

# Application Note

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**Demand, supply & distribution monitoring of energy  
produced by Solar PV installations**

## **The Problem**

Energy generated by solar panels individually can be difficult to track and record as number of strings are at time limited in inverters. Even if meters are affixed along with the solar panels, the data acquisition of independent set of panels is a challenging task. Along with the solar panel efficiency, the inverter efficiency is of crucial importance in the energy generation. Both AC and DC energy data acquisition is vital for recording the efficiency of various elements in system.

The energy produced in the process of solar farming is directly sold to other companies with relatively cheaper rates as compared to the DISCOM. With a vast number of clients, it can be quite challenging to monitor the energy 'Demand and Supply' provided to the consumers even with energy meters in action. Keeping the records and organising the reports can be made more coherent. Along with this, an energy generation forecast can be of vital importance in managing and tracking the 'Demand and Supply'.

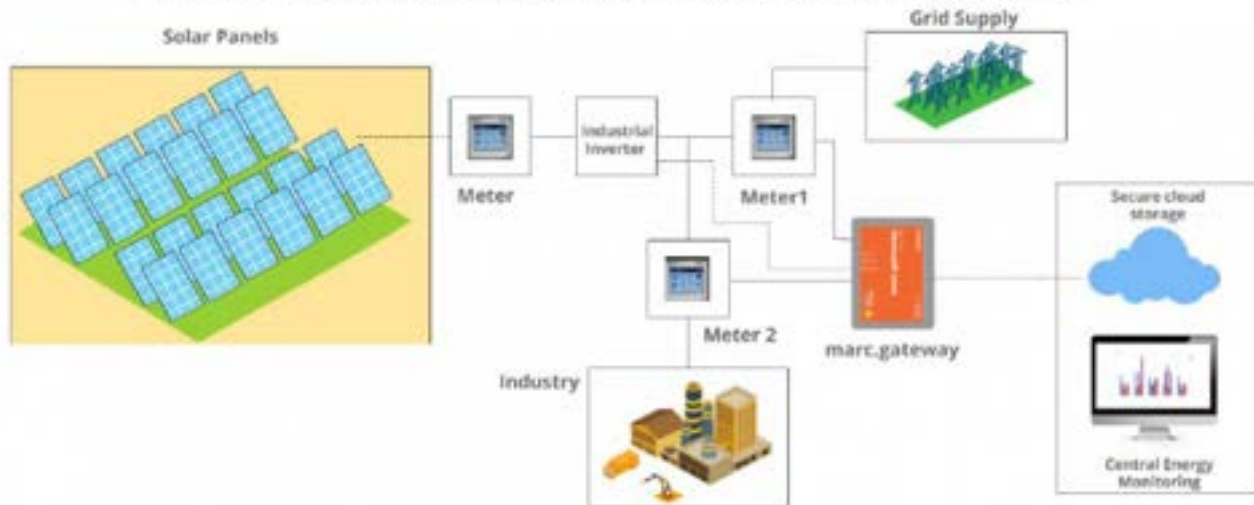
Bill reconciliation and 'M & V' are important attributes of energy efficient practices. Without a proper energy data report, it is challenging to validate the energy bills.

## **The Solution**

For energy monitoring practices, it can be quite a handful for the system maintenance person to measure energy data or every meter manually. For such circumstances, it is of vital importance to have an energy management system. An energy management system (EMS) can provide metering, submetering and monitoring functions that allow facility managers to gather data that allows them to make more informed decisions about energy use.

marc is a very effective solution as it is an energy management system; which focuses on advantageous practices of accurate data acquisition, energy monitoring, and platform independent data analysis. marc additionally has an alarming system in the form of emails if any parameters of plant operations are not as desired.

The following equipment is proposed together with the schematic.



## The Benefits

- Integrated solar app with inverter data acquisition
- Accurate energy monitoring, real-time energy consumption
- Granular in-depth review of facility energy and other parameter data
- Better information to make decisions that can help optimise energy performance
- Ability to record actual energy usage (no estimates)
- Comparison of usage across similar facilities over time
- Ability to identify and eliminate wasted energy
- Fewer electricity shortages
- Enhanced efficiency of electric utility service

**Featured Product**





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