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Energy Cost Management through Renewable Energy

26th September 2013

Given the low utilization factor and high capital cost of renewable power sources, can I save my energy cost through renewable?

Are you facing:

- Significant expenditure on electricity bills
- Issue of power cuts and unreliable power supply
- Usage of expensive diesel power for back up and running of critical operations like data centers
- Risk of paying penalties in case of policy non-compliance
- Huge tax outflow

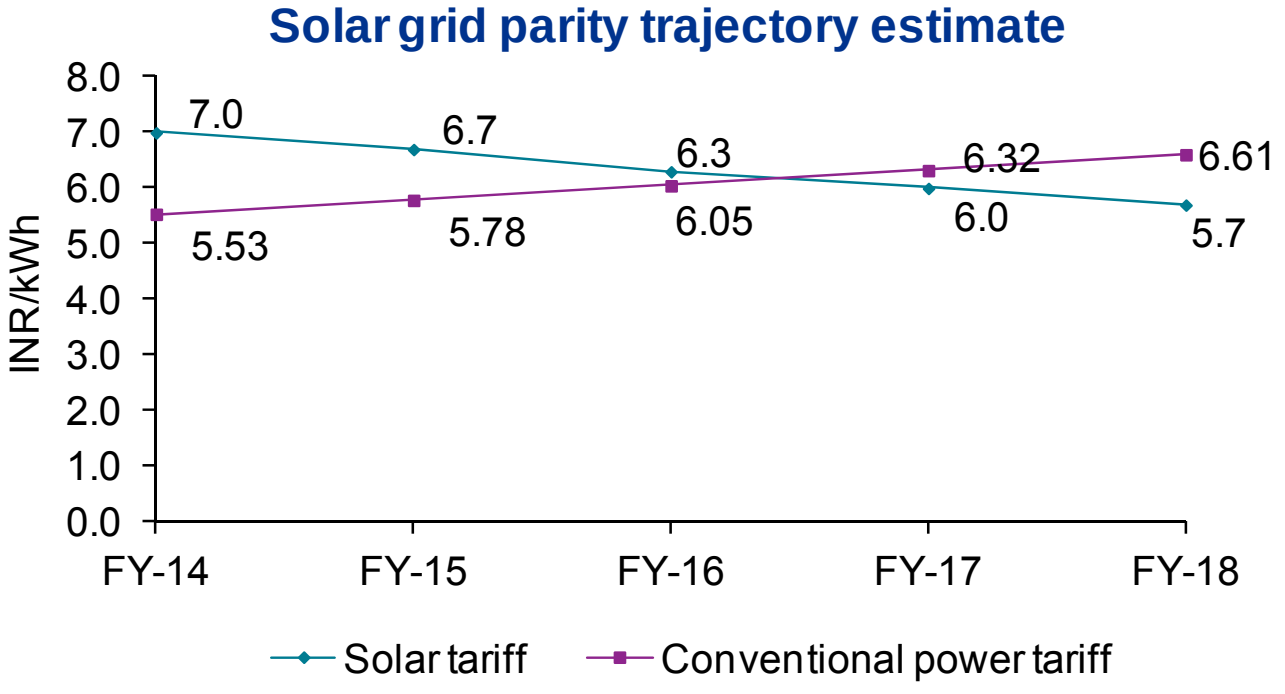
Benefits of Solar & Renewable Energy:

- Accelerated Depreciation benefits & Tax Holiday
- Reduce electricity bills
- Receive power even in case of power cuts (through Rooftops)
- CSR & Sustainability: Green source of power
- Govt. subsidy of 30% for rooftop projects

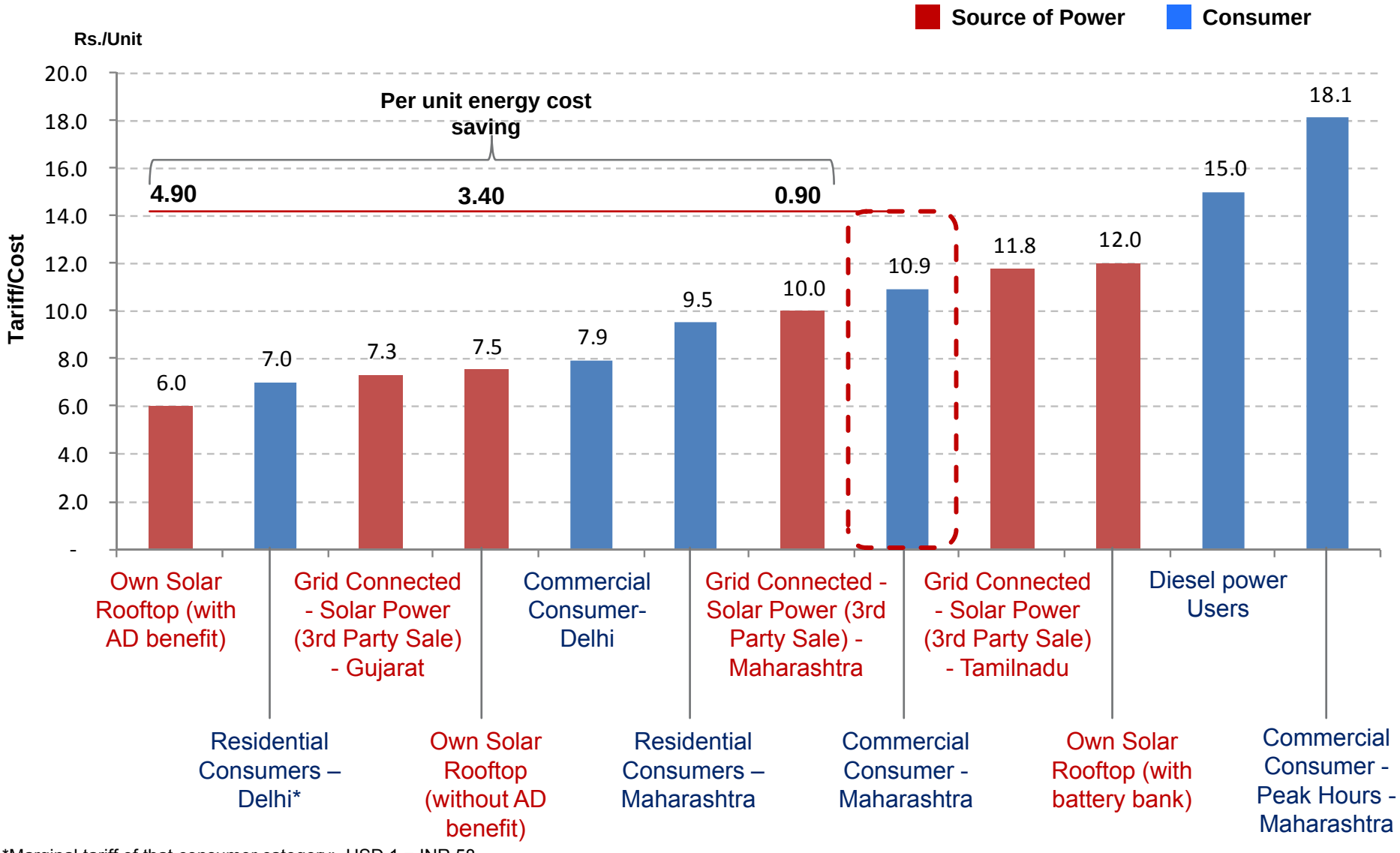
A consumer by consumer view that needs to be taken to evaluate commercial viability of renewable

With grid power becoming costlier and solar power prices coming down, more and more consumers are expected to fall in this ambit…

We had anticipated utility-scale grid parity in the timeframe of 2017-2019 for India. We now believe it is likely to occur at the **earlier end of that range**. Parity for retail power consumers is anticipated to reach **earlier than at the grid level** (shown below).



Let's look at a few consumers that can immediately be benefited from renewable power as a source…



*Marginal tariff of that consumer category; USD 1 = INR 58

While the financial analysis presents a promising picture for renewable power, there are some key enablers that are critical to make it operationally feasible…

- According to some external studies*, grids with some degree of inherent flexibility can absorb upto 20% renewable (intermittent) power. Beyond this level, grid scale investments as well as renewable equipment design changes are required
- Availability of transmission evaluation capacity and open access facility
- Availability of options like net metering and power banking to utilize excess power generated through solar systems
- Isolation of Open Access Customers from regular load shedding by power utility

Source: *Sunshot study; NREL Paper on large scale deployment of solar PV in US - 2006

A few states have recognised these challenges and acted on it...

Tamil Nadu (An Example)

- Tamil Nadu has also announced a Solar Policy that mandates 6% solar purchase obligation (3% till December 2013 and 6% from Jan 2014) for high consumption customers
- Policy allows for net metering for rooftop solar to compensate for excess power generated
- An incentive of Rs. 2/unit for first 2 years, Rs. 1/unit for next 2 years and Rs. 0.5/unit for subsequent 2 years will be provided for all solar rooftop installations

State Policy	Banking	Exemption on Transmission & Wheeling charges	Exemption of Electricity duty	Cross Subsidy Surcharge
Tamil Nadu	X	X	X [1]	Yes [1]
Andhra Pradesh	✓	✓	✓	No
Rajasthan	✓ [2]	X	X [1]	Yes [1]
Maharashtra	✓	X	X	Yes
Gujarat	X	X [3]	✓	No
Madhya Pradesh	✓	X	✓	Yes

Thank You