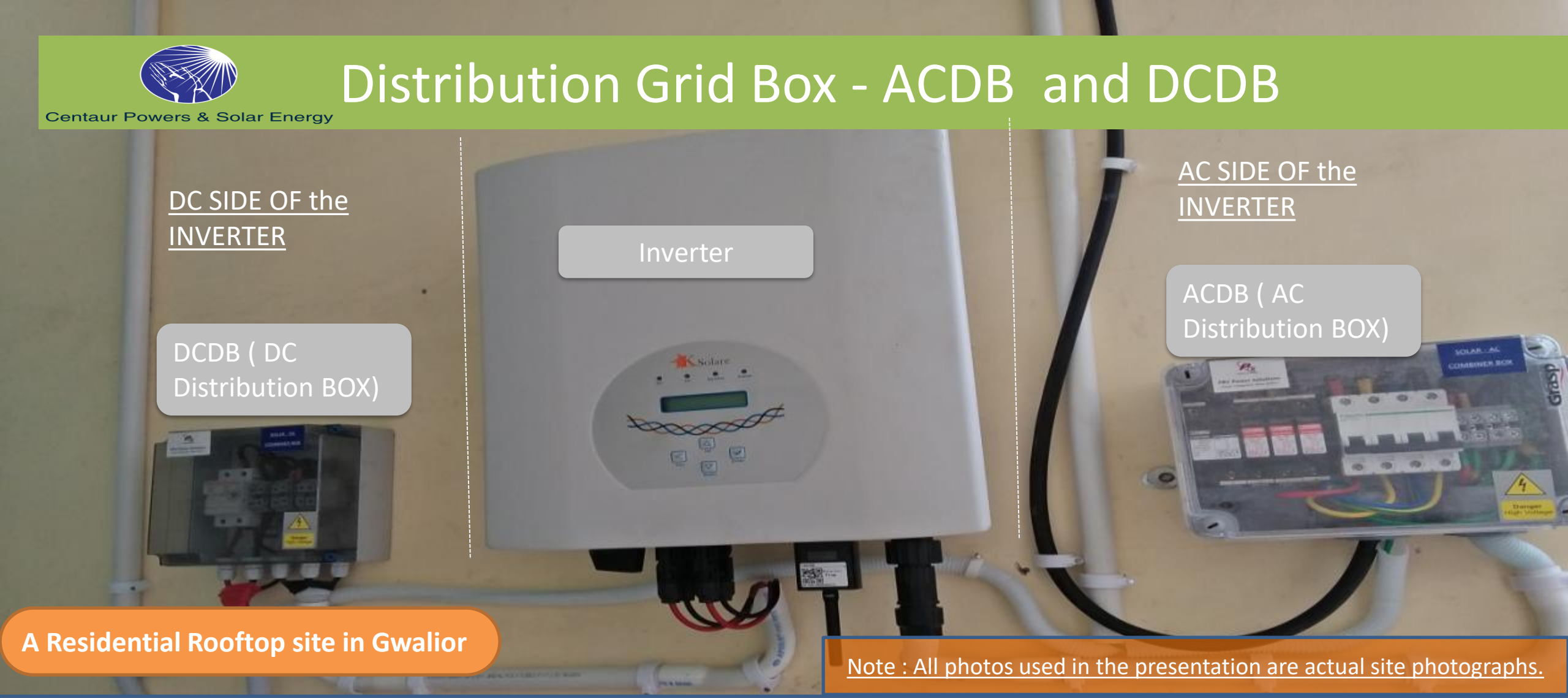
Distribution Grid Box - ACDB and DCDB



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Use of ACDB and DCDB

- ✓ ACDB and DCDB are the devices put on each side of the inverter
- ✓ It has electric fuses, SPD(surge protection device), and MCB build inside
  - ✓ It ensures full protection of inverter
  - ✓ This provide protection to inverter as well as panels/structure protect from short-circuit/leakage current.

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Net Metering

- We provide Net meter as per site requirement
- Net meter is bidirectional meter which count both import and export of units
- Net metering is legal process of applying for solar in Discom Dept.
- First part of this is to fill application through govt. portal
- Second part is to prepare legal documents
- Third part is to submit Net meter in govt. testing lab
- Final part is installing the Net meter through govt. employee

*Net Metering is a separate process and is done based on the client's requirement

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Our Details

Looking Forward for your valuable Business

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