

NEED FOR SMART METERING

2nd November, 2017, CBIP New Delhi

METERING TO CASH PROCESS

Energy Metering at Distribution level generates revenue for entire energy chain

Initial State



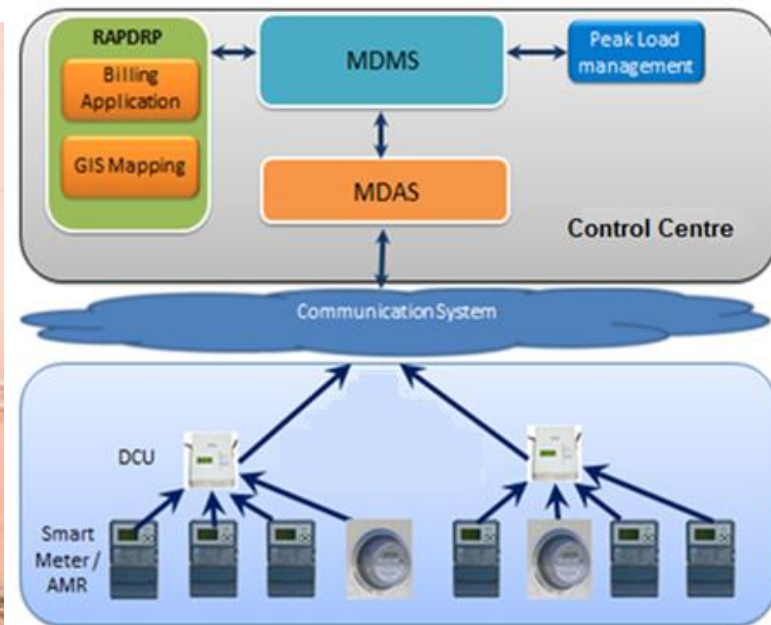
Revenue in 25-30 days post reading

Present State



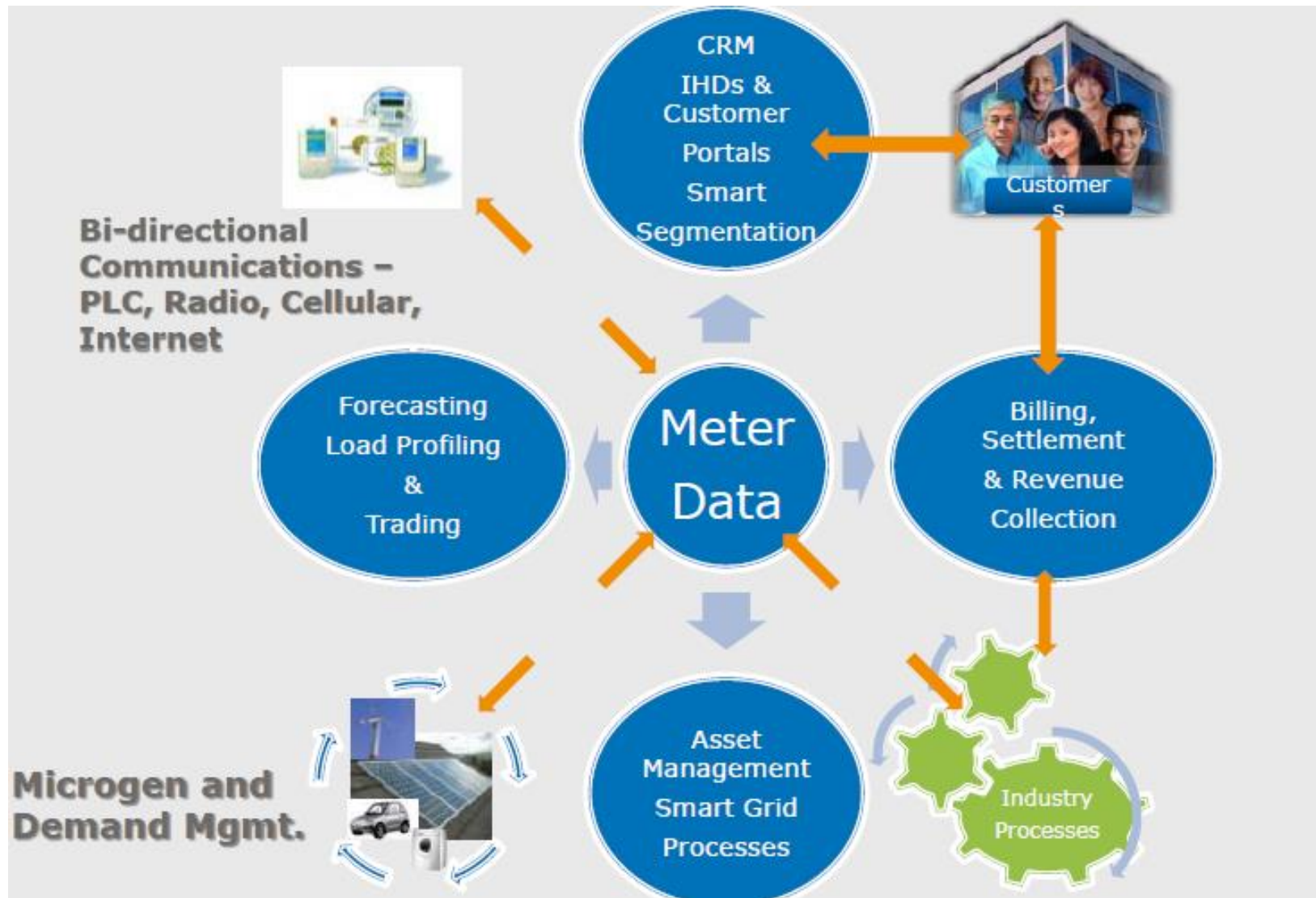
Revenue in 7-15 days post reading

Emerging State



Revenue in 7-15 days – Prepaid also a possibility

Measurements Usage Multiplication



Load Management

Present practice- Majorly from Generation side

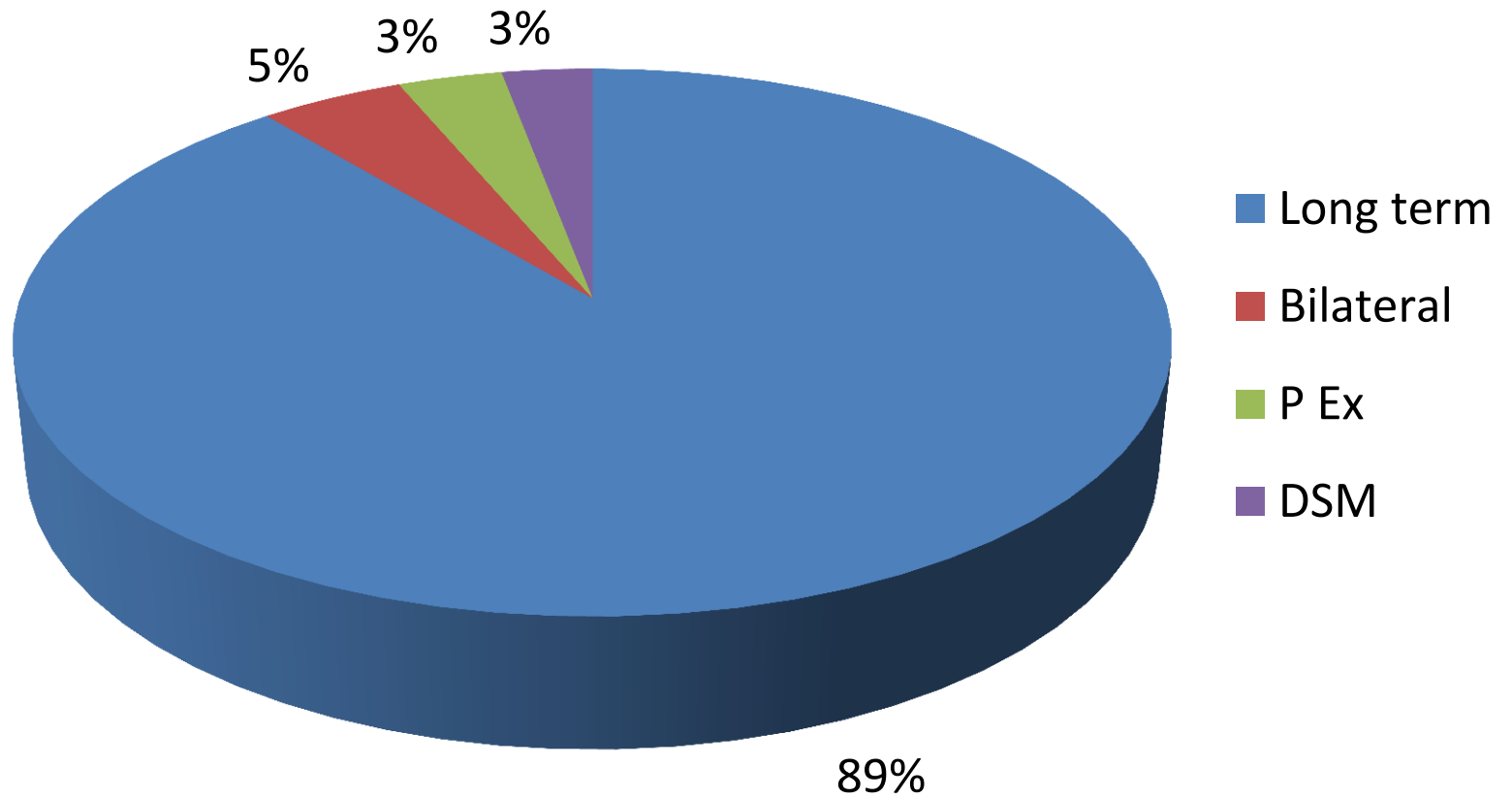
- **Long term, Medium term and Short term-** Commercial Mechanisms
- **Day ahead and intra day-** Basis flow of information incl Power exchange
- Information from Consumption end on guesstimation
 - On an average there have been 85 revisions by NRLDC in intra day schedules for States (Oct 17)
 - That's 85/96 -88% so if evenly spread every 20 minute there is need for change, if bunched may be 40 minutes – About DR can be effective in some cases

Future with Smart Meters- Increased management from consumption end

- Records and communicates data at intervals of 30 mins or less
- Credible information for load management

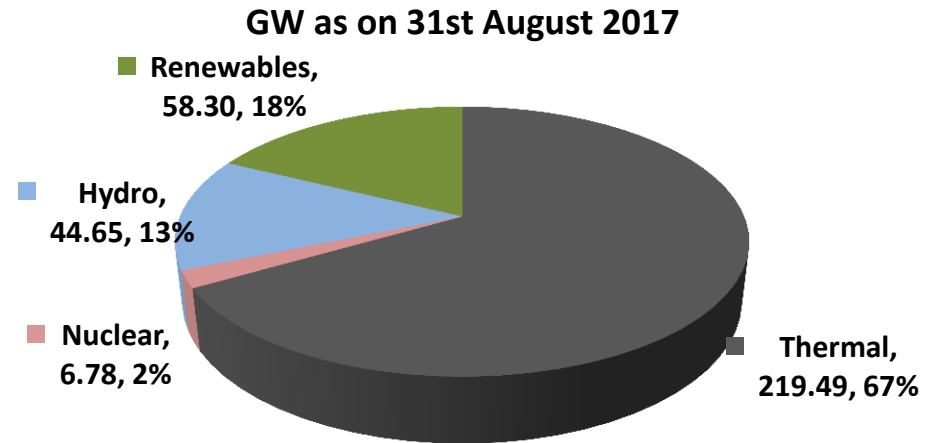
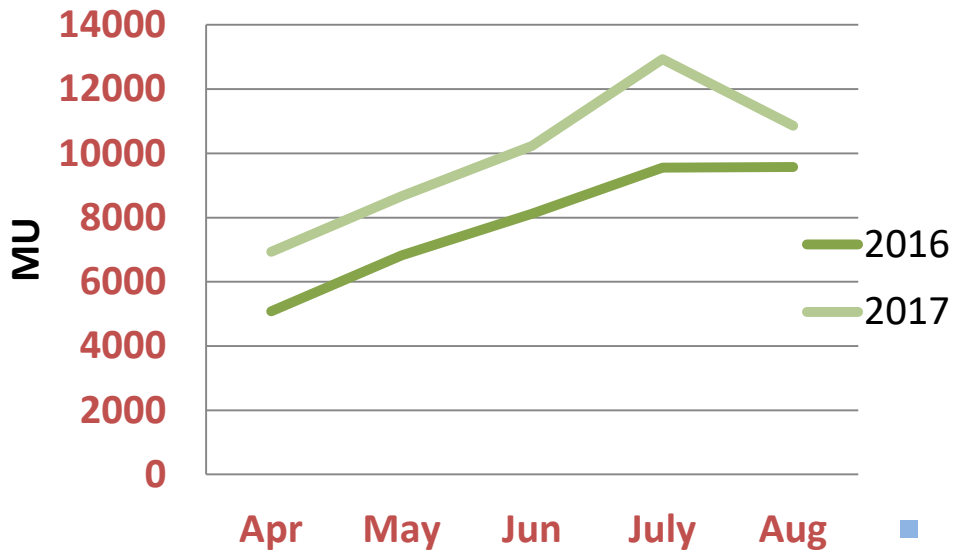


Share in Generation by Electricity Transaction type



RENEWABLE DISRUPTION

Growth in RE Generation



Renewables up from 15% in 2016 March to 18%

Renewable Disruption

[illegible]

EV Disruption

- ?? 2020 6 Million Evs
- 6 Units/Day
- Leads to 36 Million/ Day and 13 Billion a year
 - May be not to worry
 - Unless one accounts for
 - Concentration
 - Dynamism

Smart Metering Drivers for India

T&D loss reduction and efficiency improvements

- Reduce T&D network losses (including commercial) which is around 25%. Can be Mitigated through smart metering, modernization of lines and substations, automation systems

Access to energy for the masses

- Rural electrification of 100% households by 2017 by implementing micro-grids, rooftop solar, DER etc

Renewable integration to grid

- Roof top solar, micro-grids, wind energy integration into the grid

Load Management

- Demand response, Demand Side Management enhancement in energy efficiency etc

System improvements

- Reduction in outages/power cuts, improvements in reliability and quality of supply

Customer service

- Improved customer service and “prosumer” enablement

Thank You

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