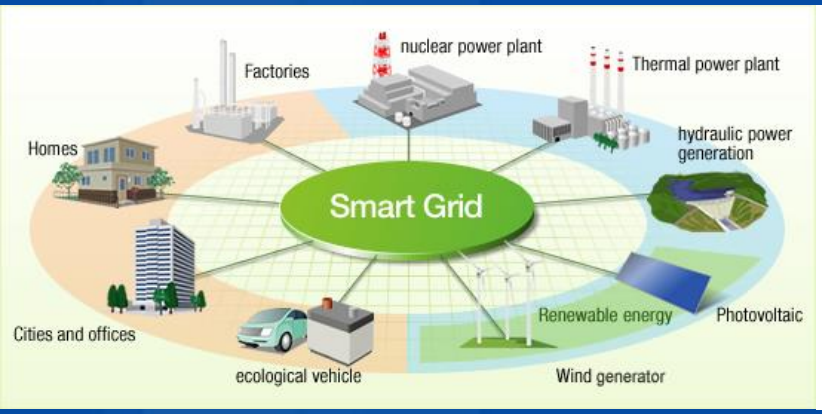
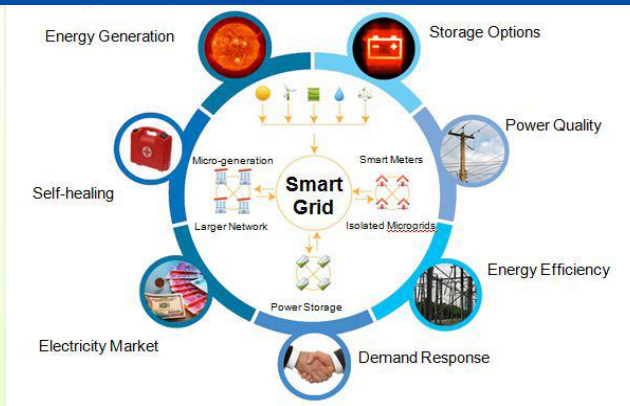
Role of Smart Grid in Smart City

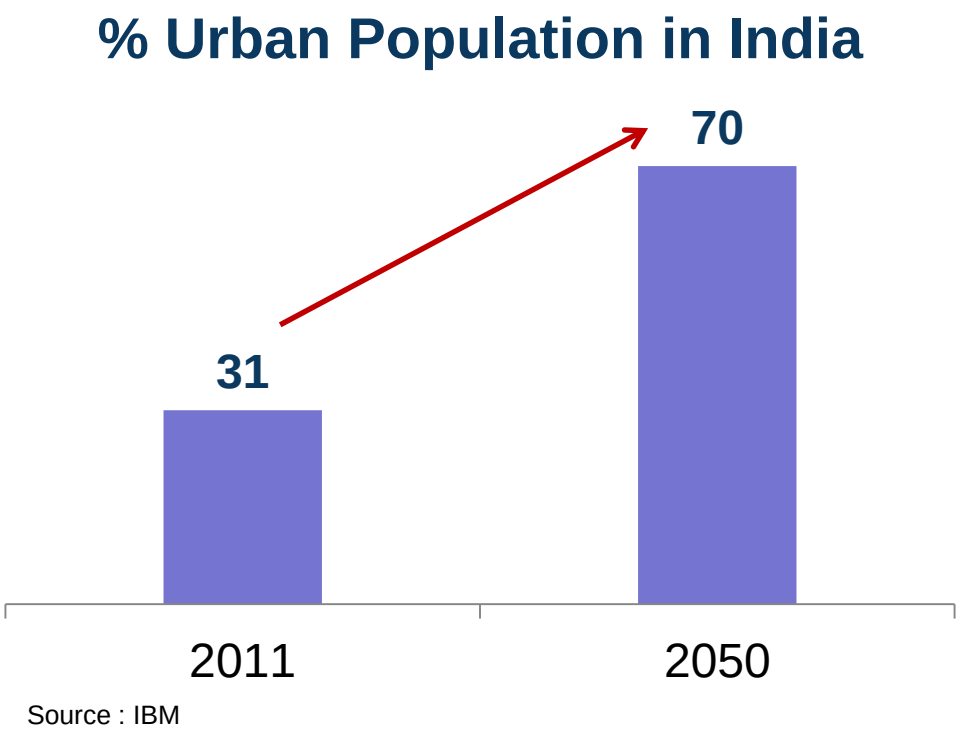
R R Mehta, CEO Reliance Energy

04/03//2015





Smart City : Need



Source : IBM

- By 2050, 70% of Indians will be living in cities
- Every minute, for the next 20 yrs, 30 Indians will migrate from rural to urban areas
- 27 “megacities” instead of 19 today
- 500 new cities will need to be built
- As population centres grow, there will be greater demand on :
  - Infrastructure
  - delivering better vital services

Cities need to become smarter : efficient, sustainable & liveable

Smart City : India's progress

- Allocated Rs 7060 Crs towards 100 Smart Cities in FY15 Budget
- Followed up with Rs 2160 Crs in FY16 Budget

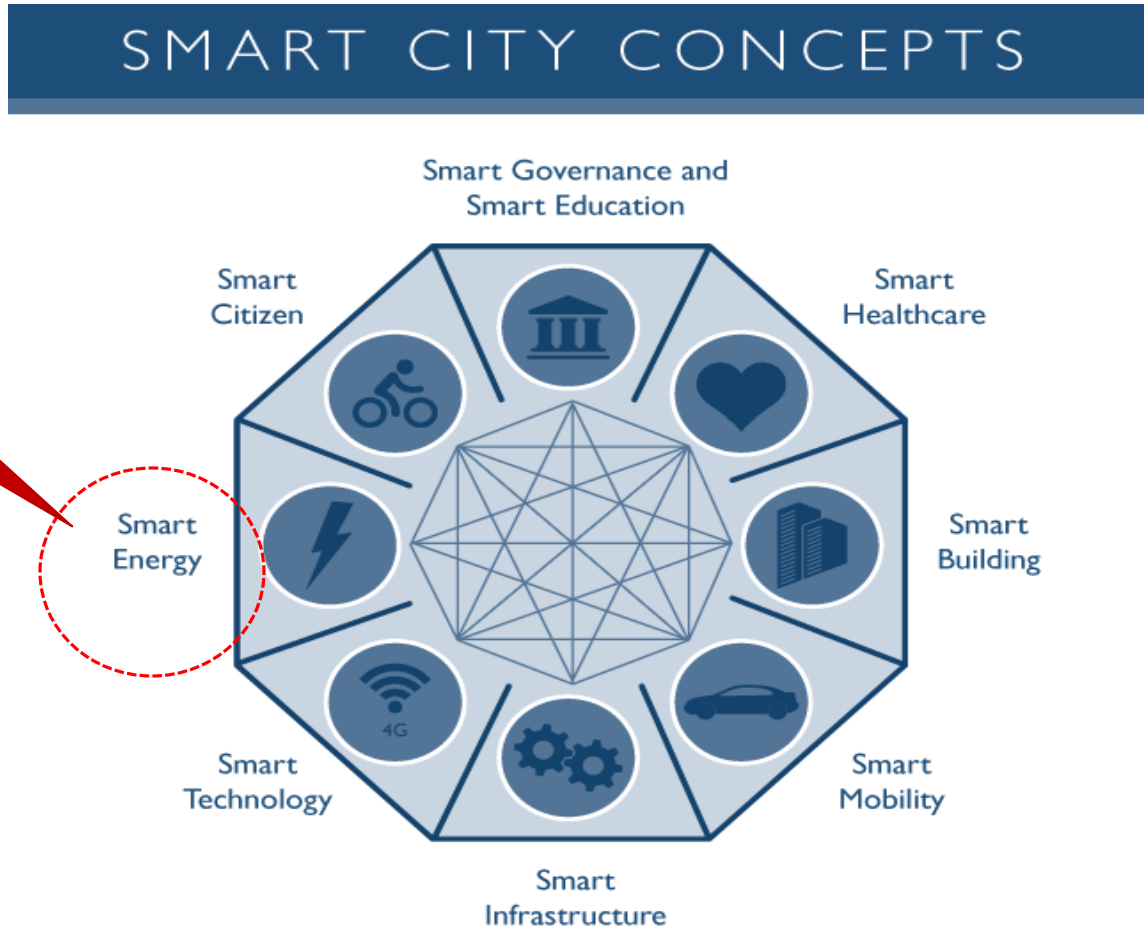
- India & US signed 3 MoUs to develop Allahabad, Ajmer & Visakhapatnam as "Smart Cities" during President Obama's visit
- In addition to above another 5 MoUs have been signed with other countries

"..21st century is will be a century of cities" – Former Mayor of Denver

What is a Smart City

As per Frost & Sullivan, Smart cities are cities built on “Smart” & “Intelligent” solutions and technologies that will lead to adoption of at least 5 out of the 8 key aspects that define a Smart City:

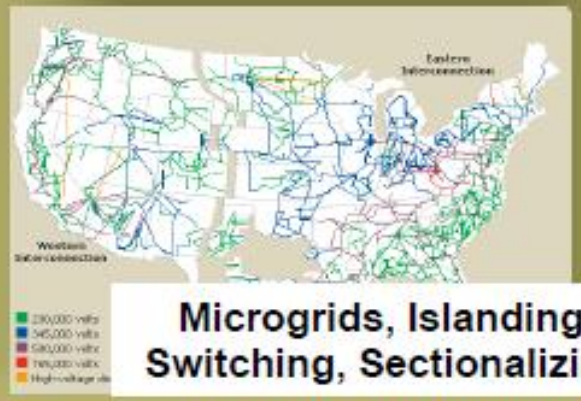
The most important of the 8 key aspects Without which none of the other aspects will work



To deliver smart energy we need a smart grid

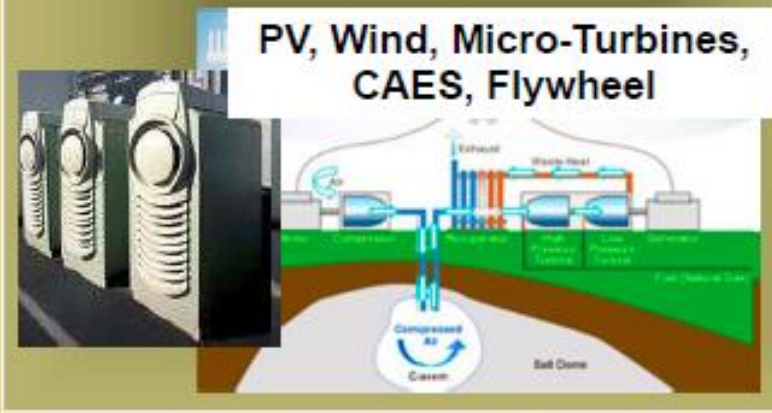
What is a Smart Grid ?

Intelligent Transmission and Distribution Automation?



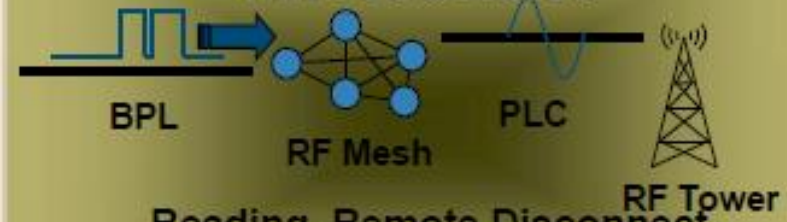
Microgrids, Islanding, Switching, Sectionalizing

Distributed Generation and Storage?



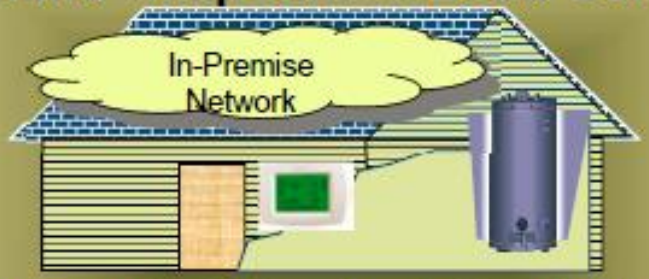
PV, Wind, Micro-Turbines, CAES, Flywheel

Advanced Metering Infrastructure?



Reading, Remote Disconnect, Capacitor Controls, Sensors, Wastewater

Demand Response & Load Control?



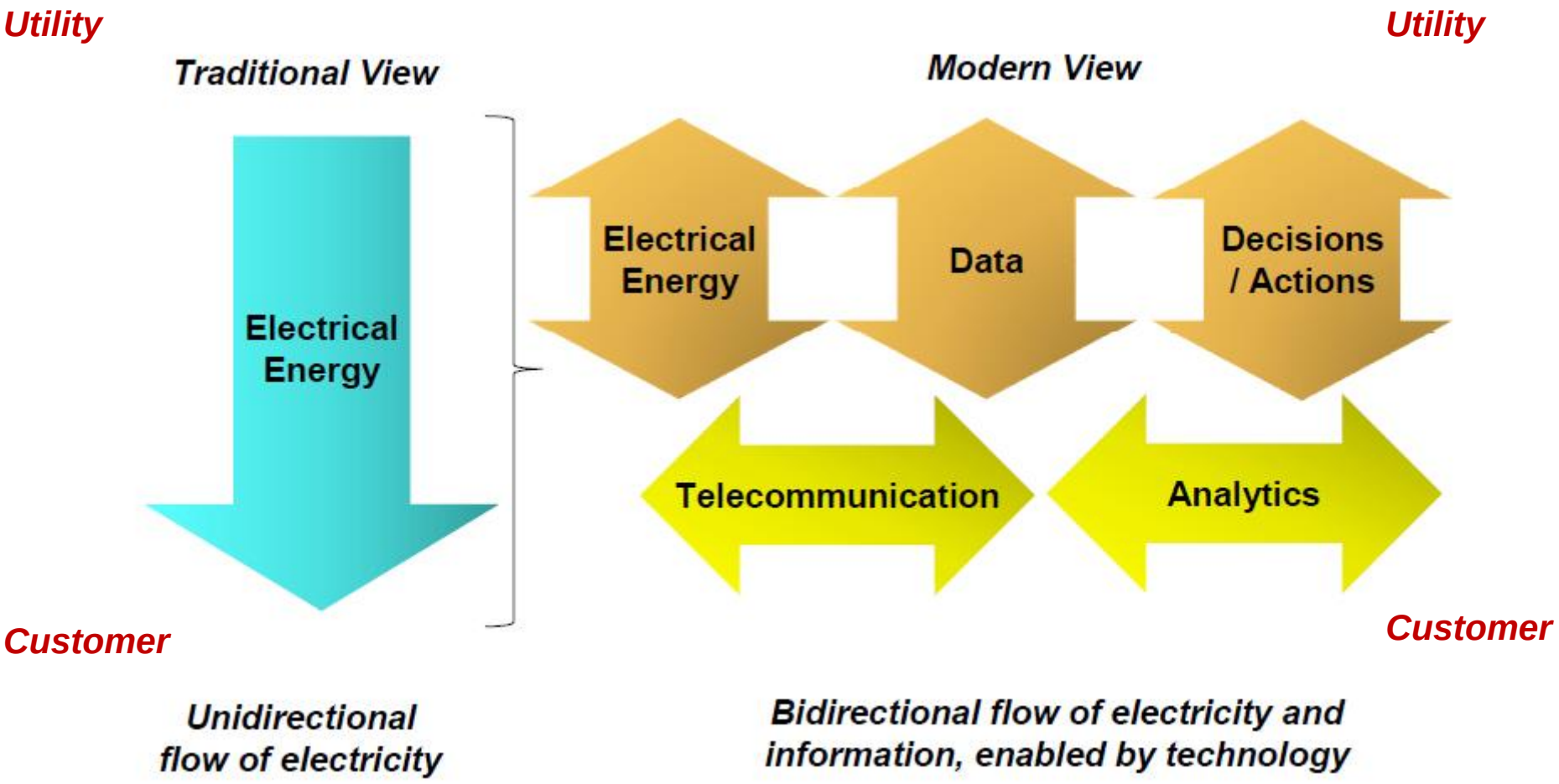
In Premise Networks, Automated DR, Integrated Demand-Side Resources

Varied definitions depending on the functionalities

What is a Smart Grid ?

Merging of Electrical & Digital Infrastructures is Smart Grid

Smart Grid : Concept



Adding “Smartness” in Utility Systems

Smart Grid : Stakeholder Benefits

RELIANCE

CUSTOMER

- Manage energy consumption
- Participate in DR programs.
- Interconnection of distributed generation such as roof-top solar.
- Reduction in the number & duration of outages.
- Improve overall level of service quality & reliability

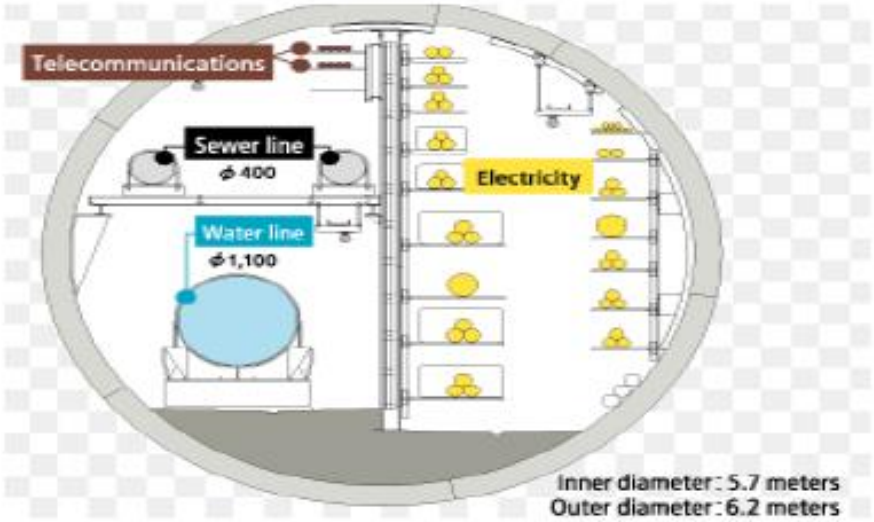
UTILITY

- Increase Customer Satisfaction
- Optimise O&M Costs
- Optimise Capital Costs
- Reduce losses
- Improve asset utilization
- Better control on system

Role of Smart Grid in a Smart City

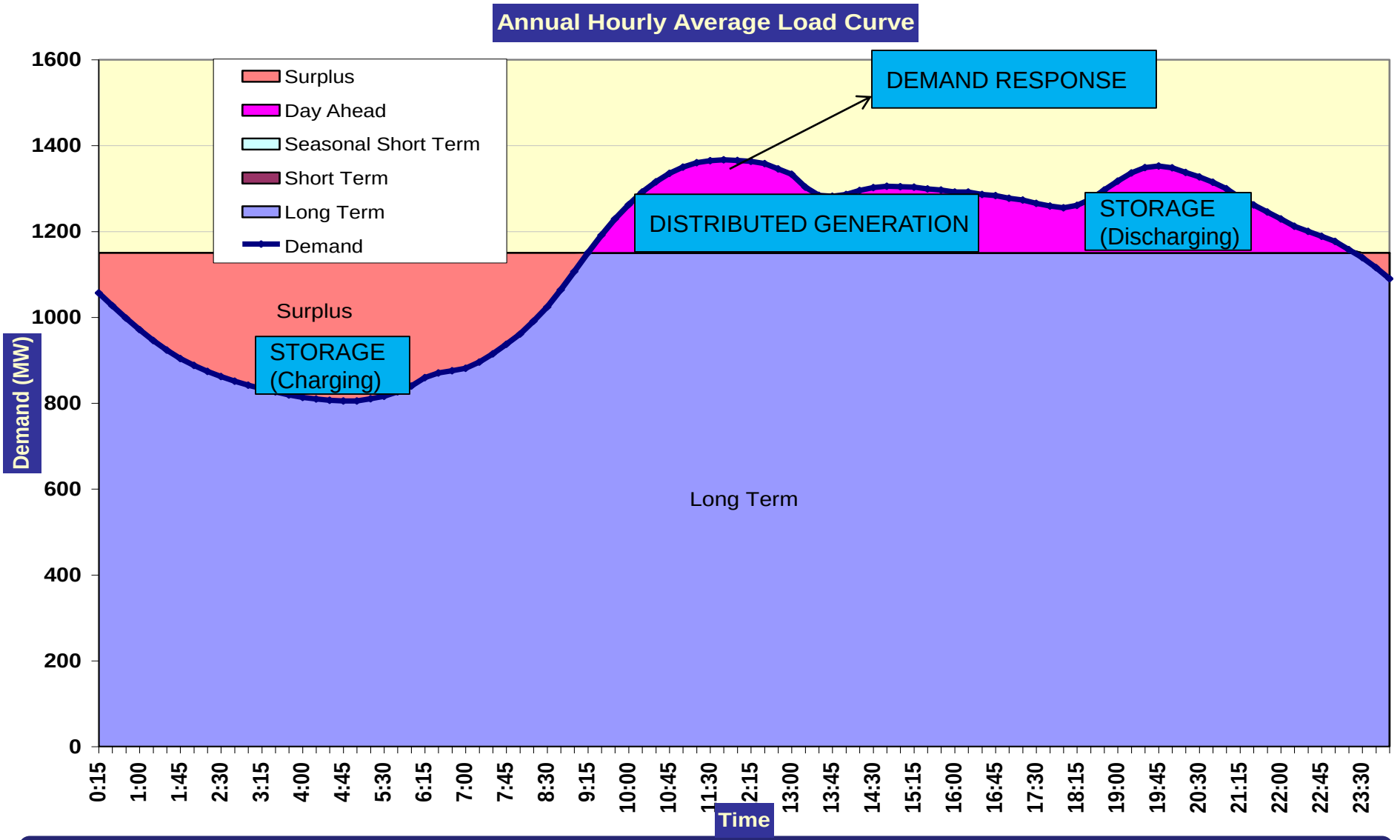
- Planning Infrastructure
- Optimizing the use of Infrastructure
- Providing services on demand
- Enabling smartness

Planning of Infrastructure



Integrated planning for utility infrastructure

Optimising usage of Infrastructure



"*LESS*" is the new "*MORE*"

Providing services on demand

RELIANCE

Reliance Energy

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Search

1800-200-3030 (24x7 Toll Free)

About Us | New Connection

MY ACCOUNT | PAYMENTS | BILLING | MONEY SAVERS | WHAT'S HAPPENING

QUICK ACCESS

- Outage Information
- Check Meter Reading
- Check Complaint Status
- Check New Connection Status
- Your Feedback
- Forms You Need

FUNCTIONS

- Load Change
- Change of Name/Address

CONSTRUCTION POWER

You are here: Home | Quick Access | Change of Category

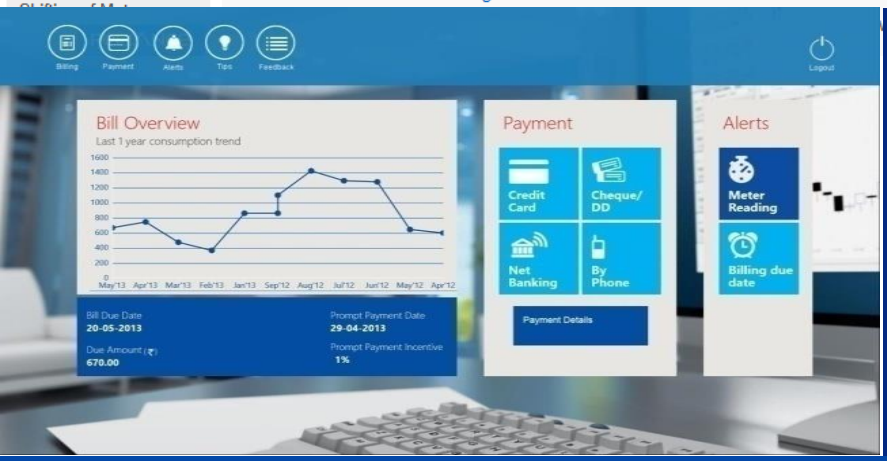
Availing Construction Power for Building & Power projects

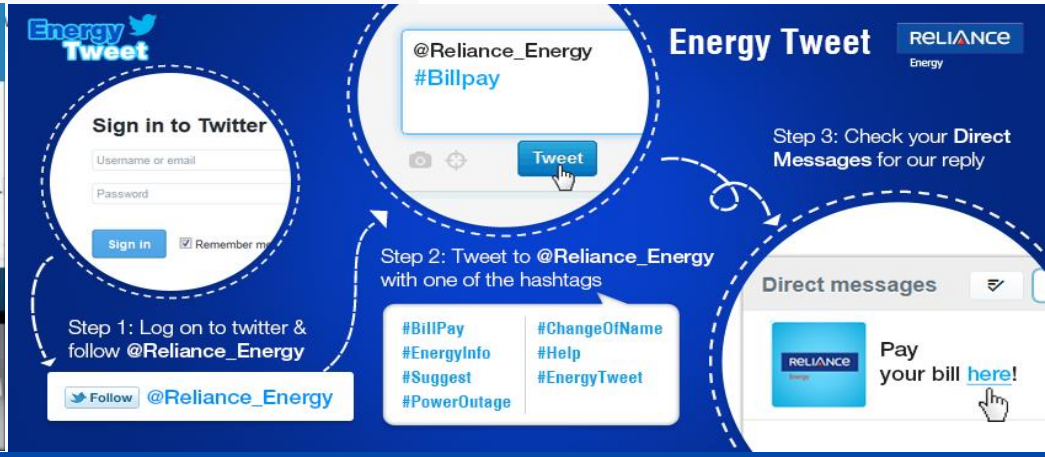
To apply for a new electricity connection for construction power all you need to do is follow these simple steps:

Step 1

- Click here to download form 20.1 Or Click here for online registration
- Fill the Application form 16.1 (page 1) in block letters with black ink and sign across the photograph.

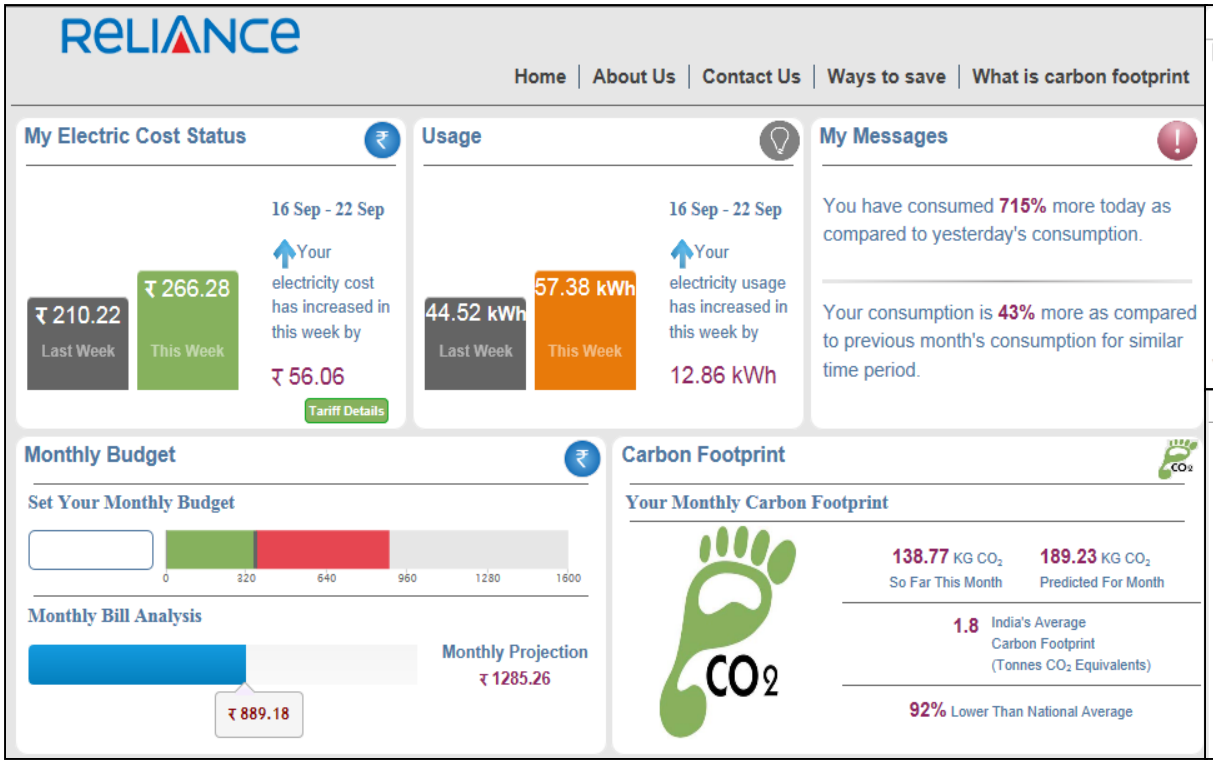
Click here English / Marathi to download form

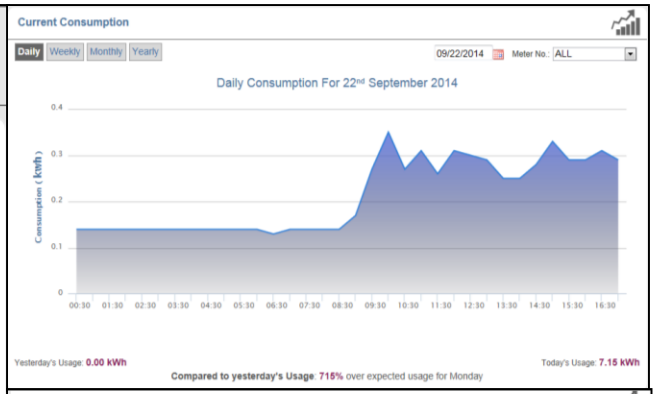


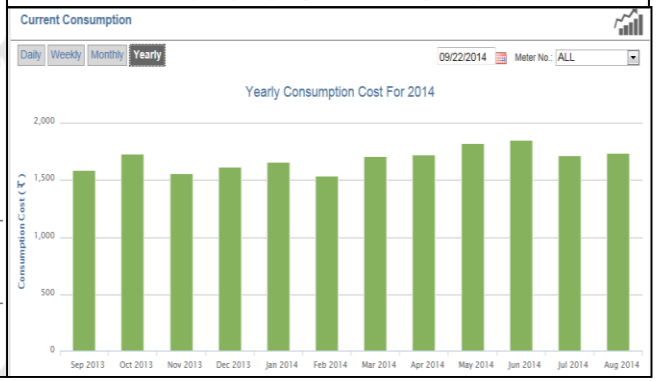


Enabling Smartness

"My Account+" - Residential





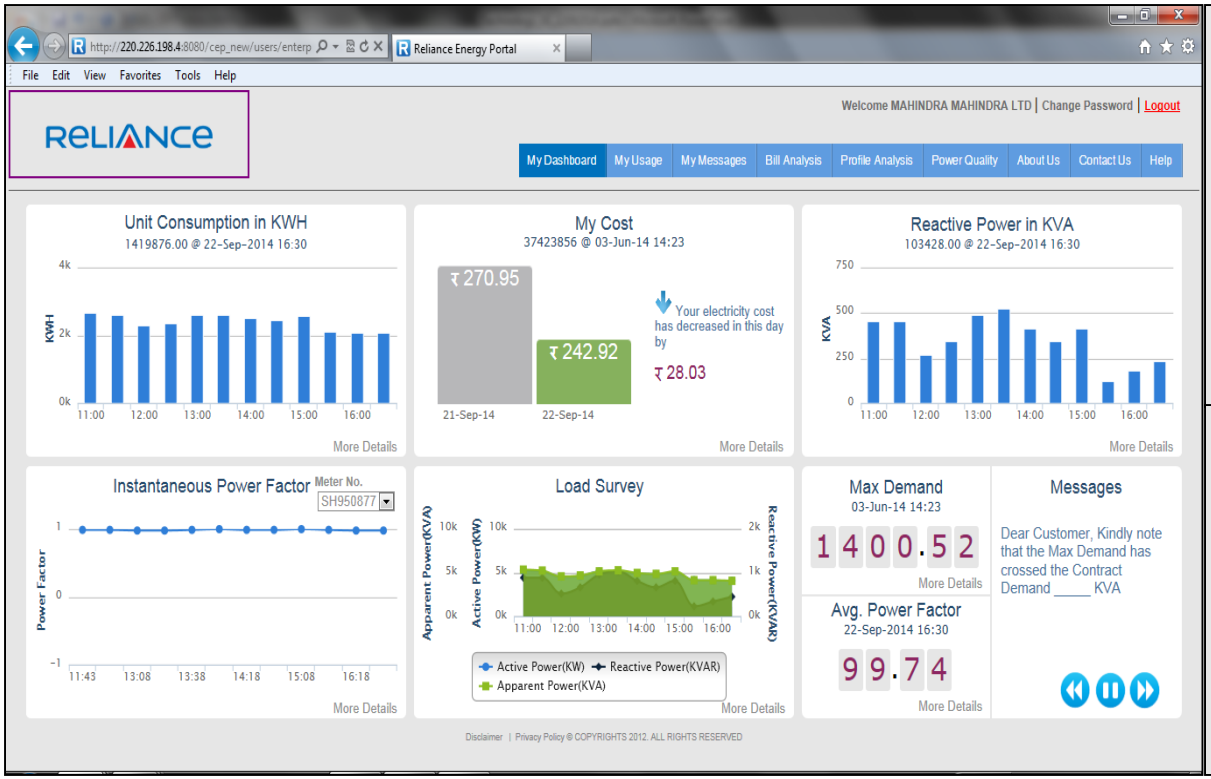


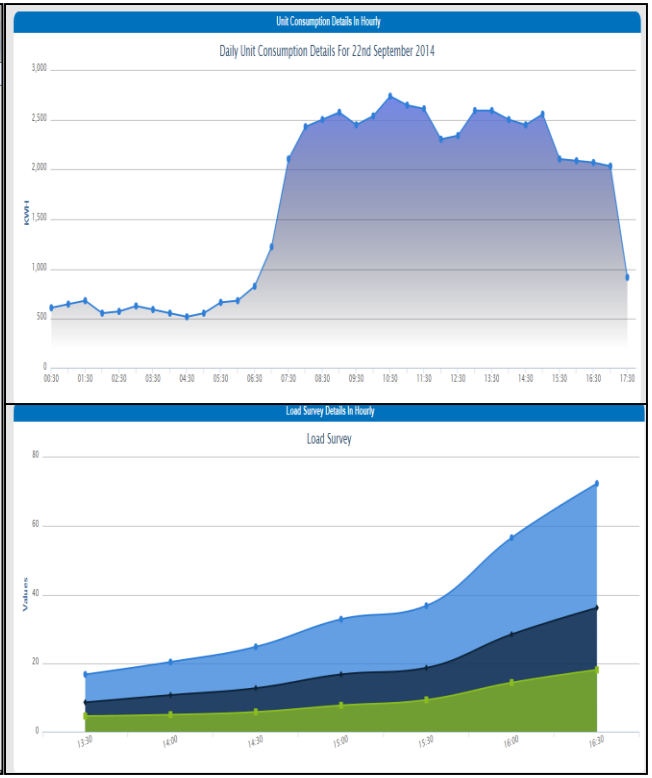
- Real time tracking of consumption & amount
- Monthly Budgets
- Carbon Footprint
- Personalised messages & alerts

Enabling consumer empowerment through access to real time data

Enabling Smartness

“My Account+” - Enterprise





- Real time tracking of all billing parameters

- Customised Alarms
- Personalised messages

Enabling consumer empowerment through access to real time data

RELIANCE