Technical & Commercial Challenges of Net Metering
ON-GRID SOLAR PV SYSTEM

Presenter: Avishek Malla
About Us

• Established by American and Nepali solar experts in 2014
• Nepal Government Pre-Qualified Company
• Market Leader for On-grid systems
• Completed over 1,600 Solar Projects all over Nepal

Featured By:

- The Guardian
- Fast Company
- Financial Times
- The Huffington Post
- Business Insider
- Inc.
Features of On-grid System

• Battery-less Solar System

• Seamless Integration with existing electrical infrastructure

• Clean, Safe and low cost commercial Electricity

• Export excess energy back to grid
Solar On-grid Rooftop History

In 2011,

• University of Applied Sciences and Arts of Southern Switzerland (SUPSI)
• Institute of Engineering, Nepal (IOE)
• Rural Integrated Development Service (RIDS)
• Nepal Electricity Authority (NEA) partnered to pilot 5 solar PV on grid rooftop grid connected systems @ 1.1kWp solar on-grid systems at 3 sites.
Net Metering Policy 2018

The net metering policy 2018 –
• 0.5 to 10Kwp residential
• >10Kwp institutional
• >500kwp commercial
• Feed in tariff rate is NPR 7.3 / kWh
• >1MW is considered as utility scale
Emerging market solar PV On grid rooftop installation less than <10MWp
Government Promotion

• Upto 50% subsidy on loan interest for Institutional customers
• The subsidy was provided for last two years the fund is unavailable for this year
Nepal Solar PV On-grid Rooftop Potential

• World bank study report (2019), the building rooftop area is >266 Million Sq meters

• 20 Out of 276 municipality has solar PV rooftop potential is >1.3 GWp
Spectrum of challenges

The challenges are across all the stakeholders –
• End users
• Financial institution
• Government
• Utility
• Project developer / EPC
Spectrum of challenges

End users
• Awareness of solar PV on grid system is extremely low
• Confidence on the technology is low due to low volume of installations
• Difficult in choosing credible installer or equipment
• Access to collateral free financing not available
• Long lead time for approval of net-metering agreement
Spectrum of challenges

Financial institution
• High interest rate – historically higher than auto/home loans
• Long lead time - Due diligence process
• Less than 10% of the banks have made lending to solar on grid PV
• Lack of loan product / awareness of solar PV
• Limited projects for historical records
• Un availability of dedicated RE credit fund
Spectrum of challenges

Government
• Varied year on year subsidy
• Lack of long term program for On grid PV
• Lack of awareness campaign for the end users
Spectrum of challenges

Utility
• Lead time for net metering connection is 2-3 months
• Limited awareness of net metering policies
• Unclarity in net metering billing formats
• Limited availability of net-meters for residential
Spectrum of challenges

Project developer / EPC
• Local measured Solar resource data is not available
• Logistic and supply is highly challenging as major components have to be imported and landlocked country
• Limited human resource with technical skills
• Project development cost is high
• Unavailability of Project financing / collateral free loans
Successful On-grid Projects

Steel Industries: 163 kWP On-Grid Solar PV System

Pharmaceuticals: 117 kWp On-Grid System with net metering

Hospital: 100 kWp Hospital Ac coupled Solar PV System

Drinking Water: 100 kWp On-Grid Water Pumping System

School: 40.96 kWp On-Grid solar system

School: 40.2 kWp On-Grid System with net metering

Hospital: 66.8 kWp On- Solar System with Net Metering

Cable Industries: 165.8 kWp On-Grid solar system

3.5MWp under Construction
Let’s Empower your business.

Contact Us For Further Discussion:
Address: SunFarmer Nepal, Ward-10, Chitij Marga, Sankhamul, Kathmandu, Nepal
Phone: 01-5242007
Email: info@sunfarmer.org / avishek@sunfarmer.org
Website: www.sunfarmer.org