

**SIEMENS**

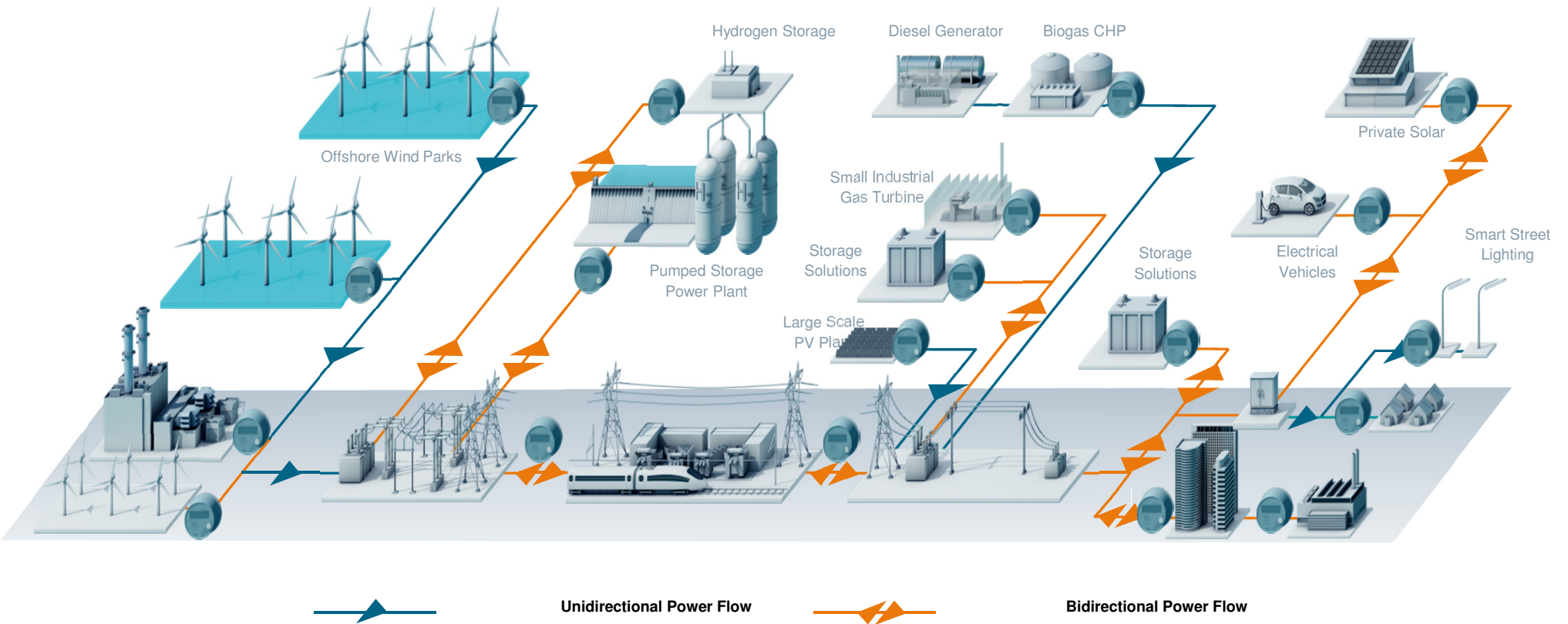
## Optimizing Buildings for OpenADR – Smart Grid

Aditya Aggarwal, P. Eng

Siemens: "We make real what matters".

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...to distributed energy and bidirectional energy balancing



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Traditional

- Peak reduction
- Forecasting load
- Monitoring and supervising

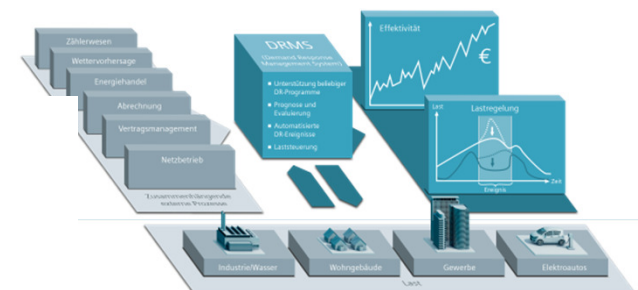
Distributed Energy Resources  
Smart Consumption

Future

- Balancing Against Renewable
- Storage for distributed generation balancing



- Open protocols
- Distributed and wide-ranged resources
- Customer satisfaction and loyalty



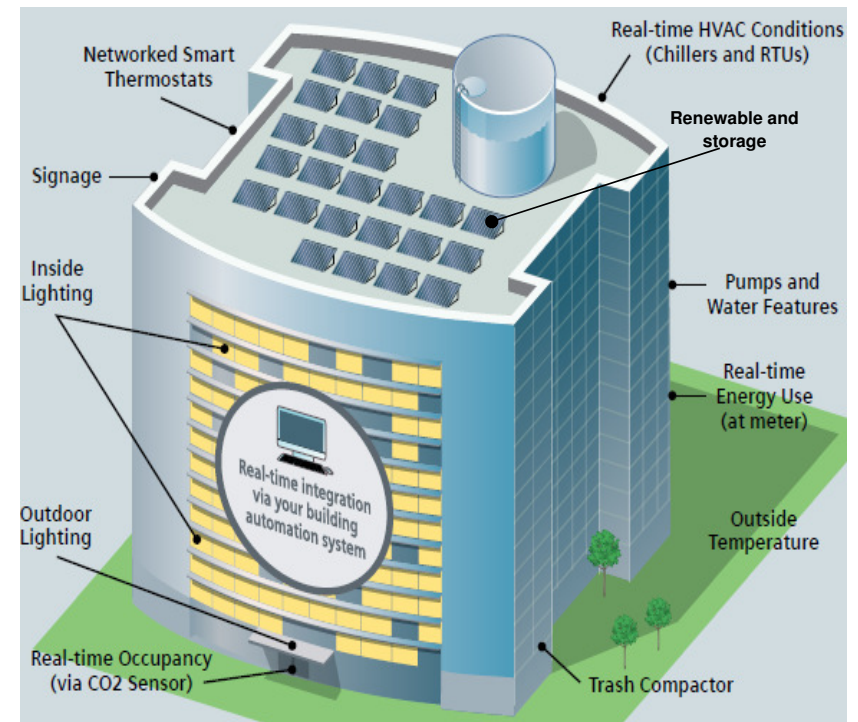
## Smart Consumption

- No longer a passive consumer of electricity.
- Two-way communications with the utilities.
  - Execute events.
  - Performance reports.
- Balance between onsite generation storage and consumption.
  - Forecast flexibility
- Ability to consume and not just shed load during events.

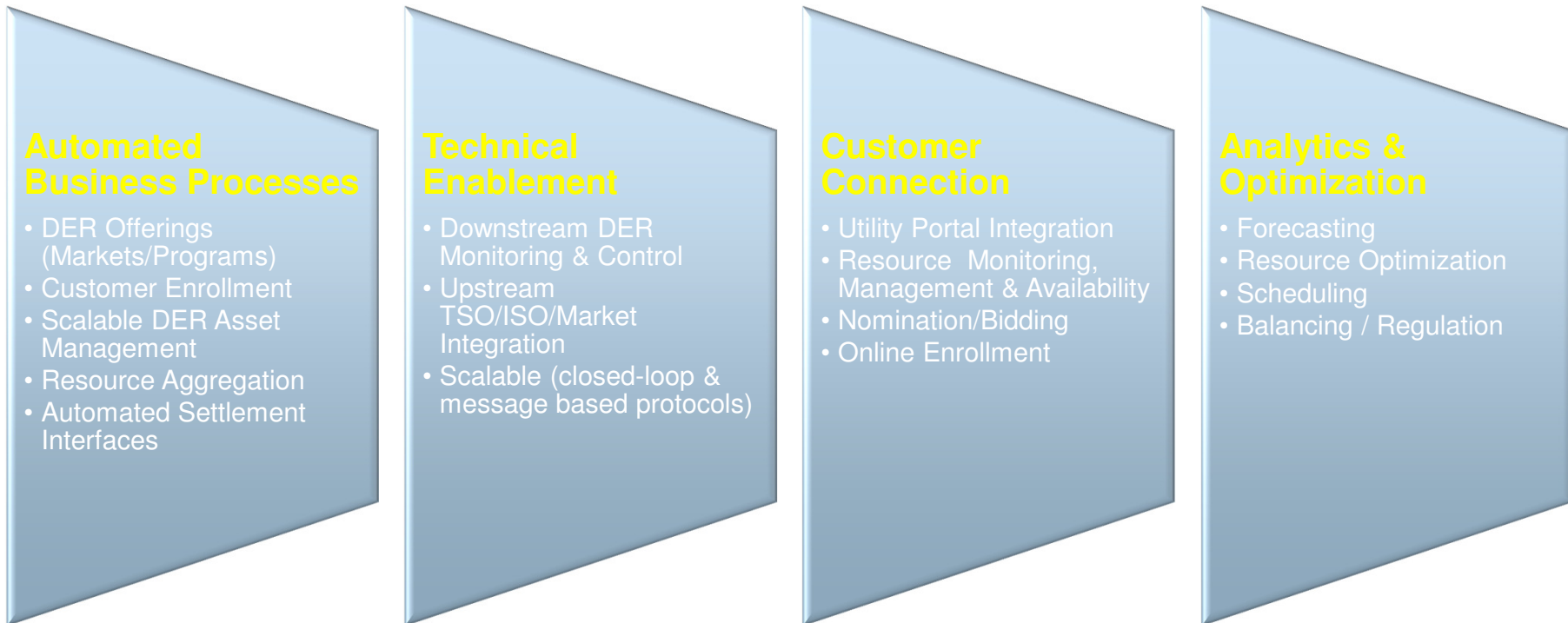
Traditional simple Signals and mandatory reports

Custom reports

Enhanced Signals Targets



## At the Utility



**One Platform to Leverage all Distributed Energy Resources**

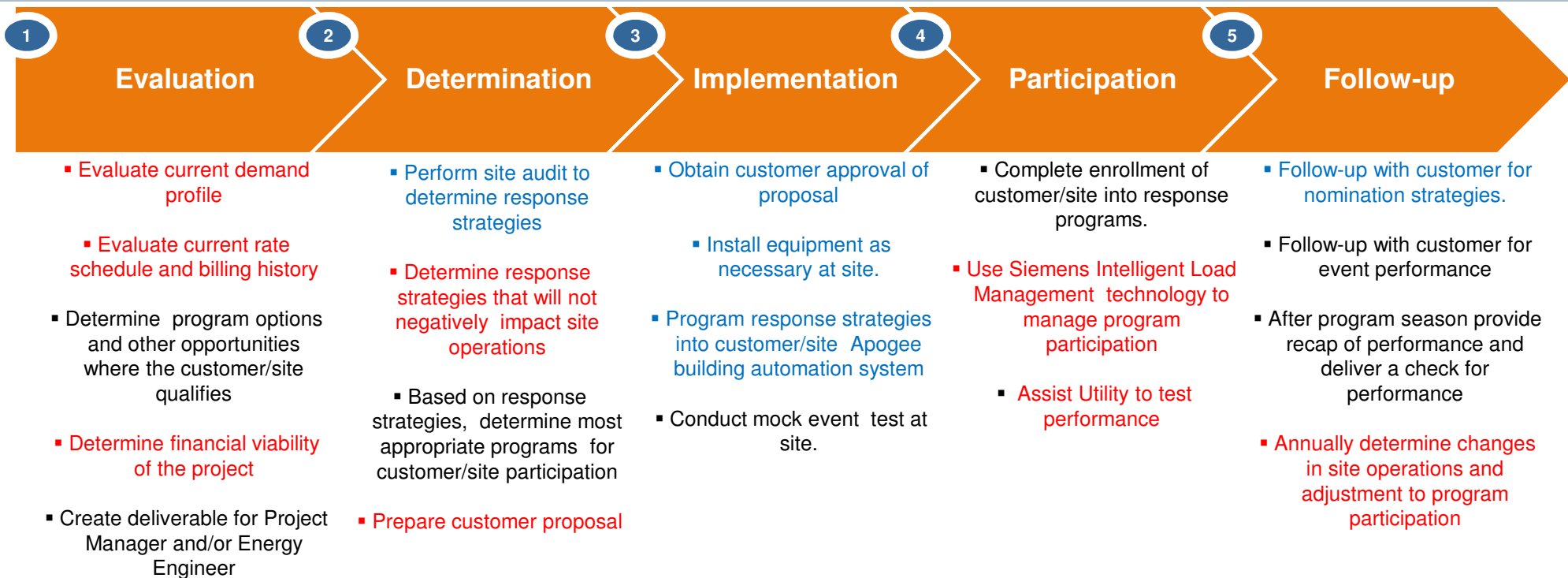
\* Ref – Siemens Demand Response Platform

## Deployment Considerations\*

- High energy usage and peak demand = high curtail-able load
  - Rule of thumb: 10% of peak load is curtailable.
  - More than 200kW curtailable load (2MW peak) is an attractive target.
- Large share of Non-Critical Loads
- Green and/or Sustainability Corporate Goals
- Restrictive covenants related to control
- Estimation of the shifting capacity of each segment

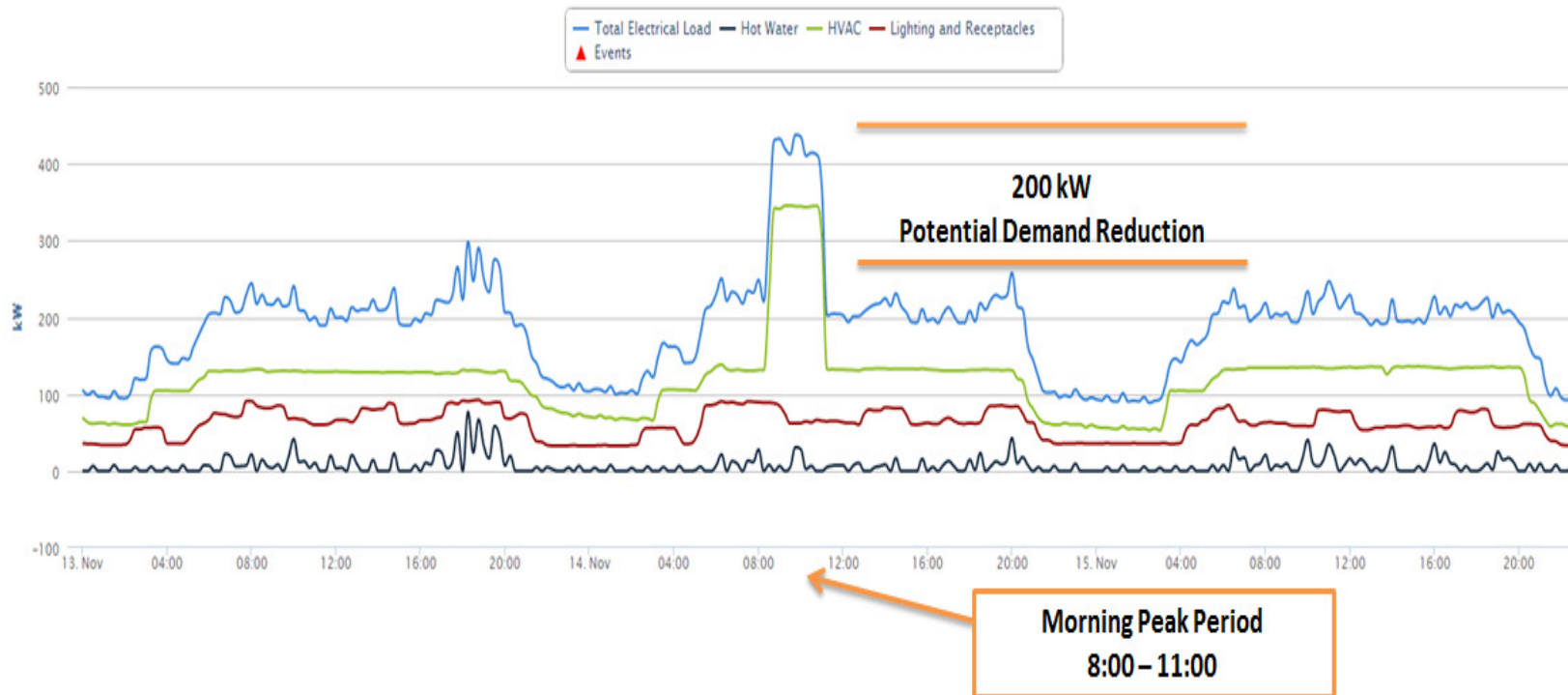
\* Ref – Siemens Building Performance & Sustainability, RCS, Intelligent Load Management (ILM)

## Program Phases\*



\* Ref – Siemens Building Performance & Sustainability RCS, Intelligent Load Management (ILM) Black text= RCS, Blue Text= Branch, Red Text= RCS and the Branch

# Demand Management



Ref: T4G – Winter load profile report



## Questions & Answers



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