

Energy Trends & Strategies for Industry Sustainability

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2016-2020 Grid of Things investments

Grid Modernization

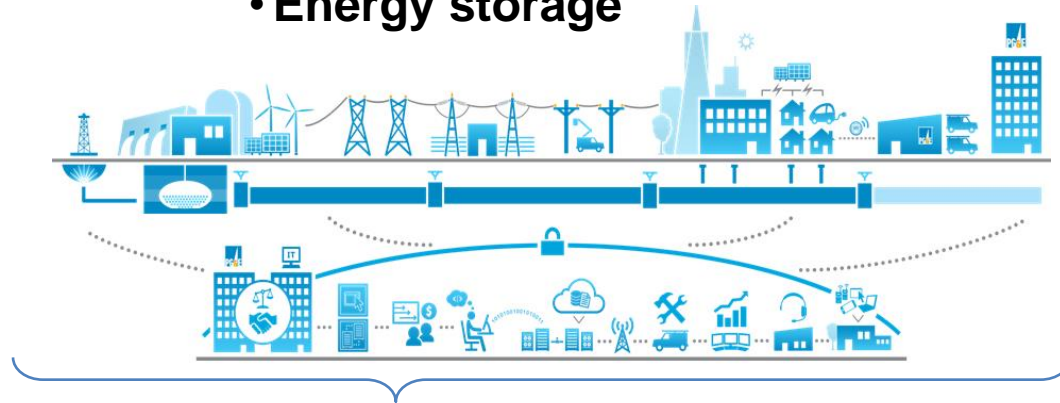
- Transmission & distribution SCADA expansion

Integrate Clean Distributed Energy Resources

- Distrib. system upgrades
- Smart line sensors
- Energy storage

Enable Customers

- EV infrastructure

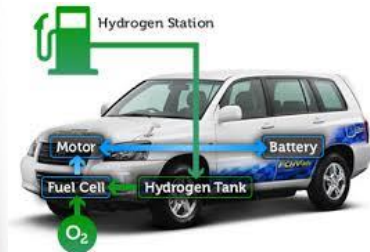
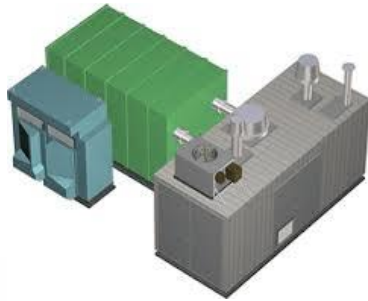


Across the System: Enhance Decision-making and Automation

Initial Investments:

- Advanced Control Center software
- Operator situational awareness analytics

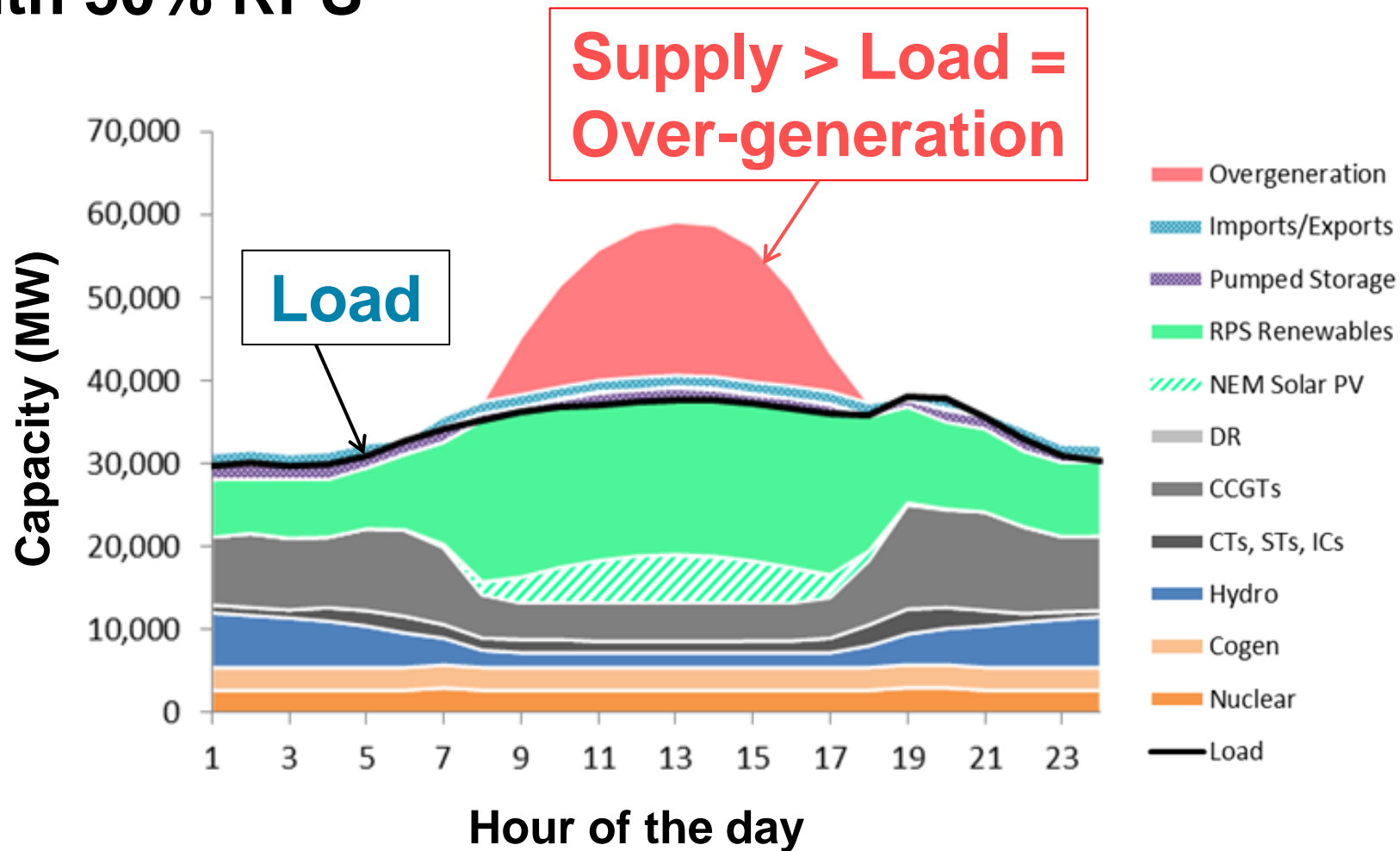
Transformative Policy



- **Federal and State carbon and environmental policy trajectory**
- **Significant and accelerating pace of technology change**
- **Continued growth of distributed energy resources and other customer-side technologies**
- **Changing business and regulatory models to facilitate more autonomy and choice for customers**

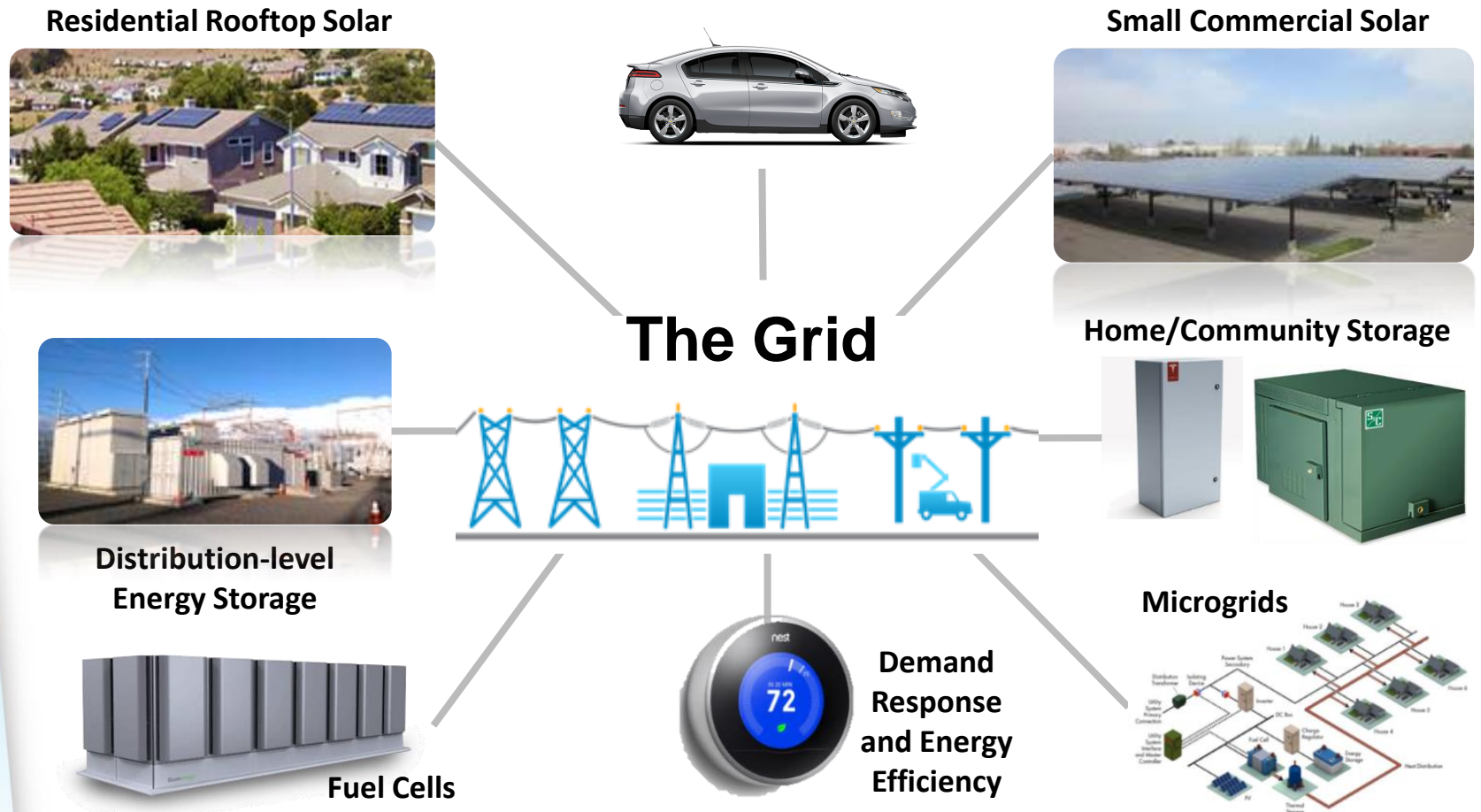
Over-generation

Generation mix calculated for April Day in 2030 with 50% RPS



What is the Grid Edge?

A set of technologies and services, leveraging traditional utility infrastructure with emerging distributed and responsive energy resources.



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Questions...