

# Thoughts on distribution sector reforms

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# Decades old challenges and diagnosis still relevant

Financial viability of DISCOMs

High cost of supply

Inadequate access and poor supply quality

Non-competitive tariffs for large consumers

**Causes**

*Issues with power procurement*

- 80% costs due to power purchase
- High cost of generation
- Flawed planning

*Operational Efficiency*

- Persistent AT&C losses
- High O & M expenses
- High cost for little benefit in capex projects.

*Skewed Tariffs*

- Subsidy to agriculture, other consumers
- Excessive cross subsidy

# Distribution Sector – New challenges → new approach

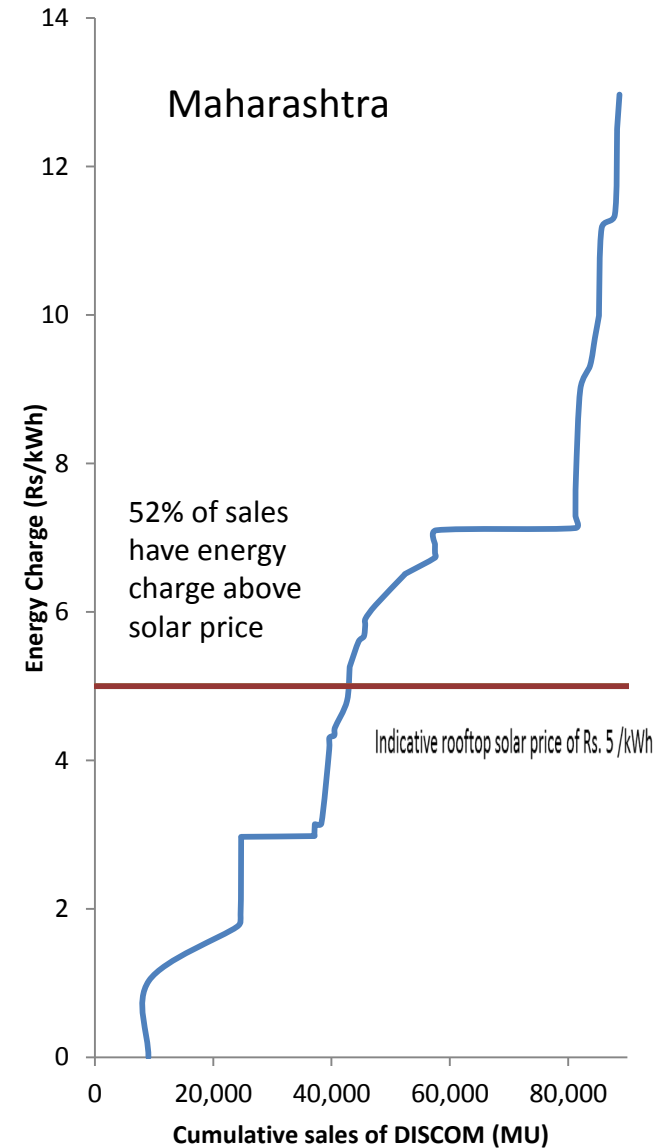
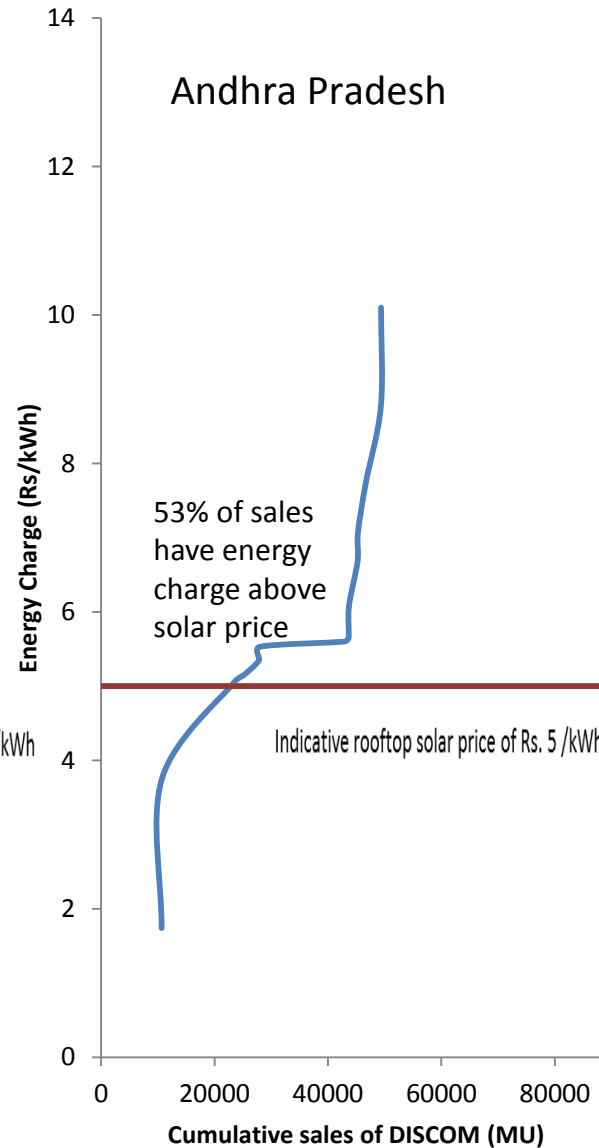
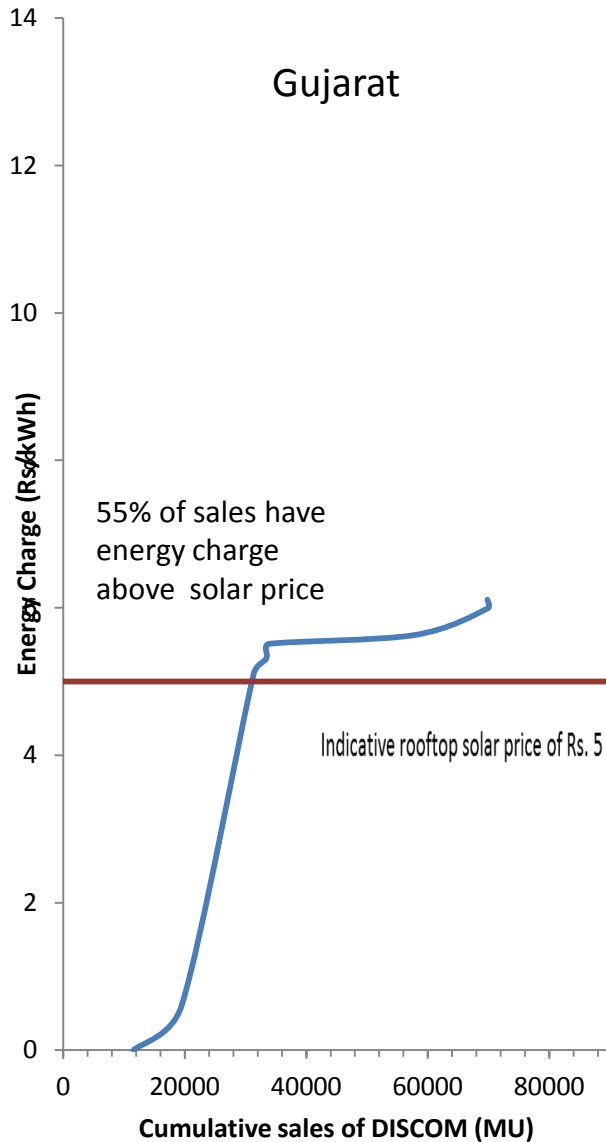
- Increasing sales migration due to high tariffs
  - Open Access and Captive options
    - HT sales growth rate in Punjab, Maharashtra and Madhya Pradesh has been negative in the recent past.
    - Most of the open access is on short-term basis (day ahead)
    - 40% increase in captive consumption in Gujarat (29,000 MU) and Rajasthan (11,300 MU) between FY11 and FY15
  - Falling prices of renewable energy
    - Latest discovered tariffs < Rs.4/kWh
- Growing surplus power and its financial impact

State DISCOM (2015-16)	Backing Down Reported (MW)	% of Contracted Capacity (%)	Fixed Cost Payments to due to Backing Down (Rs. Cr)	% of total fixed cost payments to generators	Fixed cost payments for backing down as compared to agricultural subsidies (%)
Rajasthan	1,798	14%	1,051	16%	59%
Punjab	3,457	27%	3,006	33%	51%
Maharashtra*	4,231	19%	2,828	21%	59%
Madhya Pradesh	2,444	17%	2,177	28%	40%
Gujarat	5,525	30%	3,823	36%	348%

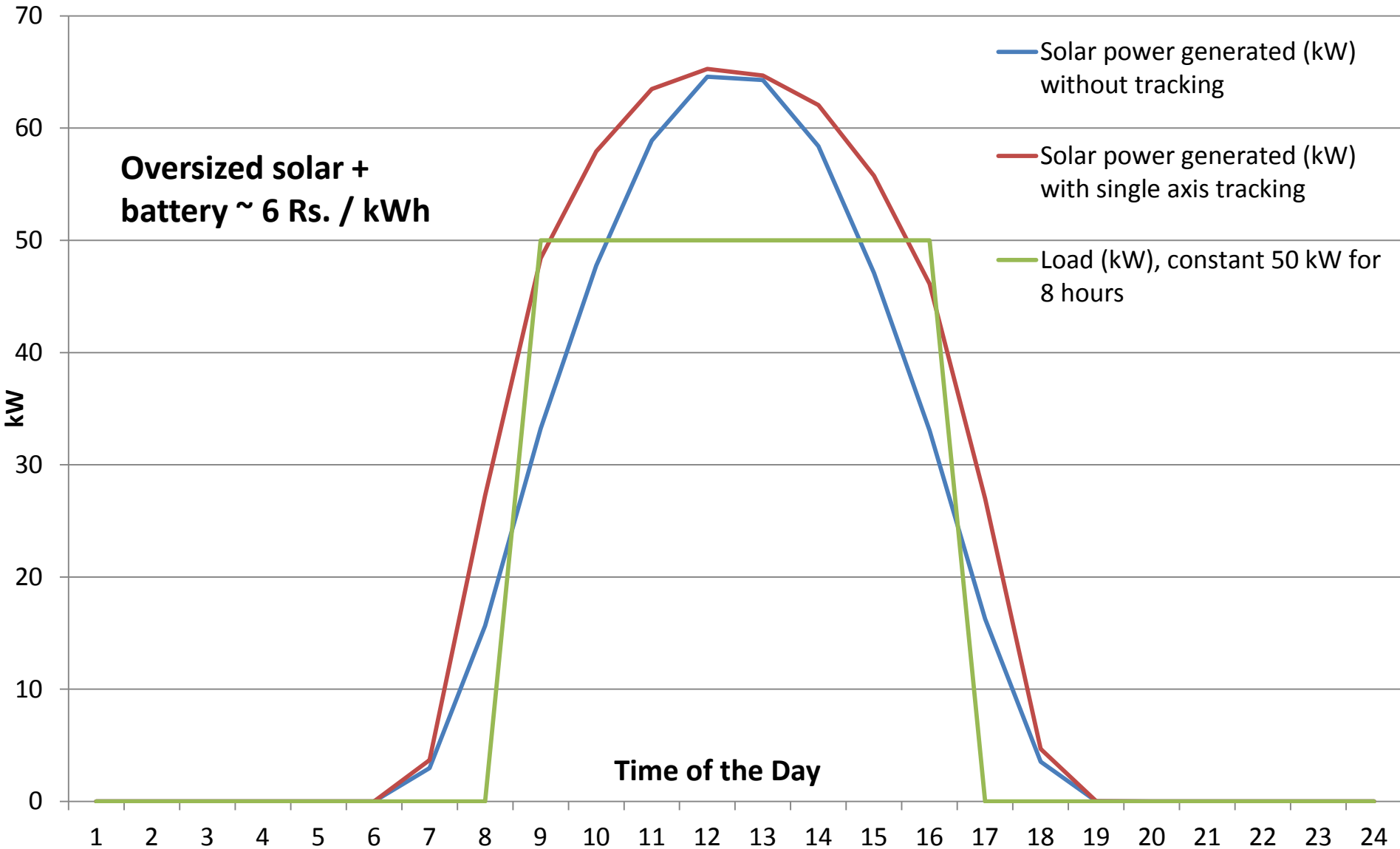
Source: Various regulatory submissions and tariff orders

\*Maharashtra data for the year 2016-17

# Renewable energy: A feasible and lucrative option.



# Solar generation profiles and customer loads



# Emerging scenario

- Non-discom supply options will be more economical and technically feasible for 'paying consumers'
  - Demand uncertainty for Discoms
  - Power purchase planning will become more complex
  - Increasingly limited scope for cross-subsidy based tariff design

## Role of DISCOM is changing:

- Current scenario
  - Responsible for wires and supply
  - Universal supply obligation
  - Dominant grid user
  - State demand  $\cong$  discom demand
- Future scenario
  - Provider of wires
  - Supplier of last resort
  - Grid balancing
  - Meeting energy needs of small LT, rural and agri. consumers

# PEG perspective...1

- Transition inevitable, but can be used as an opportunity to bring about meaningful long term changes
- Political economy of the sector is changing
  - Levers of tariff and cross-subsidy will be ineffective
  - Many new players will enter the scene
  - Hitherto neglected, small and rural consumers will become the key constituency of discoms
    - Supply and service quality issues will become as political as tariff
- Next 3-5 year period should be used to as 'Transition Period' to 'FUTURE DISCOMS'

# PEG perspective...2

- Key strategies needed
  - Shrinking the distribution / power purchase pie
    - Avoid need for long term PPAs by DISCOMs
  - Deepening and broadening power market
    - Scale-up 'buyers' and more effective market instruments
  - Re-thinking tariff design
    - Focus on 'timely and automatic' tariff increase for LT and moving away from 'cost-plus' to 'performance and benchmarking' based tariff
  - Harnessing technology to enhance transparency and accountability
    - AT&C losses, supply quality monitoring



# Shrinking the pie ...1

- Mandating and facilitating sales migration on LONG TERM BASIS
  - Starting with 1 MW + and in subsequent phases 500 kW / 100 kW +
  - “Contestable consumers” opting to stay with Discom charged premium tariff
  - Fixed but tapering cross-subsidy surcharge (say Rs. 3 per unit) for the next 5 years
  - Strictly no ‘administrative’ hurdles for consumers moving away from DISCOMs
  - Consumers manage their supply from market sources, including surplus power of discoms
- No new power purchase contracts by discoms for the next few years
  - Increase in demand (e.g. LT segment) to be met by capacity relieved from OA consumers supply obligation

# Shrinking the pie ...2

- Better market design
  - Seasonal and medium term market instruments for enabling transparent trading of power
  - Enable access to market and ancillary services for migrating consumers
- What this achieves?
  - Avoid 'burden / opportunities' for new PPAs
  - Existing / depreciated generation progressively dedicated to serve LT network and HT consumers participating in 'market based pricing for generation'
  - With loss of cross-subsidising consumers, discoms will have no choice but to reduce inefficiencies
  - Deepening and broadening of power markets
  - Decisions for capacity addition to be made by players who are better suited to manage these risks

# Re-thinking tariff design

- Cross subsidy surcharge
  - Fixed, but tapering, decided for long term (5 yr. +)
  - Applicable for captive and all non-DISCOM consumers
- LT general tariff category
  - Combine all small (up to 300 units per month) residential and non-residential consumers under one tariff category
  - Tariff increase to be automatic (similar to FAC) on annual basis and linked to inflation
- Better implementation of MYT
  - Moving to benchmarking rather than “cost plus” approach to decide distribution cost
- What this can achieve?
  - Tariff certainty for small consumers
  - Assured tariff revision for discoms
  - ERC can focus more on wires business, loss reductions and supply quality monitoring

# Harnessing technology to improve transparency, and public accountability

- With proliferation of players, regulatory challenges will also multiply
  - Huge trust deficit between discom and small consumers regarding metering, billing and service quality issues needs to be addressed
  - Technology can be used to effectively deal with some of these challenges
    - Use of sophisticated metering infrastructure for monitoring power transactions
    - Data based commercial settlements, e.g. agriculture feeder data to be used for agriculture sales estimation
    - Real time supply quality monitoring with data in public domain
- What this can achieve?
- Improve reliability and accuracy of regulatory decisions
  - Stronger accountability mechanisms for both licensees and regulators, and higher transparency
  - Better informed public debate on the sector issues

# In summary

- Future DISCOMs to act as supplier for LT consumers and Wires Utility for HT and LT consumers
- Move away from 'cost-plus' approach to benchmarking based approach for distribution costs as well as retail tariff
- New generation largely based on 'market principles' to be contracted by large consumers directly (without DISCOMs as intermediary)
- Facilitating 'public accountability' through technology for improving 'wires' performance and 'supply quality'
- Strengthening transparency, accountability and meaningful public participation for addressing 'governance deficit'
- There will be need for transition financing / UDAY like mechanism (state governments taking over part of liability) in the transition period

# THANK YOU

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