

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ



SAARC Training for Professionals of Afghanistan
on Net Metering Regime in Pakistan
September 17, 2019



National Electric Power Regulatory Authority

Scheme of Today's Presentations

Licensing Regime in Power Sector of Pakistan

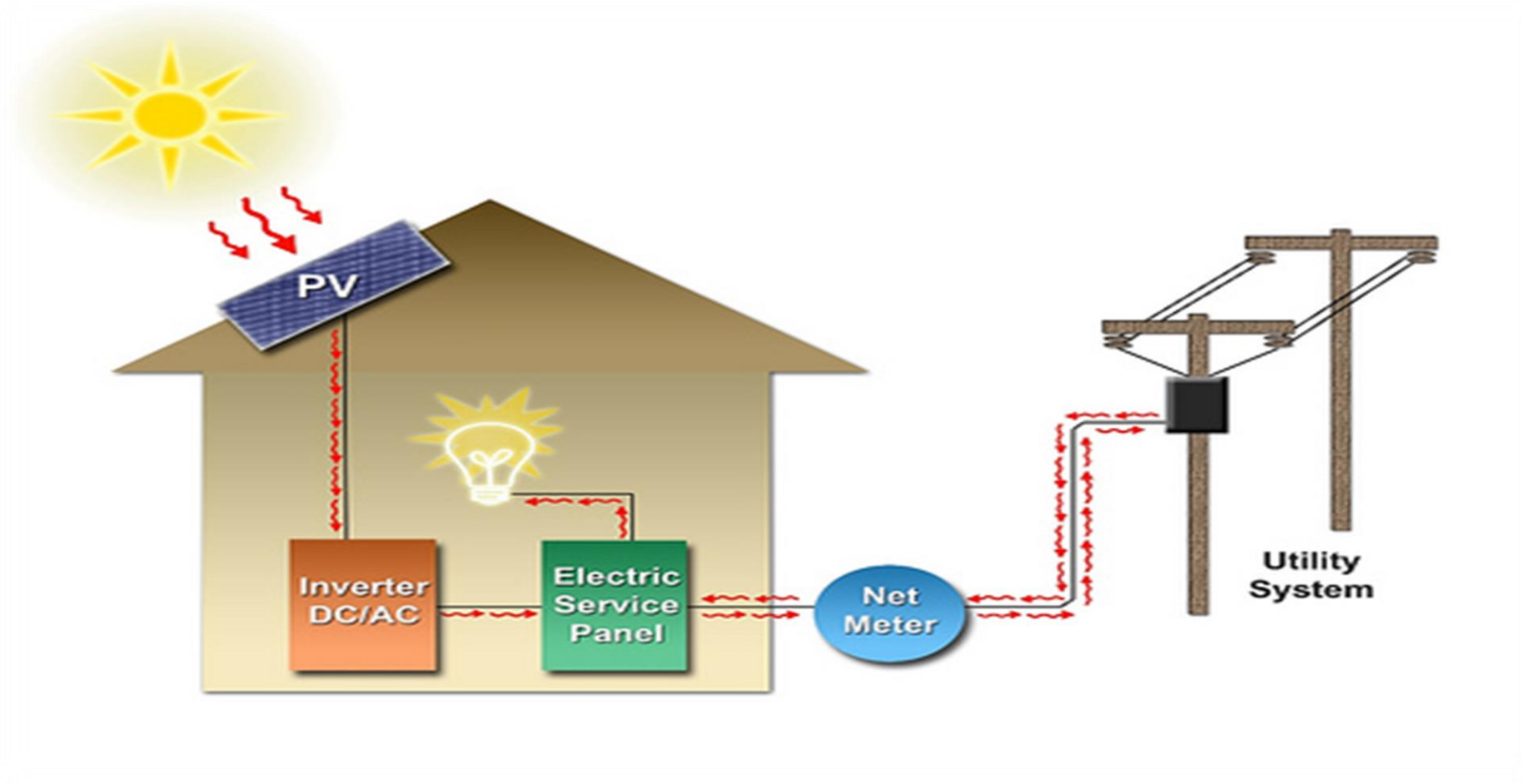
- Evolution of the Licensing Regime
- Mechanism & Process of Licensing
- Net Metering Concept & Process

Scheme of this Presentation

Net Metering Mechanism & Process in Power Sector of Pakistan

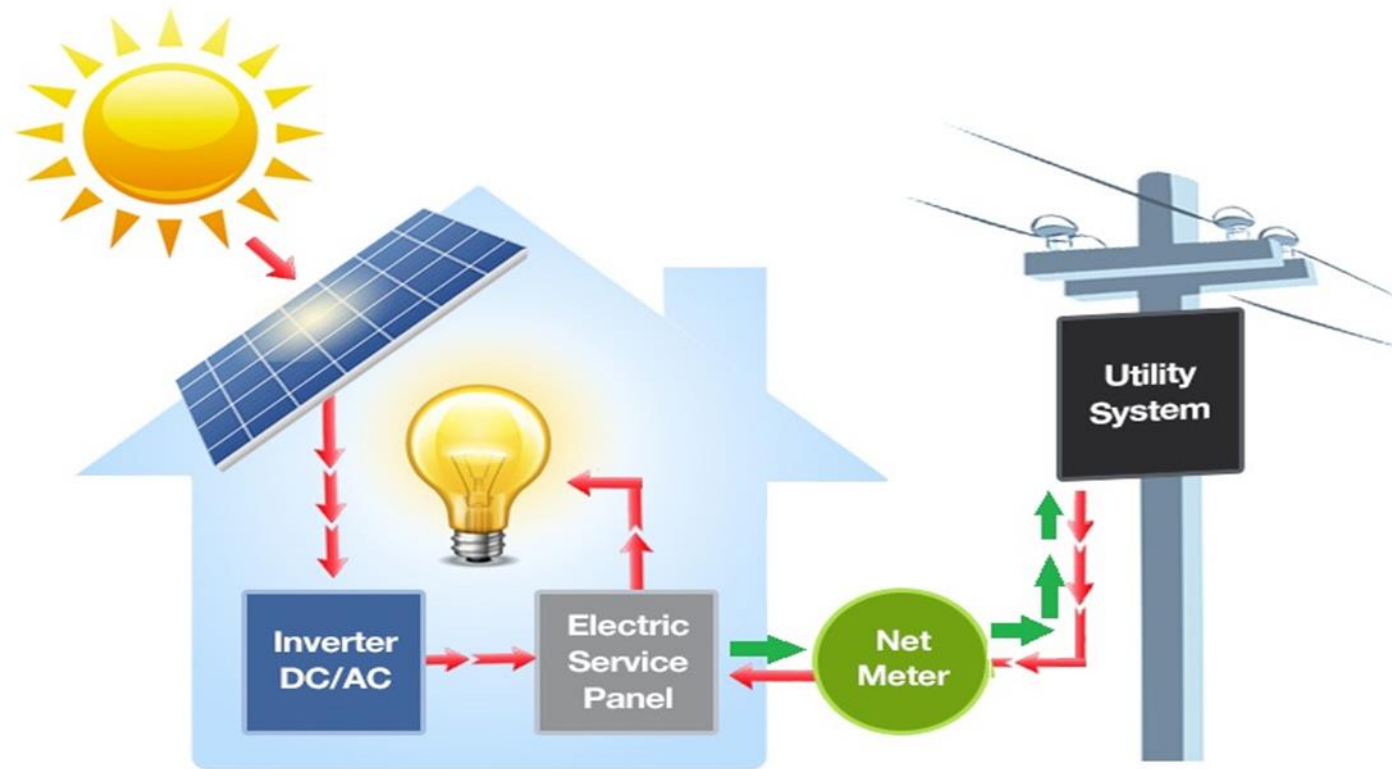
- Introduction to Net Metering
- Benefits of Net Metering
- Mechanism for Net Metering Licence
- Current Net Metering Licences Status

Understanding Net Metering



Understanding Net Metering

Net Metering is the billing arrangement that allows consumers to receive credit for excess solar energy, delivered to the grid.

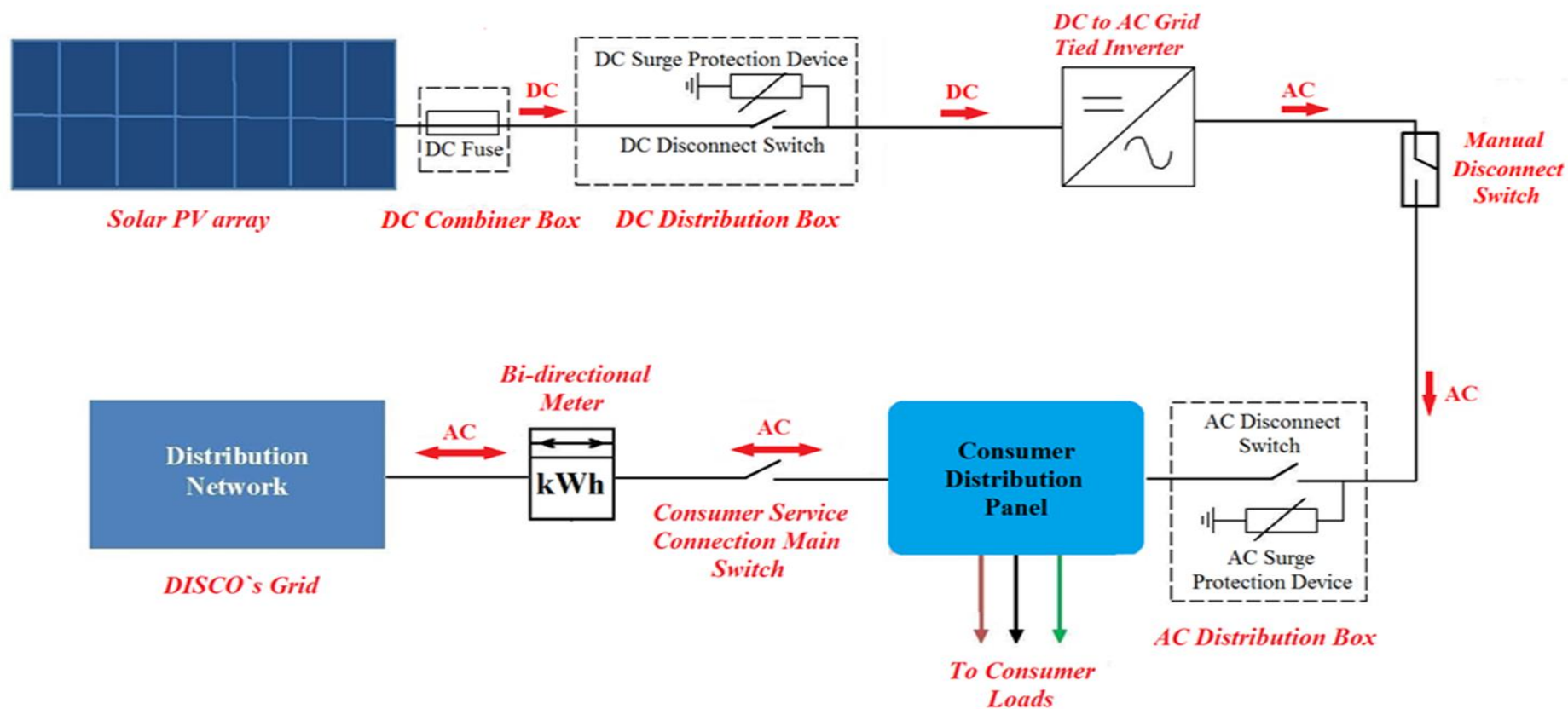


Benefits of Net Metering

- Community participation in power generation/national development;
- Promotion of environment friendly renewable energy sources;
- Zero emissions of greenhouse gases;
- Lessening burden on national grid by increasing generation capacity;
- Reducing grid investment;
- Minimizing line losses;
- Avoid recurring fuel costs;
- Increasing gains for national economy through Clean Development Mechanism (CDM) projects.

Single Line Diagram for Net Metering Interconnection System

Single Line Diagram of On Grid Roof Top PV System for Net Metering Interconnection



Mechanism for the grant of Net Metering Licence

- In 2015, NEPRA took the initiative and notified *Alternative and Renewable Energy Distributed Generation and Net Metering Regulations, 2015* to promote Distributed Generation in the country.
- Distributor generators using solar or wind energy resources for generation of electricity up to 1 MW may avail facility of net metering under above regulations.

Mechanism for the grant of Net Metering Licence

Who can Apply?

Any 3-Phase 400 V or 11 kV consumer of a distribution company having following tariff categories:

- Domestic
- Commercial
- Industrial
- Agricultural
- Single Point Bulk Consumers
- General services

Mechanism for the grant of Net Metering Licence

Documents Required

Following documents are required for an application of Net Metering

(2) Distribution Company shall forward the Application for grant of License as specified in Schedule -III to the Authority along with following;

- (a) Agreement
- (b) Application for exemption from the requirement of section 24 of the Act as specified in Schedule-IV,
- (c) Evidence of deposit of fee as may be specified by the Authority as specified in Schedule-V
- (d) Affidavit by Distributed Generator as specified in Schedule-VI

(3) The Authority may, on receipt of the Application and the documents specified in sub-regulation (2), grant a license as specified in Schedule VII to the Applicant [within seven working days after receipt of requisite documents]⁹.

Mechanism for the grant of Net Metering Licence

Requisites for the grant of Net Metering Licence

- Size of Distributed Generation facility must not exceed 1.5 times of the sanctioned load of the consumer;
- In case the size of Distributed Generation facility is more than 250 kW, then consumer will have to provide load flow study of the network from consultant duly registered with Pakistan Engineering Council;
- The installed inverters must be on grid-tied type.

Mechanism for the grant of Net Metering Licence

Billing Procedure for Net Metering

14. Billing for Net Metering.— (1) At the end of each Billing Cycle following the date of final interconnection of Distributed Generation Facility to the Distribution System of the Distribution Company, the Distribution Company shall net off the kWh supplied by Distributed Generator against the kWh supplied by it.

Provided that the meter readings shall be carried out preferably through Hand Held Units (HHU) and through automated means as directed by the Authority from time to time.

(2) [The kWh supplied by a Distributed Generator during peak hours shall be net off against the kWh supplied by a Distribution Company during peak hours and the kWh supplied by a Distributed Generator during off peak hours shall be net off against the kWh supplied by a Distribution Company during off peak hours.]¹³

(3) In case the kWh supplied by Distribution Company exceed the kWh supplied by Distributed Generator, the Distributed Generator shall be billed for the net kWh in accordance with the Applicable Tariff.

(4) In case the kWh supplied by Distributed Generator exceed the kWh supplied by Distribution Company, the net kWh shall be credited against Distributed Generator's next billing cycle for future consumption, or shall be paid by the Distribution Company to the Distributed Generator quarterly.

(5) [The price payable by a Distribution Company for net kWh shall be the national average power purchase price of the Distribution Company as determined by the Authority and notified by the Federal Government.]¹⁴

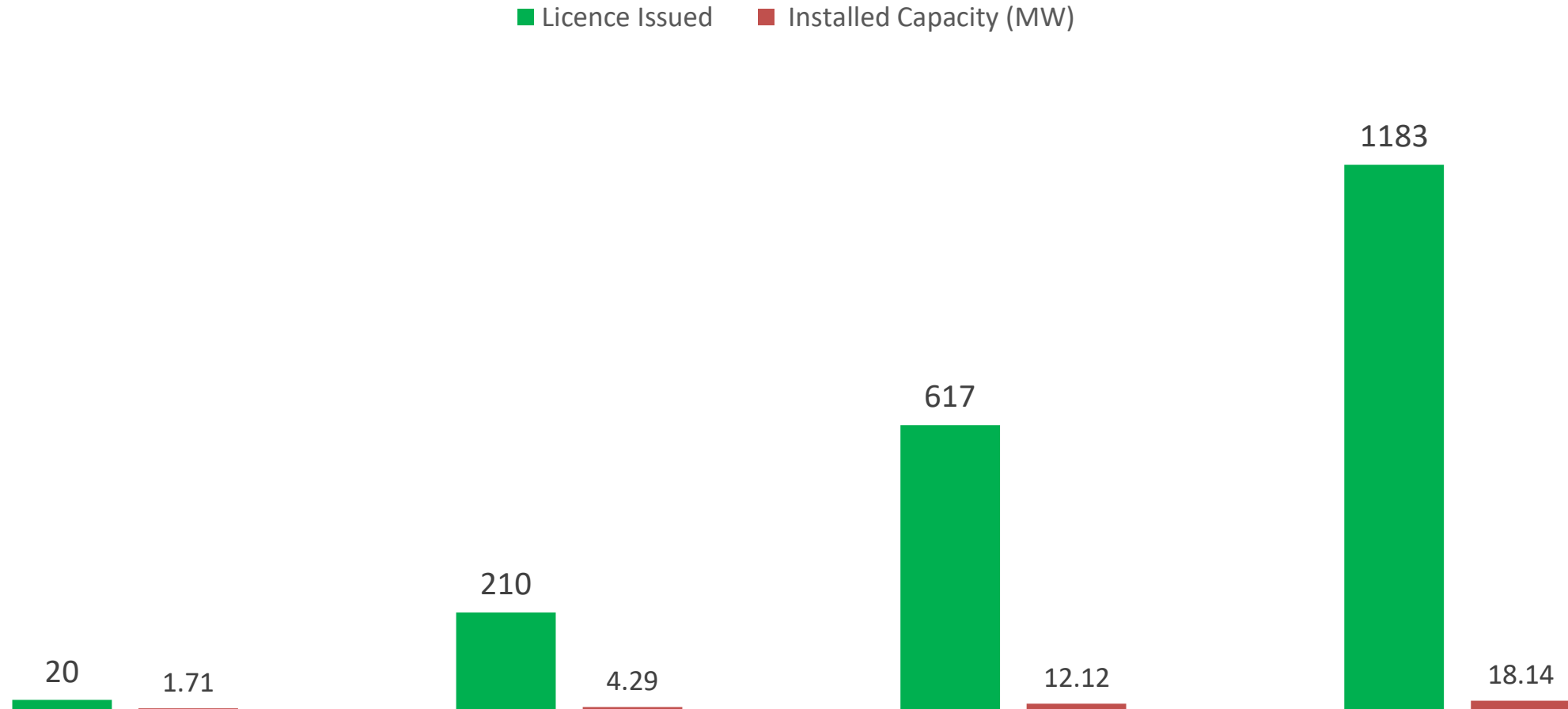
Sample Electricity Bill

[Sample Electricity Bill of Net Metering](#)

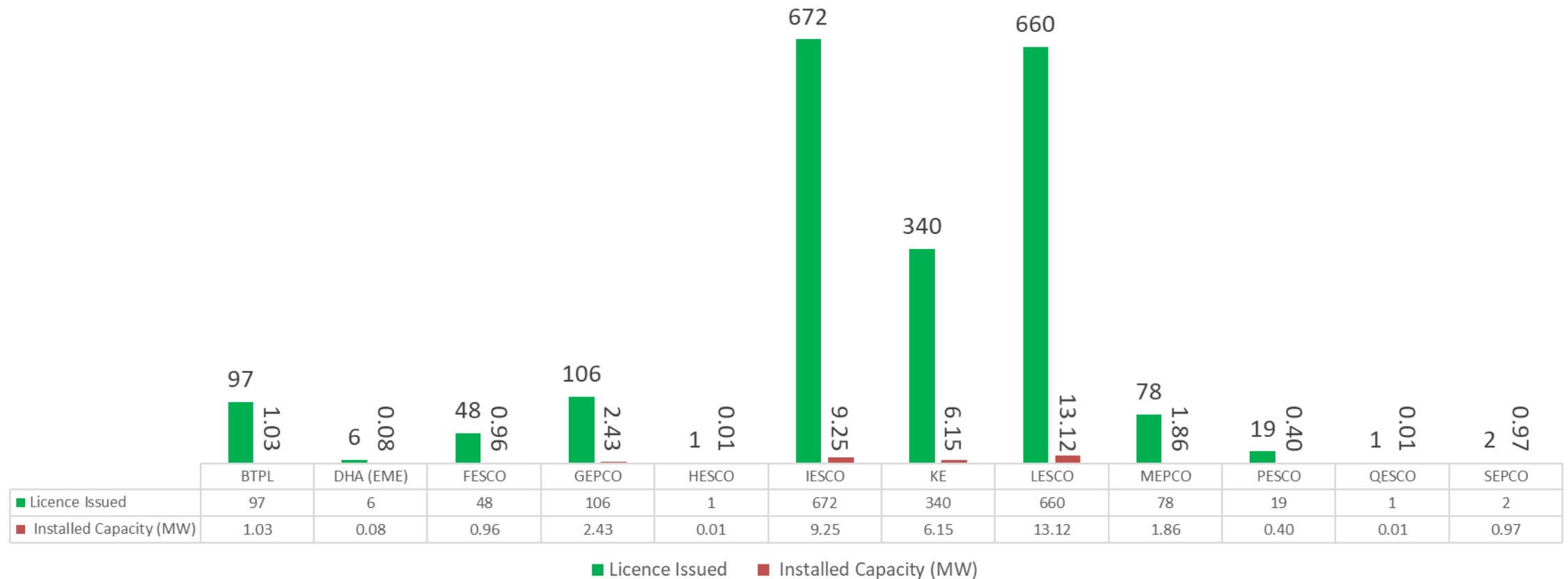


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Net Metering Licences



DISCO Wise Net Metering Licences



Thanks



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