



CUSTOMIZED  
ENERGY SOLUTIONS

Analyze.  
Simplify.  
Implement.

# Enabling Technologies to Support DR

## Low Cost Alternatives and Barriers

### IEPR Workshop – DR Challenges and Opportunities

**Jacqueline DeRosa**  
**Director of Regulatory Affairs**

Customized Energy  
Solutions  
101 Parkshore Drive  
Folsom CA 95630

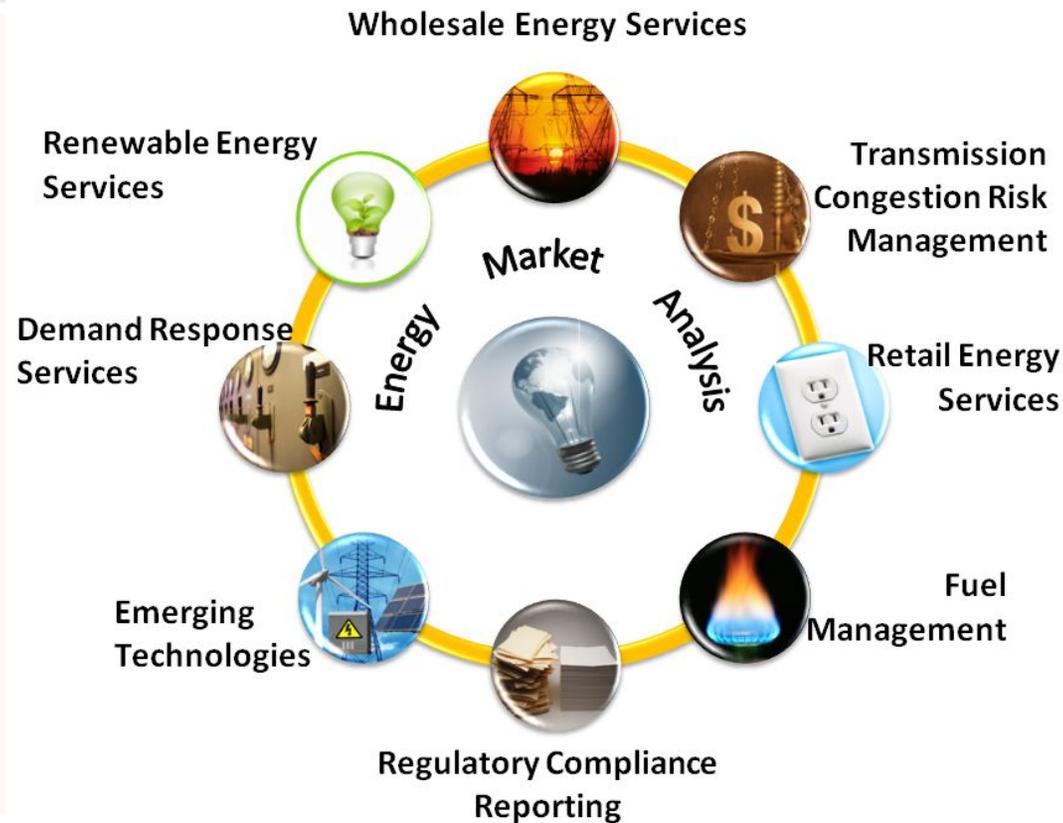
Customized Energy Solutions Ltd.  
1528 Walnut Street, 22<sup>nd</sup> Floor  
Philadelphia, PA 19102 USA

Phone: 215-875-9440  
Fax: 215-875-9490  
info@ces-ltd.com



# Customized Energy Solutions Overview

- Customized Energy Solutions is at the forefront of competitive energy markets. Through consulting services and financial analysis, we enable competitive suppliers, technology providers, marketers, and utilities to prosper through change.







# Secure-Net RT Already In Use for DR





# The Interface at our Control Room

The interface displays several status indicators and client information:

- PJM SPIN EVENT FLAGS**: A row of seven buttons labeled RTO, PJM, EAST, WEST, NICA, DOM, and TEST. Below each button is a square indicator: RTO (green), PJM (green), EAST (green), WEST (grey), NICA (grey), DOM (green), and TEST (green).
- OPC COMMUNICATIONS**: A purple button with a green circle indicator.
- AUTOMATIC CONTROL**: A purple button with a red square indicator.
- MARKET UPDATE HOUR END**: A purple button with the number 17 displayed in large blue text.
- AUTOMATIC UPDATE**: A purple button with a red square indicator.
- MARKET**: A column of six square indicators: red, green, green, red (highlighted with a dashed box), green, and green.
- CUSTOMER**: A column of six purple buttons labeled CLIENT 1 through CLIENT 6.
- COMMUNICATIONS**: A column of six green circle indicators.
- CONTROL**: A column of six buttons labeled Off.



# Low Cost, Secure, Fast, and Already in Use for DR

## Secure and Proven Technology

- Successfully utilized in other RTO markets for Demand Response, Generation, Storage.

## Cost

- The hardware is a lower cost option than existing Remote Intelligent Gateways (RIGs). It also replaces need for ongoing ATT ECN connection costs.

## Simple

- It is “plug and play” . It is an 8 inch x 8 inch box that can be installed within an hour and can be activated remotely.

## Scalable

- Can be utilized for conventional, intermittent, and distributed generation, as well as storage and Demand Response.
- It can be also be utilized for participation in the energy, and ancillary services markets, including Regulation.

## Effective

- Consolidates small customer connections
- High speed: The Real-Time data communications are almost instantaneous



## Barriers to Implementing Lower Cost DR Technology in CA

- Metering and telemetry rules are being updated to embrace new technology
  - “Concentrator” model not allowed
    - Not included in Phase 1 of ISO metering/telemetry stakeholder process
  - Use of Internet not allowed – Requires ECN
  - ICCP not allowed to aggregator or concentrator
  - Prohibitive RIG aggregator resource ownership cost and location limitations



# Customized Energy Solutions

---

**We are Committed to California !**

For more information about

Customized Energy Solutions: [www.ces-ltd.com](http://www.ces-ltd.com)

Jacquie DeRosa

[jderosa@ces-ltd.com](mailto:jderosa@ces-ltd.com)

Kevin Komara

[kkomara@ces-ltd.com](mailto:kkomara@ces-ltd.com)

---