



# **Electricity / ERCOT 101**

## **City of Waco Council Presentation**

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Presented by:

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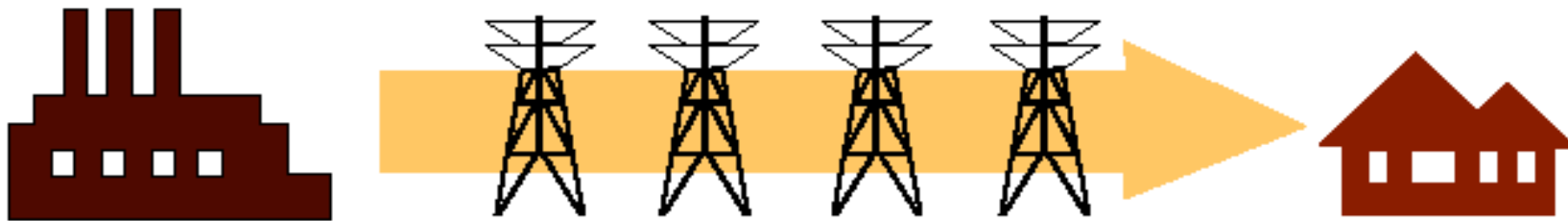
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# **Electric Utility Regulation**

# The Regulated Market Design

- Utilities were integrated and “bundled.”
- They owned the generation, transmission and distribution, and retail electric provider portions of the business. The state regulated all three.

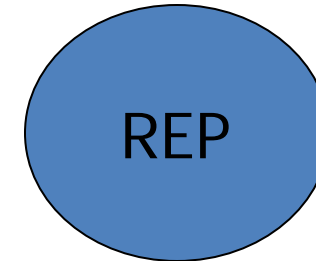
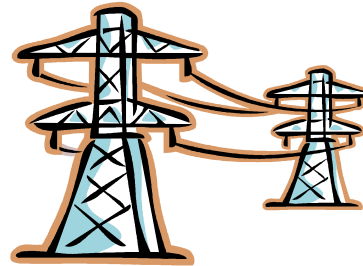
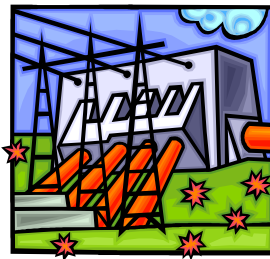


# Deregulation Time Chart

- 1995 - Legislation Deregulating Wholesale Power Market in ERCOT.
- 1999 - Senate Bill 7 Enacted Authorizing Retail Competition in ERCOT.
- 2001 - Unbundling Cases at PUC.
- 2002 - Retail Competition Begins in Texas.

# The Deregulated Market Design

- Utilities are now “unbundled,” meaning they no longer own the generation, transmission & distribution, and retail electric provider portions of the business.



- Affiliates, or wholly separate companies, now own different portions of the business.

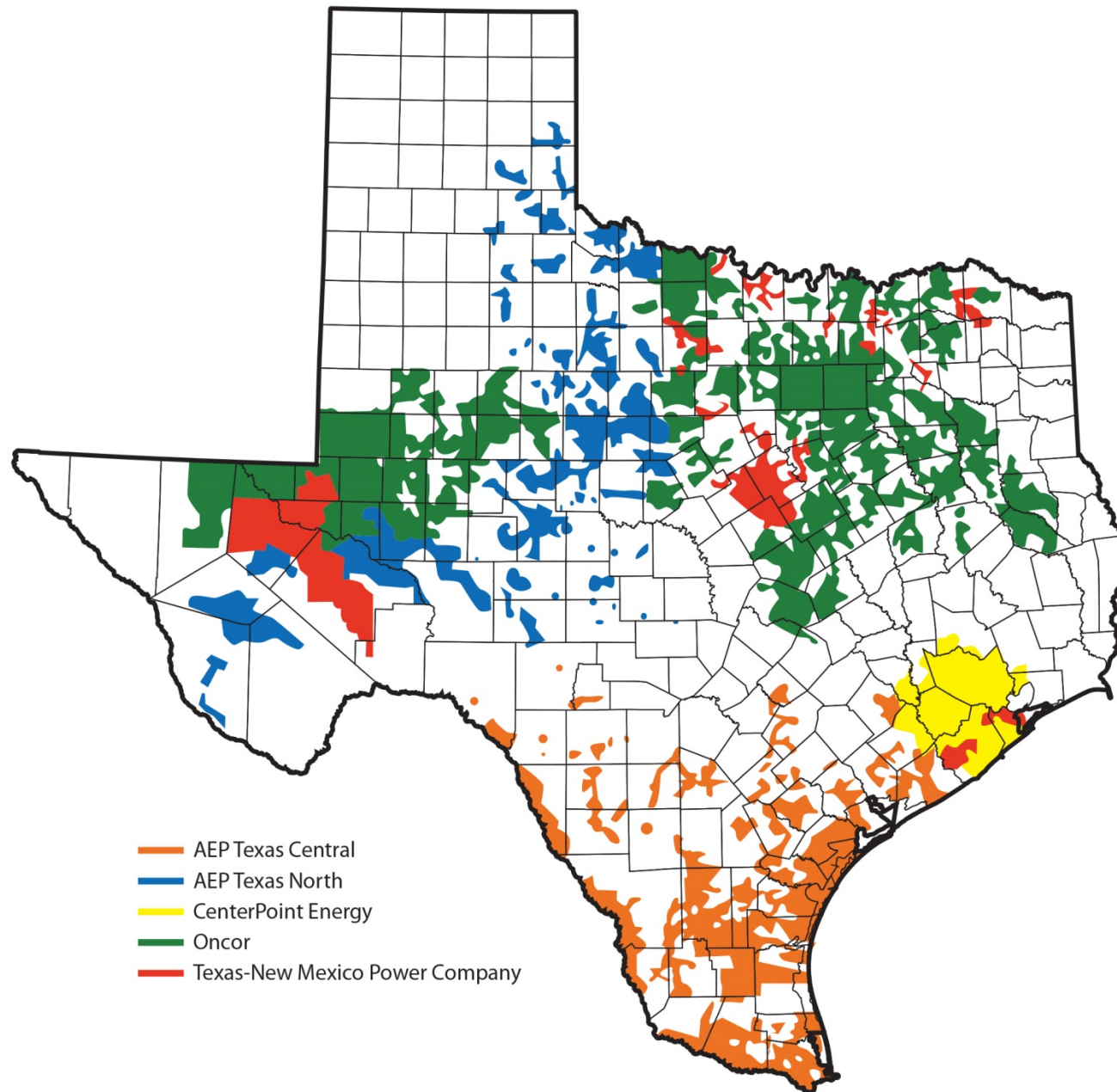
# The Market Following Deregulation

- The generation and sale of electricity to end-use customers are no longer regulated by the state. They are subject to competition.
- The “wires” that provide transmission and distribution service and bring electricity from generating units to end-use customers remain regulated by the state and cities.
- Electric Utility = “Wires” Company = Transmission and Distribution Utility = TDU.

# Non-Opt In Entities (“NOIEs”)

- Areas Outside of ERCOT
  - SPS / Xcel
  - Entergy
  - SWEPCO
  - El Paso
  - Fully bundled / Fully regulated
- Coops
- Municipally Owned Utilities (“MUNIs” or “MOUs”)

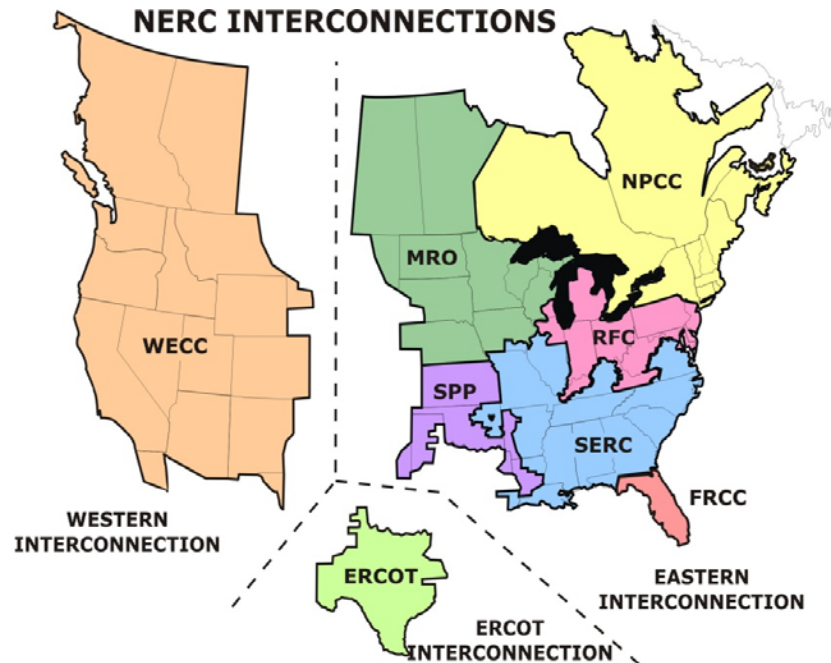
# Texas Transmission and Distribution Utilities





# **The Electric Reliability Council of Texas ("ERCOT")**

# The Electric Reliability Council of Texas ("ERCOT") – What is it?



- ERCOT is one of 13 reliability councils in the United States.
- ERCOT encompasses 75% of Texas' land and 85% of its load.
- ERCOT is the only wholly intrastate region.
- ERCOT may refer to: a market, a geographic region, an electric grid, a corporation or a stakeholder process.
- Two control centers in the Austin area; administrative offices in Austin.
- Funded by a per MWh fee on consumers' bills.

ERCOT has authority over most –  
but not all – of the state.



Most of ERCOT's responsibilities are not subject to  
federal jurisdiction.

# Why is ERCOT important to consumers?

ERCOT's operations, and the rules that govern those operations, affect:

- Wholesale energy costs
- Reliability of service
- Process of switching retail electric providers

***Most of what ERCOT's rules cover is addressed nowhere else.***

ERCOT is certified by the PUC to function as the “independent organization” that oversees the deregulated power grid.

- Arranges power supply to meet demand
- Acts as central point for settlement of market,
- Handles switches of retail electric provider, move-ins, etc.
- Grid planning.

# Cities have participated at ERCOT in large numbers since 2006.

## SMALL COMMERCIAL CONSUMERS

Aransas County MUD No. 1	Lorena
Argyle	Los Fresnos
Belton	Malakoff
Benbrook	Morgan's Point
Breckenridge	Murchison
Carrizo Springs	Murphy
Cedar Hill	Oak Point
Celina	Ovilla
Charlotte	Paris
Cisco	Piney Point Village
Clyde	Point Comfort
Comanche	Pottsboro
Commerce	Ranger
Coppell	River Oaks
Copperas Cove	Rotan
Corinth	Rowlett
Crockett	San Juan
Crowley	South Padre Island
Decatur	Spring Valley Village
Deer Park	Springtown
DeSoto	Sulphur Springs
Dilley	Texas City
Dublin	University Park
Early	Venus
Eastland	Webster
Faulfurrias	Weston Lakes
Frisco	Wharton
George West	White Settlement
Glenn Heights	Whitney
Gunter	Woodway
Hamilton	Woodsboro
Harker Heights	Wylie
Highland Park	
Hutto	
Ingleside	
Josephine	
Keller	
Kerens	
Laguna Vista	
Lake Worth	
Little River-Academy	

## LARGE COMMERCIAL CONSUMERS

Abilene	Mesquite
Addison	Mission
Alamo	Missouri City
Allen	Mont Belvieu
Aquilla Water Supply District	North Richland Hills
Aransas Pass	Odessa
Arlington	Pantego
Big Spring	Pearland
Brownwood	Port Lavaca
Canton	Portland
Carrollton	Rio Grande City
Cleburne	Robinson
Corpus Christi	Rockport
Dallas	Rosenberg
Euless	Sachse
Farmers Branch	San Angelo
Flower Mound	Seadrift
Fort Worth	Sherman
Galveston	Snyder
Grand Prairie	South Texas Water Authority
Grapevine	Stephenville
Haltom City	Sugar Land
Harlingen	Sweetwater
Honey Grove	Taylor Lake Village
Houston	Temple
Howe	The Colony
Irving	Tyler
Johnson County SUD	Upper Leon River MWD
Killeen	Victoria
Kingsville	Waco
La Feria	Watauga
Lewisville	Waxahachie
Mansfield	Wichita Falls
McAllen	
Mercedes	

# ERCOT as a Stakeholder Process

- The ERCOT stakeholder process is the way that participants in the ERCOT market make decisions about how the market will work.
- Members participate in committee meetings to deliberate on changes to market rules.

# ERCOT Market Issues

- The ERCOT Wholesale Market
  - Goal: Keeping the lights on at reasonable prices in a deregulated market.
  - Goal: Maintaining appropriate reserve margins / Long-term resource adequacy.
  - Energy Only Market vs. Capacity Market



# Energy Market

- Generators, with limited exceptions, receive payments only for the energy they sell.
- Buyers (mostly REPs) contract with generators for a long term supply of electricity at a fixed price, or buyers can obtain electricity on a more immediate basis in a commodity-style market. In theory, competition among generators keeps downward pressure on energy prices.

# Winter Storm Uri

- 144 consecutive hours (February 11-19) below freezing in Austin, 205 hours in Waco, and 220 hours in Midland.
- Significant snowfall throughout the state – 6-8 inches in some parts of the state.
- Cold air originated in Siberia, crossed the North Pole, and moved through North America.
- Forced outages at power plants / Fuel Supply Problems.
  - At its worst, 52,277 MW was forced offline. This is 48.6% of capacity.
  - ERCOT has 16 “black start” units – 6 were offline.
  - Equipment failed in freezing temperatures.
  - 9,323 MW of natural gas capacity was derated due to gas supply problems.
  - All types of generation capacity was impacted.

# Winter Storm Uri, cont.

- PUC Response: Emergency Orders
  - February 16 Order:
    - Factor firm load shed MWs into scarcity pricing (making prices higher).
    - Rescind direction to re-price prior intervals.
    - Temporarily suspend LCAP, which otherwise would have increased prices (50x natural gas price)
    - **ERCOT, however, continued to set prices at \$9,000 after firm load shed ceased early on February 18.**

# Resignations and Lawsuits

- Seven ERCOT Board members resigned.
- Six were independent board members.
- All three PUC commissioners resigned.
- Bill Magness, CEO of ERCOT, terminated.
- Hundreds of lawsuits filed.

# Legislative Response

- PUC / ERCOT Reform.
- Winterization / Weatherization / Critical Load Protection / Weather Alert Systems.
- Repricing / Uplift / Electric Securitization.
- SB 2 – Changes ERCOT Governance; Requires Governor and legislative leadership to appoint a selection committee to identify board candidates; Board will be composed of the PUC Chair, OPUC, ERCOT CEO, and 8 unaffiliated members selected by the selection committee; Must reside in Texas. Requires PUC approval of ERCOT rules and enforcement measures.

# Legislative Response

- SB 3 – Biggest single piece of legislation; 41 sections covering a wide range of provisions in response to Winter Storm Uri including: Power Outage Alert system; Texas Energy Reliability Council; Critical Natural Gas Facilities; Increases PUC penalty authority to \$1 million a day for failing to weatherize; Defines “critical care residential customer” and “critical load industrial customer”; Weatherization of generators and TDSPs in ERCOT; Review of ERCOT ancillary services; Texas Electricity Supply Chain Security and Mapping Committee; Ensure sufficient dispatchable generation; Review of wholesale pricing procedures; etc..
- HB 2586 – Independent audit of ERCOT each year published on PUC website
- SB 2154 – Increases the number of PUC Commissioners to 5

# Questions?