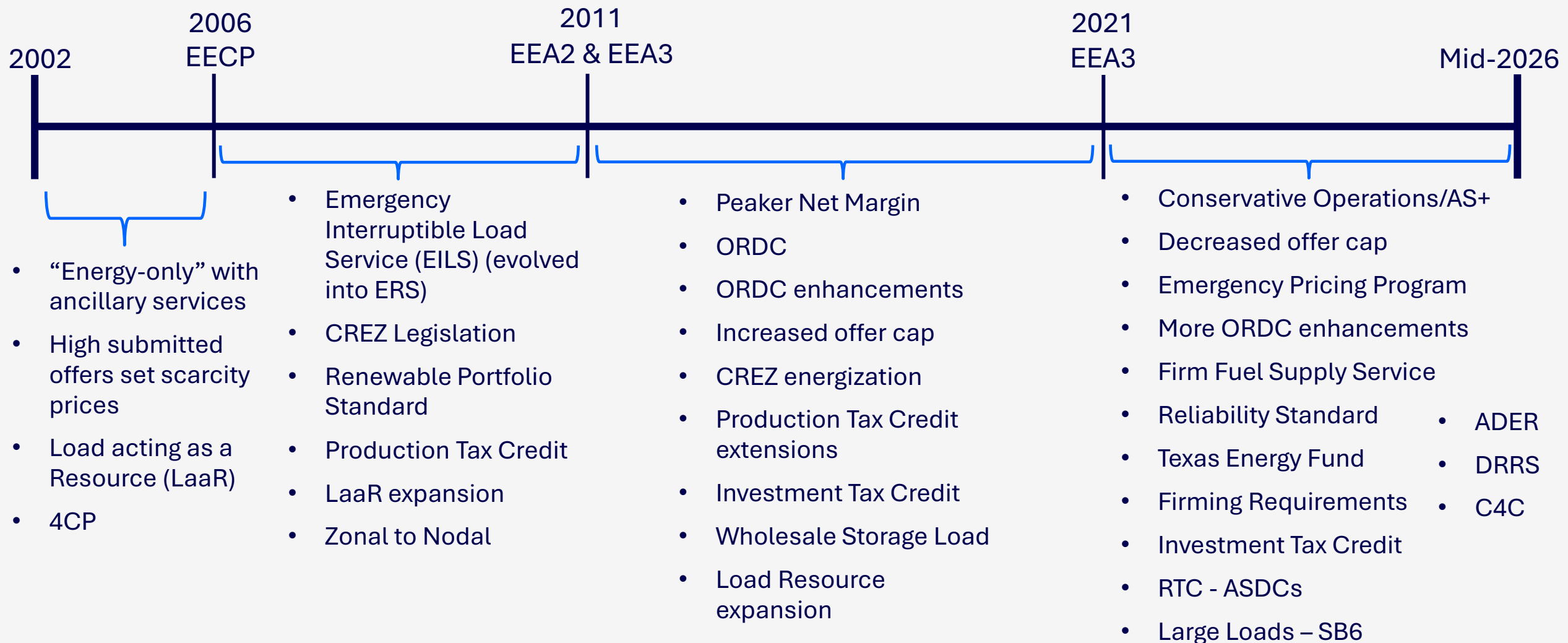


DISCUSSION ON RESIDENTIAL DEMAND RESPONSE (RDR) AND NPPR1296

Wholesale Market Subcommittee

July 8, 2026

EVOLUTION OF THE ERCOT MARKET DESIGN



THE ERCOT MARKET STRUCTURE TODAY

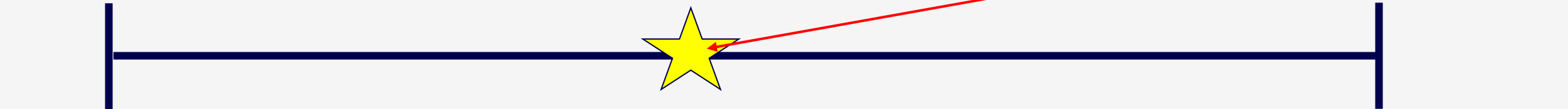


Energy-Only

Energy + Capacity Incentives

We are here

Capacity



Principles

- Real-time energy prices reflect marginal cost of providing electricity and consumers willingness to pay
- Scarcity occurs during firm load shed
- Reserves/AS procured to prevent load shed & comply with NERC standards
- **Price signal must be pristine** – no outside influence

Characteristics

- Lowest cost market design for energy
- Significant reliability risk
 - Dependent of firm load shed occurring

Principles

- Real-time energy prices “enhanced” to send scarcity price signals well before scarcity
- Excess AS procured for other reliability reasons (excess online capacity, net load variations & forecast error, supplemental frequency management)
- Limited capacity products/incentives to offset market distortions & bolster reliability

Characteristics

- Significant interference in price formation – partially offset with adders & other programs
- Lower reliability risk and decreased dependency on true scarcity
- Higher costs

Principles

- Mandatory resource adequacy requirement met through the combination of energy and capacity revenues
- Not dependent on scarcity events occurring
- Define or self-accredit capacity values for resources

Characteristics

- RT energy prices less influential on investment decisions. More dependent on capacity prices.
- Interference in price formation offset by capacity revenues
- Most cost-effective design to solve a resource adequacy requirement

WHY RESIDENTIAL DEMAND RESPONSE



- **Unprecedented load growth is coming – more tools are needed before grid emergencies occur**
 - Consistent with evolution of the ERCOT market -> capacity incentives for resources to avoid grid emergencies.
 - **Significant potential to increase dispatchable capacity through demand response as residential customers increase adoption of smart thermostats and home battery systems.**
 - Financial incentives and similar programs already exist for mid-to-large customer classes – more growth potential for the residential class. **Get the public more involved!**
 - **ERCOT’s Residential Demand Response Program compliments the REP-Administered Smart Thermostat TDU Energy Efficiency Program**
 - Best use of funding in the PUCT TDU EE programs is to get smart energy devices in homes (smart thermostats, home battery systems, heat pumps, etc.). That provides the infrastructure.
 - ERCOT’s Resi DR program builds on this foundation by providing additional incentives for REPs to utilize that infrastructure.
 - **ERCOT’s Residential Demand Response Program directly supports the objectives of PUCT Rule §25.186**
 - SB1699 in the 88th Legislative Session established a “goal for residential load reduction” and directed REPs to support that objective through deployment of smart responsive appliances and devices.
 - REPs are required to report quarterly to ERCOT on enrolled customers and demand response deployments. ERCOT, in turn, provides an annual assessment to the PUCT summarizing participation levels and measured load reductions.
- Consistent with Competitive Retail Market**
- Residential customers cannot legally be exposed to real-time wholesale prices. Retail products are forward-looking contracts. Enrolling customers during a “scarcity” event is not likely to yield meaningful participation given the timing and customer willingness/irritation. Customers must be enrolled well in advance of the occurrence of scarcity.

ALTERNATIVE DESIGN FRAMEWORK FOR RDR



- **Seasonal MW procurement amount established by the PUCT or ERCOT**
 - Could be informed by MORAs, CDR, Reliability Assessment, new assessment process, etc.
 - Peak load and/or peak net load hours or hours of highest system risk (see firming requirements)
- **Seasonal procurement process administered by ERCOT based on submitted offers by REPs/LSEs**
- **Seasonal clearing price determined by marginal offer**
- **Deployment by ERCOT in advance of anticipated emergency conditions**
 - Deployment and recall through Operations Messages for simplicity
- **Total seasonal awarded MW amount in the Reliability Deployment Price Adjustment mechanism during deployment for the hours procured**
- **Daily settlement through the QSE representing the REP/LSE based on: Awarded MW x Clearing Price x Hours Procured**
 - Load ratio share cost allocation
- **5 test calls in Summer, 3 in Winter, Spring, and Fall**
 - REPs/LSEs notify ERCOT of the test days or ERCOT selects test days and provides REP/LSE advanced notice (day-ahead?)
 - Helps maintain customer engagement
- **Post-season clawback charges assessed based on test results or deployment performance**
 - Must hit XX% of awarded MW based on temperature adjusted response
 - Uses data submitted through the §25.186/NPRR1296 process
- **Self-provision option for Large Loads to demonstrate VPP participation**
 - REPs/LSEs notify ERCOT of the Large Load sponsored MW amount and it is reduced from the total procurement amount

QUESTIONS?