THE FIRST ANNUAL CONFERENCE ON THE LAW OF DEMAND RESPONSE –

Model Contracts for Demand Response -- Can We Create Tradable DR Property Rights?

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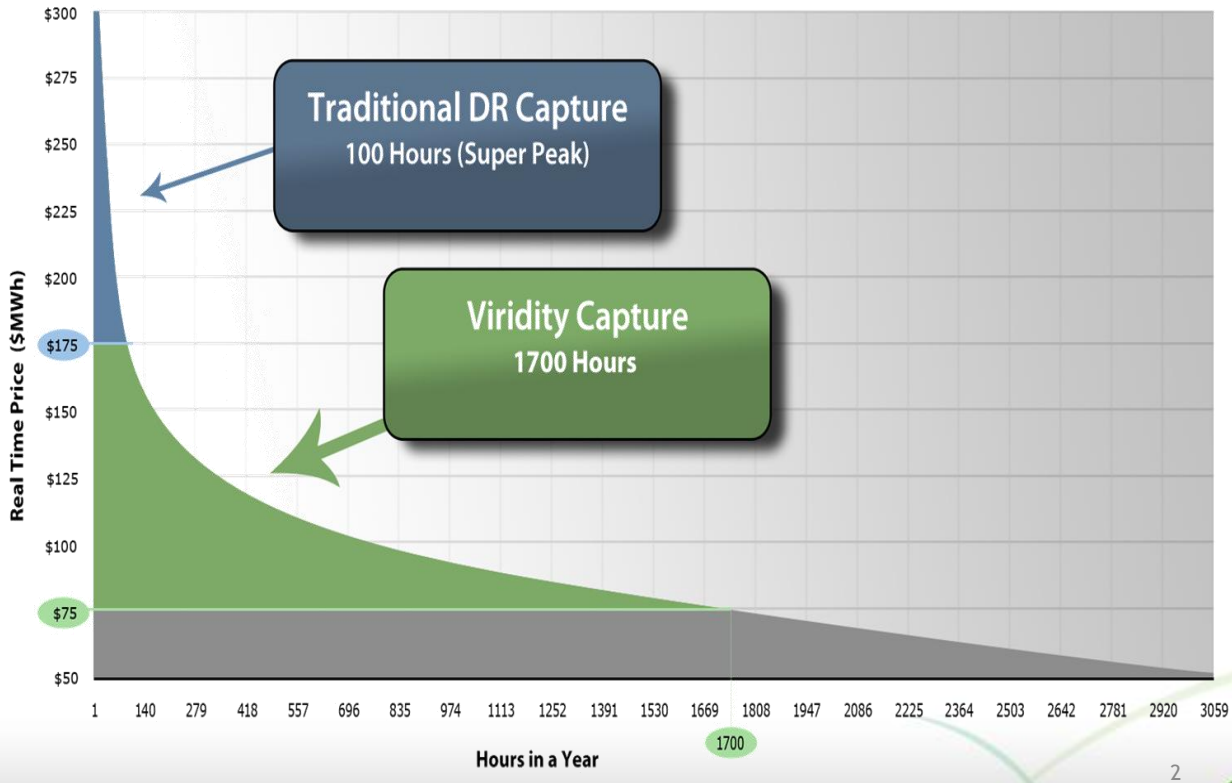
Viridity Energy: Key Facts

✓ Helps clients to minimize electric power expenses by optimizing their energy usage and simultaneously to gain revenues from participation in wholesale power markets

✓ Focuses on large energy customers (public agencies, universities, hospitals, commercial buildings, transit agencies, water utilities, military).

✓ Based near Philadelphia

✓ Founded in 2008 by former PJM executives



Why is active load participation in the market so important?

- ✓ Grid Reliability and Security
- ✓ System Efficiency and Economics
- ✓ Markets for Efficiency and Distributed Resources

Why and How do We Create Tradeable Instruments for Controllable Customer Owned Resources

- Why Should we Create DR Instruments?
  - ✓ Market Growth and Liquidity
  - ✓ Price Transparency
  - ✓ Market Efficiency
- How to Create DR Instruments
  - ✓ Standard Deliver, Timing and Performance Terms
  - ✓ Available as Tradable Products in Restructured Markets
  - ✓ Can result in Cleared Exchange Traded Products

The Power Grid of the Future requires advanced tools to coordinate distributed and variable energy resources

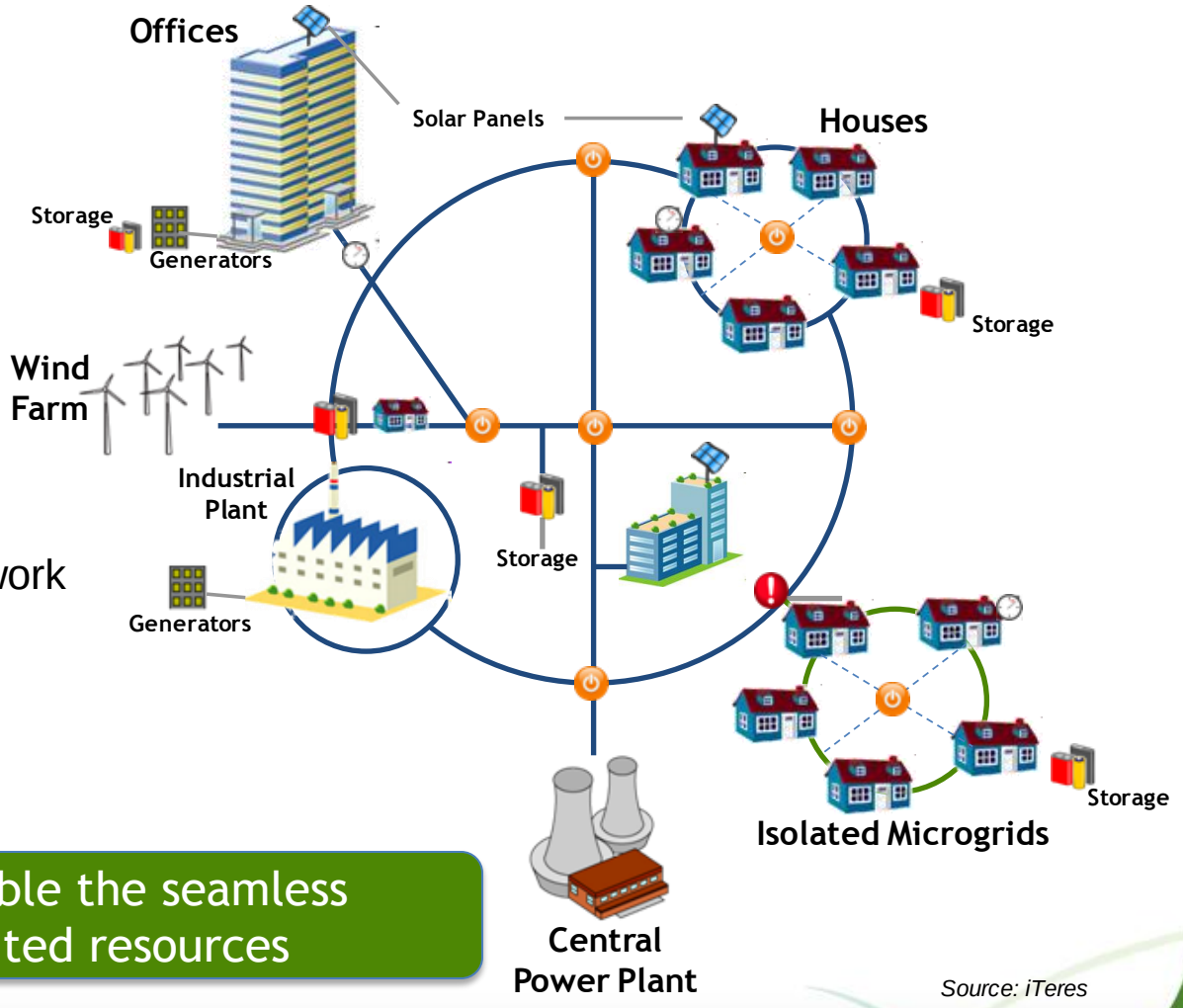
Global proliferation of distributed energy resources:
- Distributed generation
- Distributed storage
- Controllable load

Clusters of these distributed resources organized in microgrids

The Power Grid becomes a network of microgrids capable of:
- Self-healing
- Self-coordination
- Self-scheduling

Viridity's vision is to enable the seamless integration of distributed resources

Future Power Grid



Source: iTeres

Dynamically controllable load will transform power distribution, enabling new levels of system reliability and efficiency

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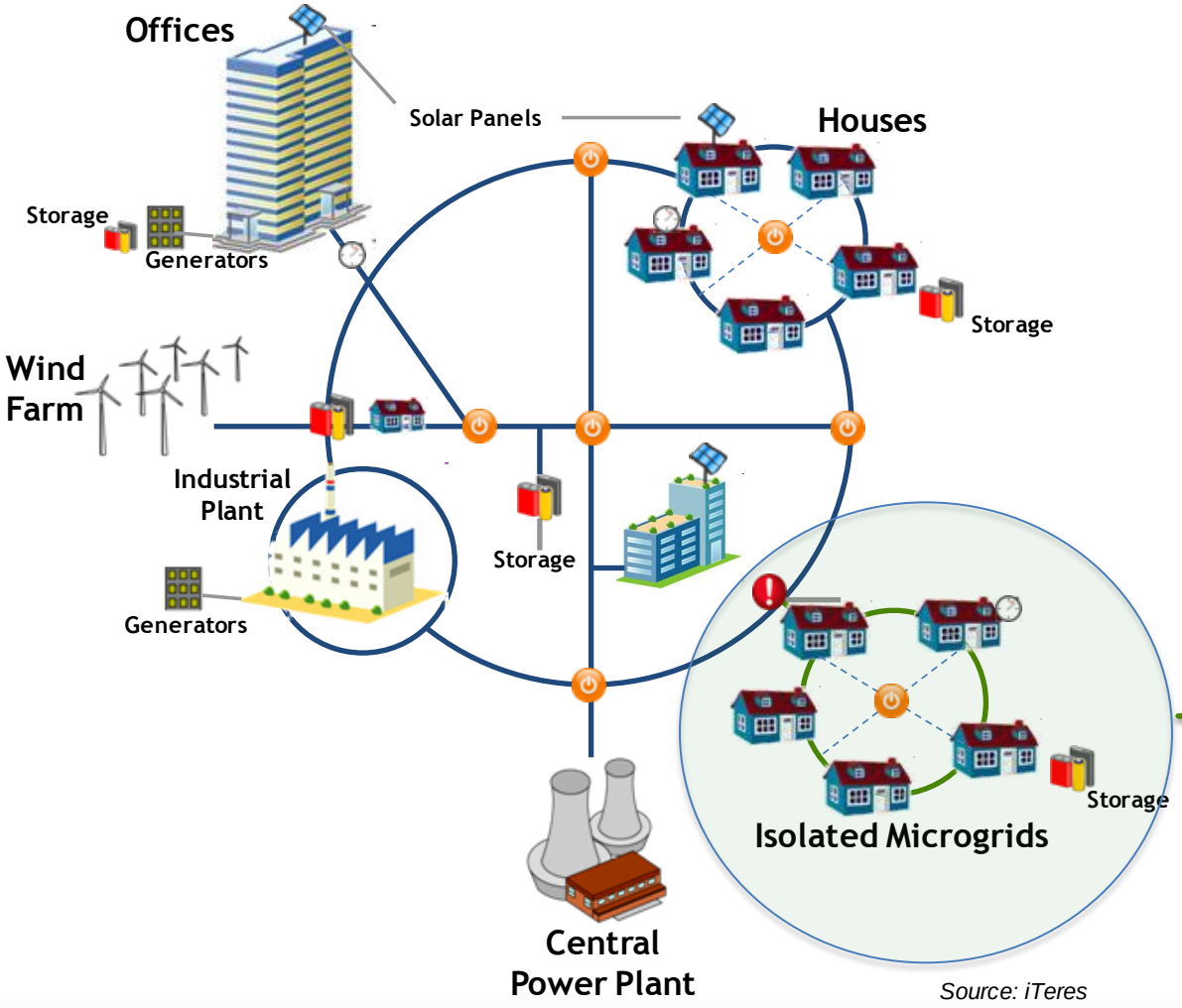
Focus on: Distributed Intelligence



Source: iTeres

Self-healing

- Responds to system disturbances automatically
- Capable of operating as an "island" off of the regional grid

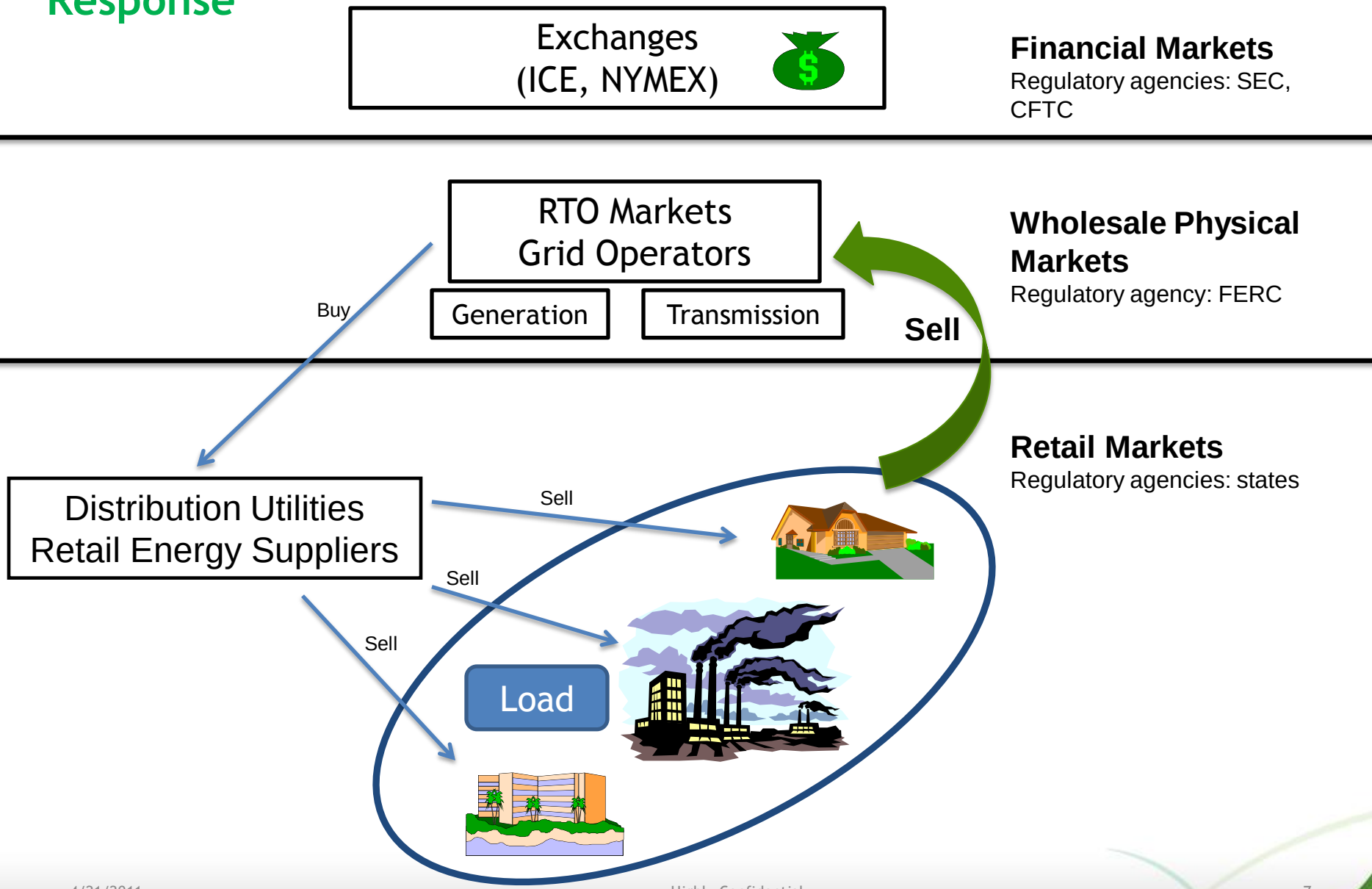
Self-coordination

- Coordinates real-time demands of energy users, distributed resources, microgrid operations and distribution system integrity

Self-scheduling

- Schedules dispatch of distributed energy resources using decisioning tools to optimize overall grid operational performance

U.S. Organized Electricity Markets – with Demand Response



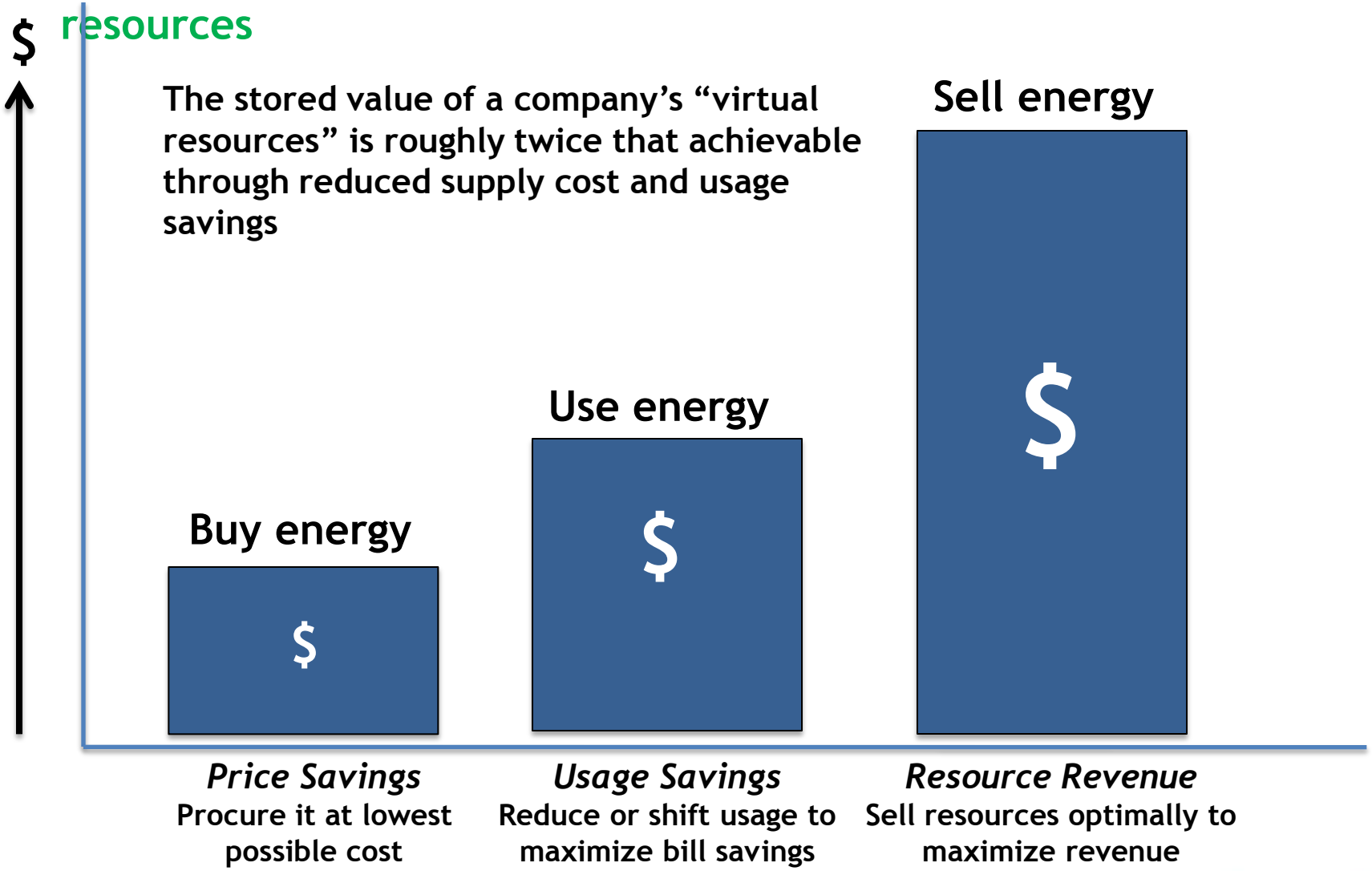
Estimated Market Potential

The demand response [/ smart grid 2.0] industry is expected to exceed $8 billion by 2015

- Over 80% of Regional Transmission Operators ("RTOs") in North America are currently Demand Response-capable
- Demand Response today accounts for less than 1% of wholesale market revenues

Estimated 2008 Wholesale Power Revenues *Source: ISO/RTO Council & PJM*	$144 billion
63% of U.S. power use is C&I *Source: EIA*	$91 billion
Estimated 2015 organized C&I power market *Source: 2009 FERC/Brattle report forecast of 1.7% CAGR*	$102 billion
8% Demand Response Penetration by 2015 *Note: FERC/Brattle study predicts that "Achievable Participation" of robust Demand Response is 12% by 2015*	$8.2 billion

Large energy users that obtain the full market value of their market participation will provide the growth market for distributed energy resources



RTO Administered Wholesale Markets Have 3 Products for Load to Participate

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Capacity Market

- Call contract (Event)
- Virtual generation may be combination of actual generation and demand response

Energy Markets

- Day-Ahead or Real-Time (Hourly)
- Virtual generation compensated at marginal wholesale prices

Ancillary Markets

- Regulation (2 sec. signal)
- Synchronized Reserve (10 min)
- Reactive Support

Tradeable Instruments for Load Management Provides an Effective Hedge to Price Volatility and Uncertainty and will Increase Market Efficiency

- Price Risk Management Example

  Marketer A. has 50 MW 5x16 $60 sell obligation in PJM Delmarva Zone for July 2011

  40 MW covered with back to back with Generator A. at $50 MWh

  10 MW exposed to RTO RT Energy Market

  - **Current Options to Manage Risk**

  1. Secure all or part of the obligation in a back to back contract with a generator
  2. Secure FTR's to hedge congestion exposure
  3. Create hedge position on OTC market

- **Curtailment Service Provider (CSP) has 50 MW curtailable load in Delmarva over 4 hour period whenever clearing price in PJM is over $50 MWh.**

  1. **CSP sells 10 Mw Option of a 5x4 with 2 hours notice to Marketer for $60 MWh.**
  2. **Option price is $10 MW = $100**

Price Risk Management Example (cont'd)

July 11 2011 Prices in Delmarva are projected to be $100 between hours 1-5 PM

1. Marketer has not hedged 10 MW exposure
2. Marketer exercises option for 10 MW

CSP Receives - $2400 plus $100 option.

Settlement for 1-5 PM with Curtailment Contract

Customer – Pays Marketer $12,000 (60x50x4)

Value of Price Risk Hedge to Customer = $8,000 $20,000 (100x50x4) - $12,000.

Marketer Receives - $16,000 -

$12,000 from Customer plus $4,000 from CSP for curtailment sale ($100x10x4)

Marketer Pays –

1. Generator - $8,000 ($50 x 40 x 4)
2. CSP - $2,400 ($60x10x4)

Net Profit - $5,600

Value of 10 MW Price Risk Hedge = $1500 (Market differential plus option payment)

Standard Elements for DR Contract

- ✓ RTO Price Zone
- ✓ Expressed in MW's x hours (i.e. 5x4, 5x 2 etc.)
- ✓ Standard notice time (Some load can respond very quickly)
- ✓ Standard liability, credit terms

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Thank You.