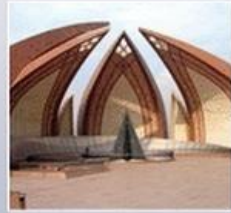


THE INSTITUTION OF ELECTRICAL AND ELECTRONICS ENGINEERS PAKISTAN

IEEEP



COMMITMENT TO EXCELLENCE

**PRESENTATION ON
NET METERING**

By

DR. RANA ABDUL JABBAR KHAN
GM TSG (Technical Services Group) NTDC
President IEEEEP

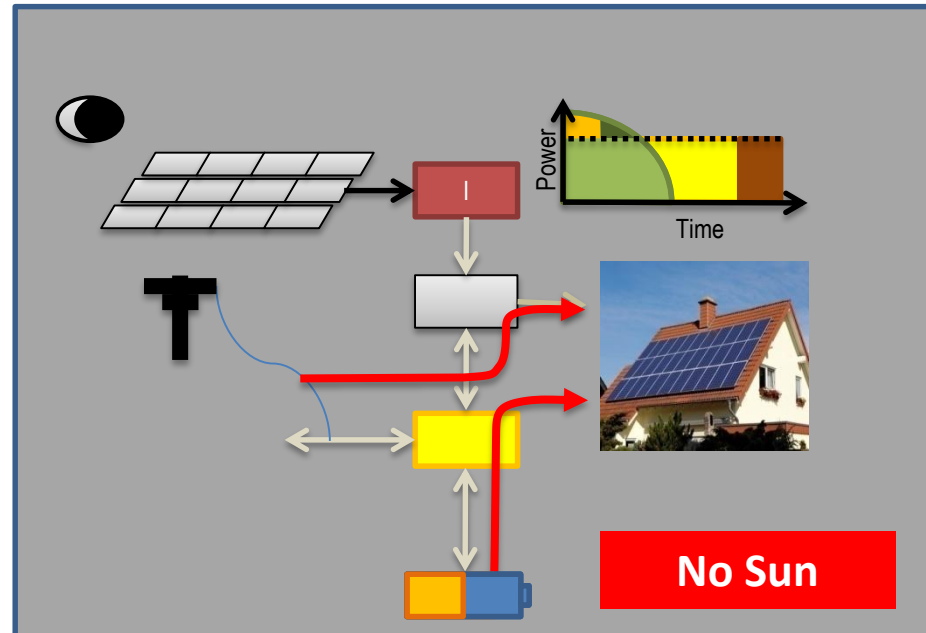
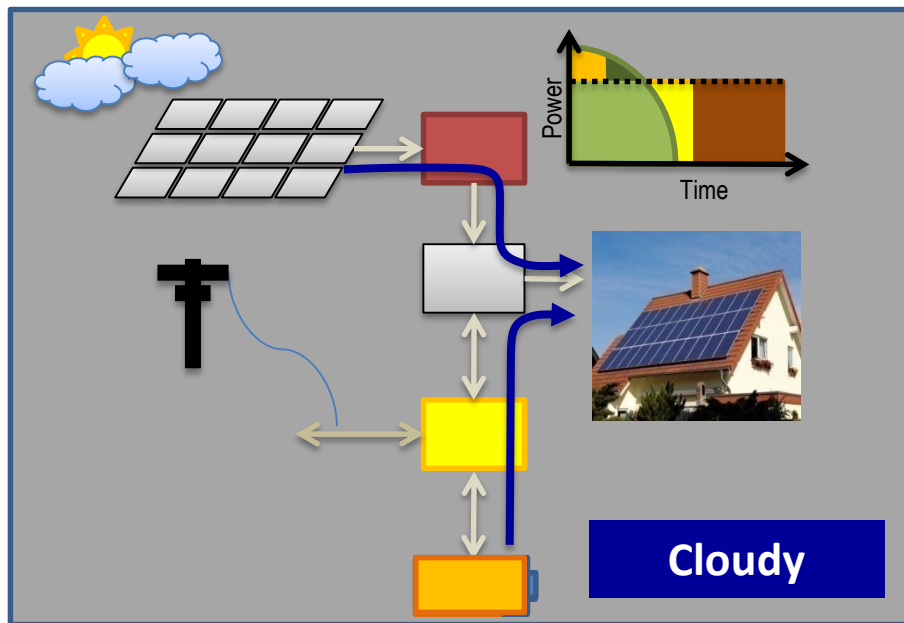
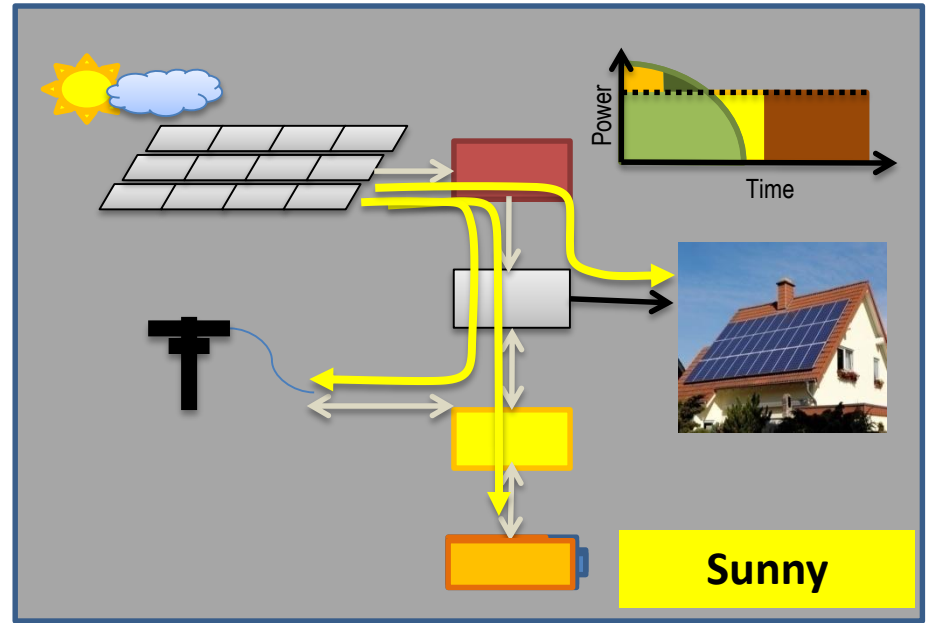
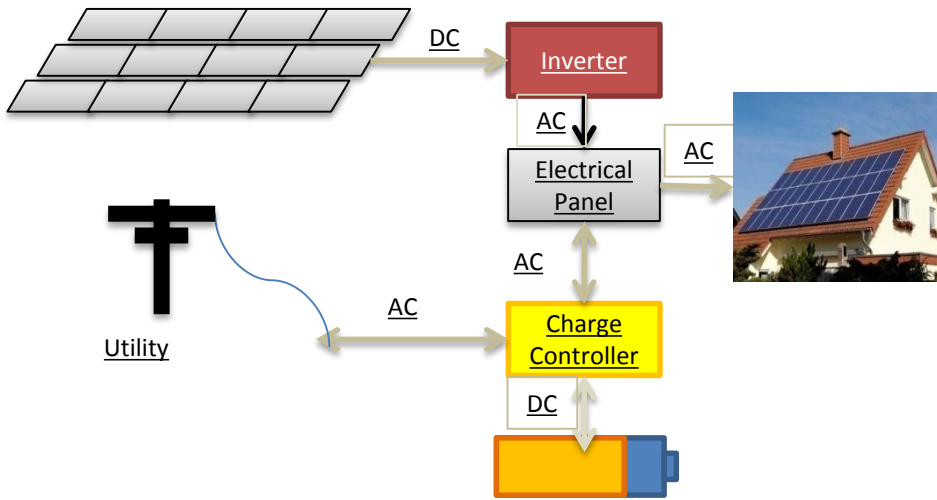
NET-METERING A STEP TOWARDS SUSTAINABLE FUTURE

NET METERING

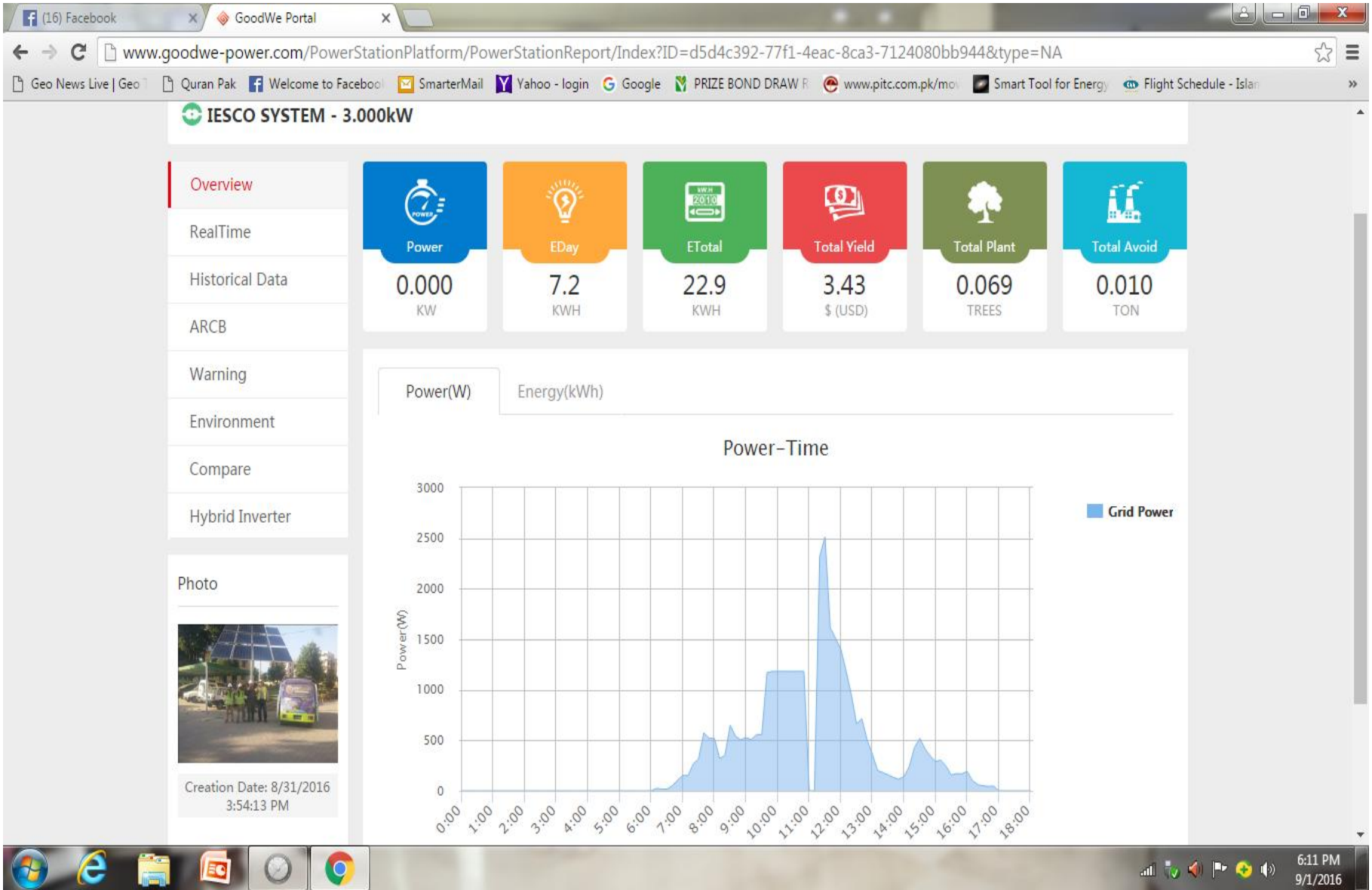
A billing mechanism that credits owners of renewable energy systems (Solar, Wind) for the free of cost and clean electricity they add to the National Grid.



ELECTRICAL INFRASTRUCTURE



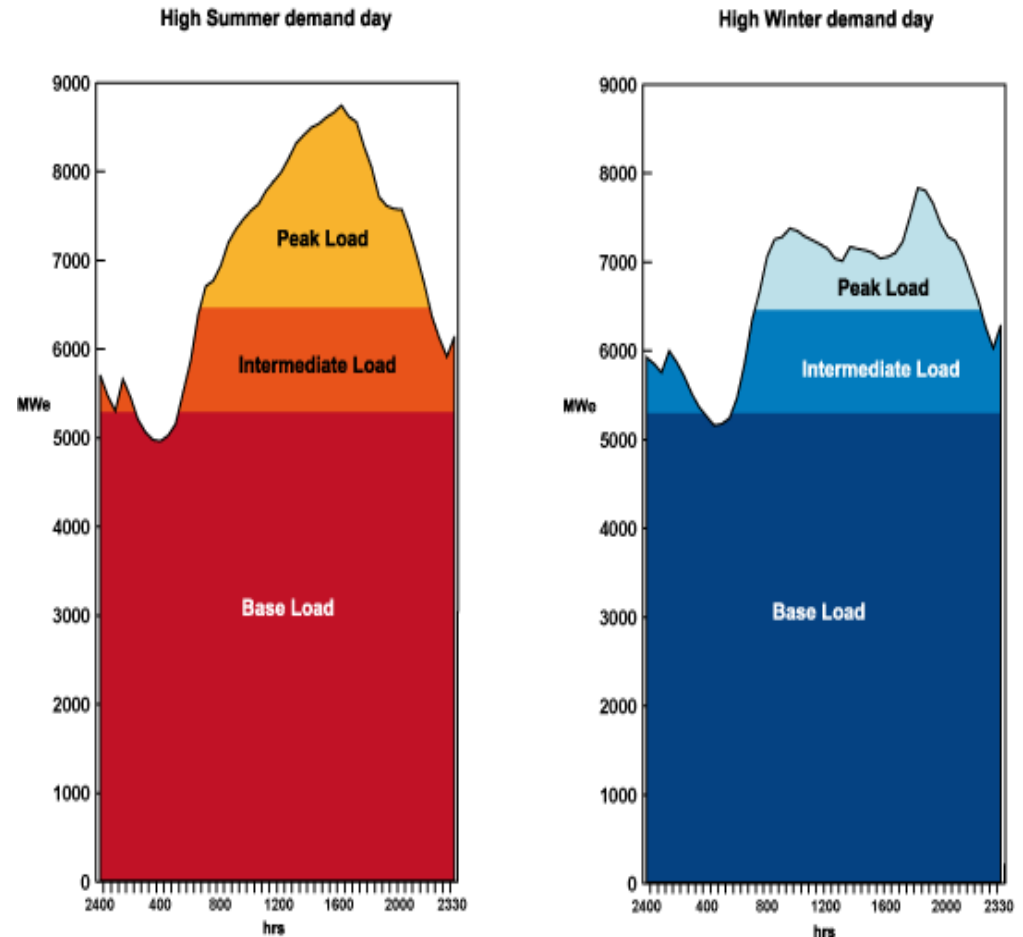
ON-LINE MONITORING



TYPICAL LOAD PROFILE AND SOLAR NET-METERING

- A typical load curve shows that most of the load is in day time when the sun is available both in summers and winters.
- Typical load curves are very suitable for Solar Net-metering which shows during the time when the solar panels will be producing peak power the load is also at its peak.

Load curves for Typical electricity grid



NET METERING IN PAKISTAN

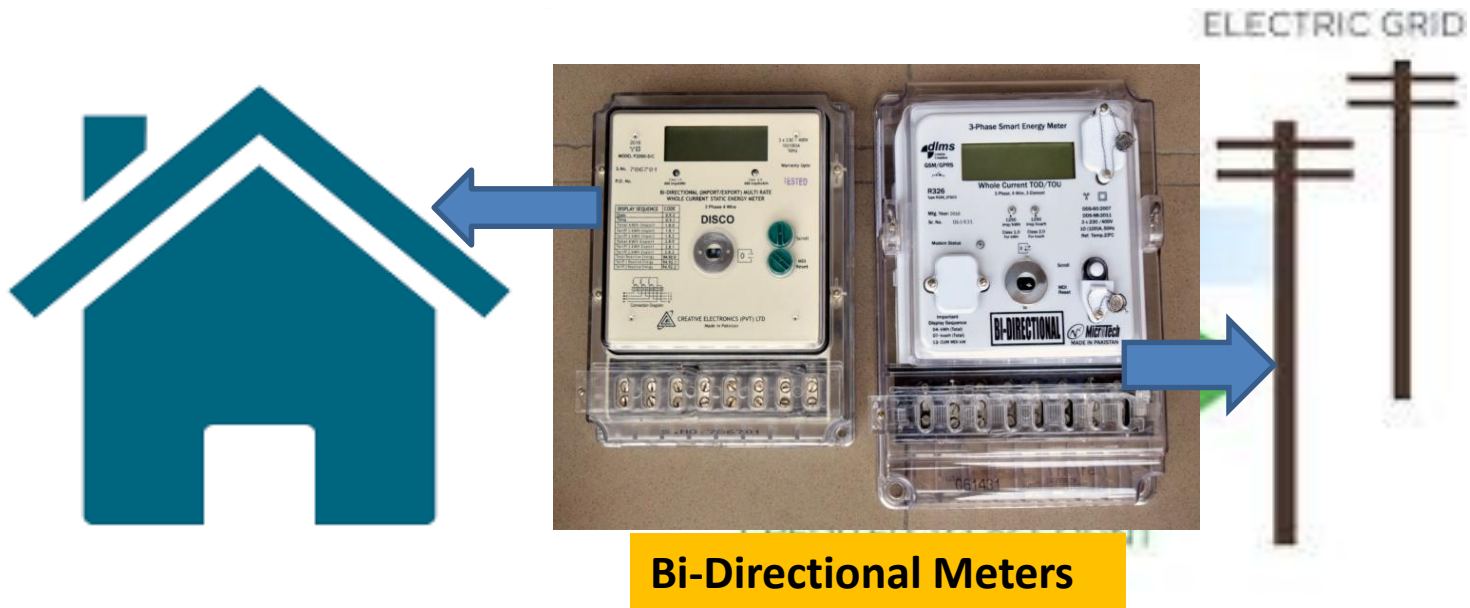
WHY NET METERING ?

- **Acute power shortage.**
- **Immediate addition with no gestation period.**
- **Lack of adequate Hydro Resources in central part of country.**
- **Less space more benefit.**
- **Customer Control over Electricity Bill & source of income.**
- **Demand Side Management (DSM).**
- **National Grid will get cost free Clean Energy.**
- **Improved voltage profile, resulting in line losses reduction.**
- **Reduced dependency on IPPs.**
- **Reduced system overloading.**



MECHANISM

Excess electricity generated by the DG (Distributed Generator) is exported to National Grid, and the difference between energy exported and imported is recorded by a bi-directional meter as evident by pictorial view:



SOCIAL AND ECONOMIC IMPACTS OF NET-METERING

- **Increase in Jobs.**
- **Increase in skill Development Programs.**
- **Stable and higher private sector investment.**
- **Decrease in CO₂ levels and a positive global outlook of Pakistan.**
- **Secure source of Power supply.**
- **A Natural equilibrium of demand and supply of energy.**
- **More effective energy management.**

NEPRA NET METERING REGULATIONS

**NEPRA issued Net Metering
Regulations vide S.R.O 892 (1)/2015
dated 01-09-2015**

WAY FORWARD

Road to success needs following facilitations:

- **Financial incentives to General Public by GoP like soft loans and subsidies etc for installation of Distributed Generation Facility.**
- **Local manufacturing of Solar, Wind allied facilities may drastically reduce the prices.**
- **Studies regarding induction of renewables at low end is needed.**
- **Capacity building in DISCOs / Electric Inspectors for raising awareness and facilitating the use of Net Metering.**
- **Setting up of proper testing labs for Solar products along with development of Standards keeping in view the ground realities.**

A 3D ribbon graphic with a light gray top surface and darker gray sides. The ribbon is curved and has two pointed ends. The text "THANK YOU" is written in a bold, black, sans-serif font across the top surface. Below the ribbon is a soft, light gray shadow.

THANK YOU

