

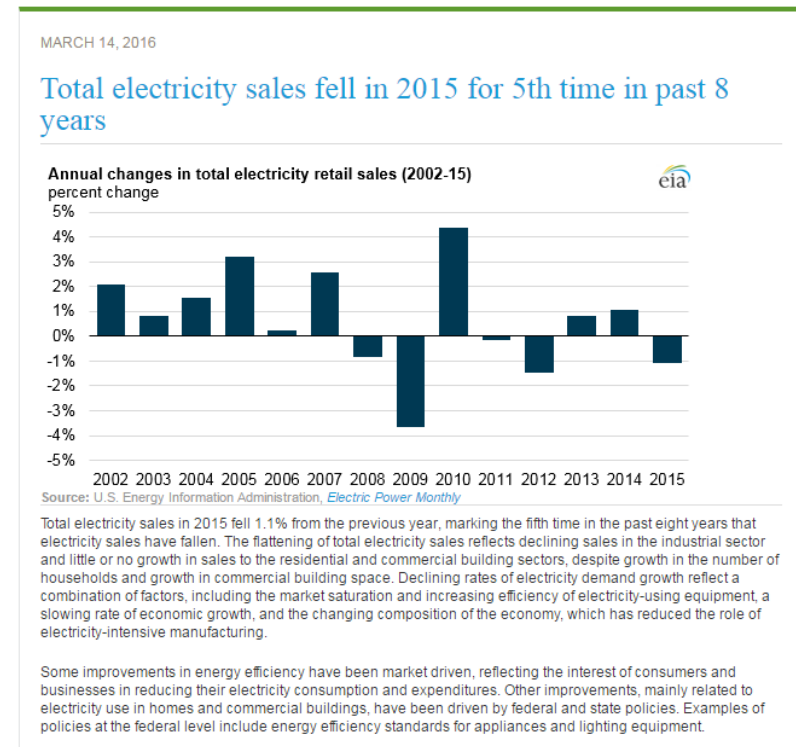
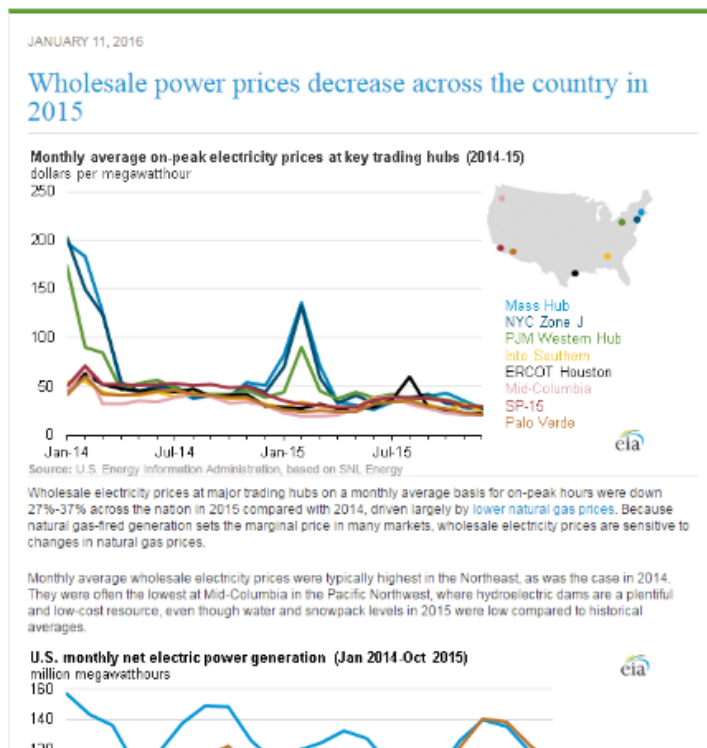
# ARE “WE” ASKING TOO MUCH OF ELECTRICITY MARKETS?

CEE 4th Mid-Year Meeting, June 28, 2016

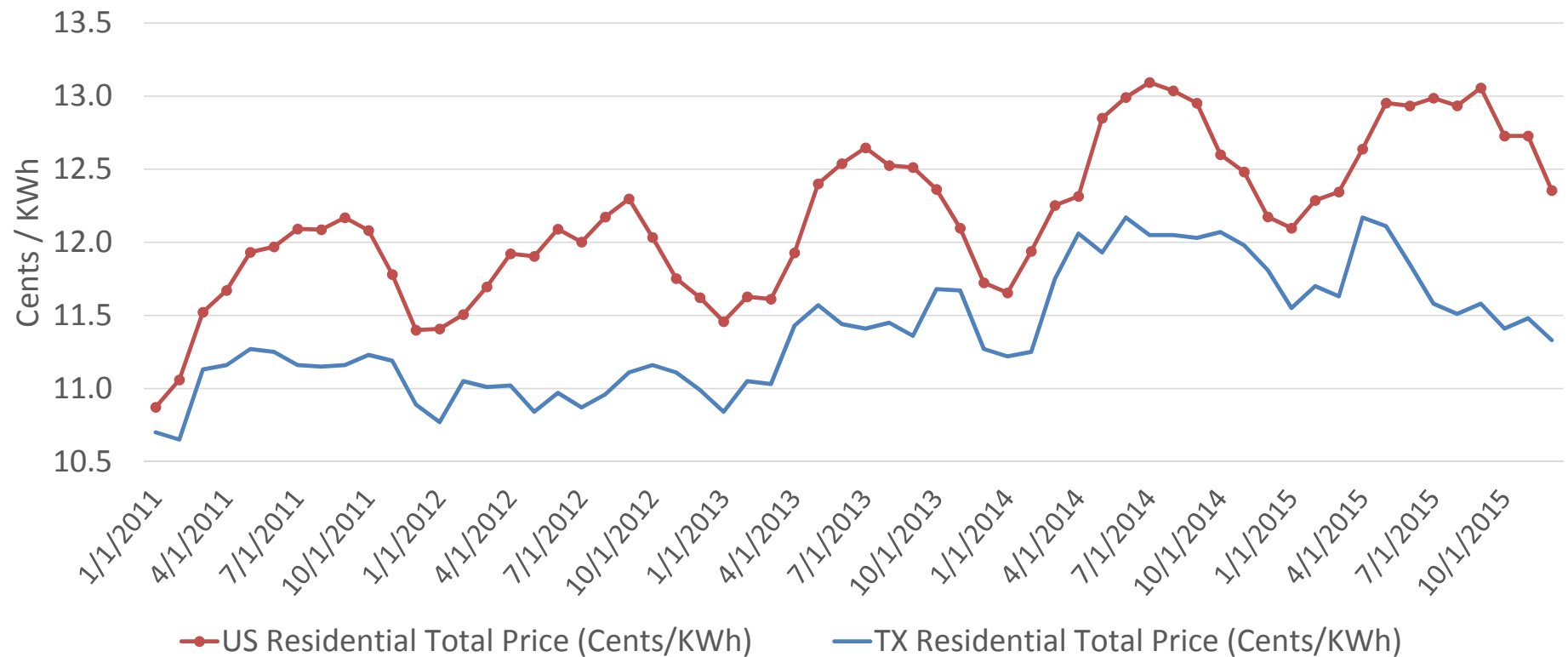
# Musings on why retail electricity prices diverge from wholesale prices

Tsai

# Declining wholesale energy prices & falling electricity sales



# Increasing average residential retail “prices” nation wide



# Possible reasons

- Lower load, same infrastructure → higher fixed charges
  - DER (e.g., rooftop solar) plays a role
    - Nevada PUC decision to increase fixed charges
    - Arizona PUC to eliminate net metering (considerations in other states v Brookings survey)
- Investment in T&D
  - To accommodate distant renewables (e.g., CREZ lines in ERCOT)
  - Smart meters (partially DOE-funded)
- Utility investment in renewables
  - The new gold-plating?

CEE submitted a grant application to DOE NETL to study uncertainty and risks associated with adopting DERs (in collaboration with Prof. Surya Santoso, UT Austin Dept. of Electrical and Computer Engineering).

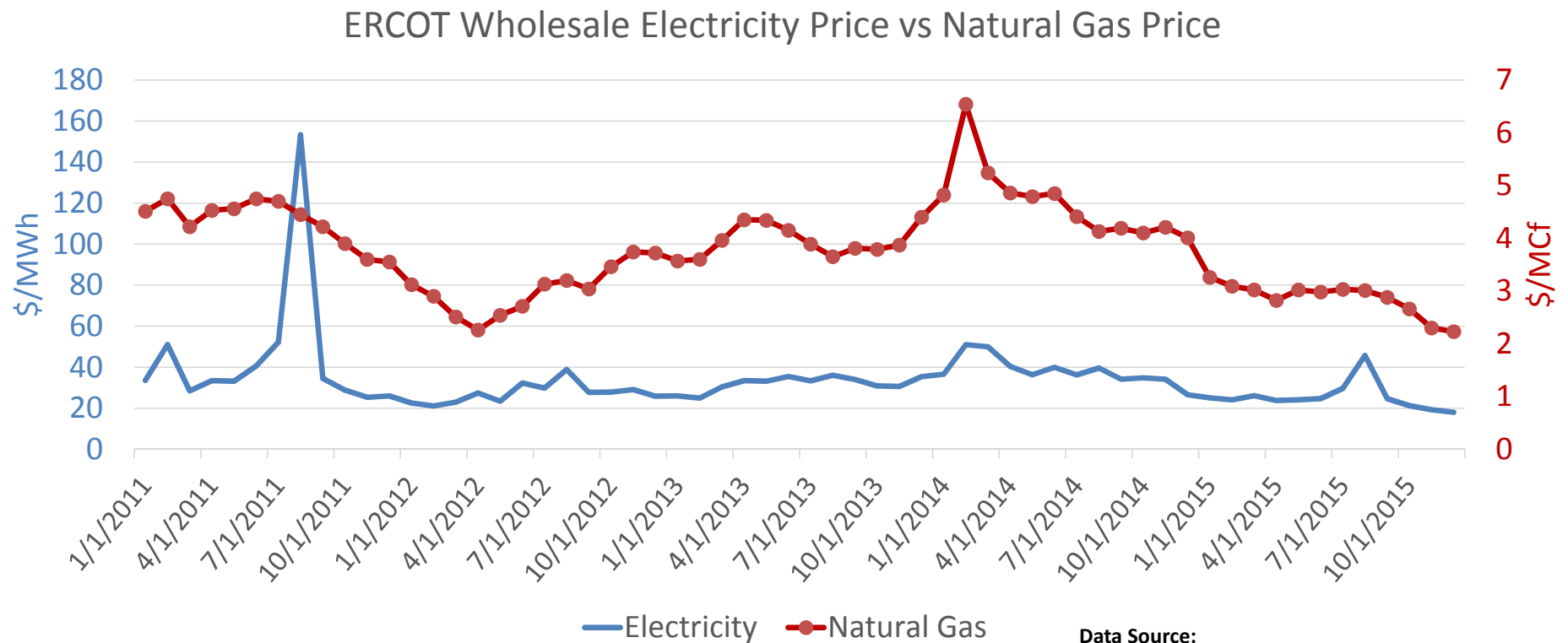
# A Closer Look at ERCOT's Retail Market

Arguably the most successful electricity market with competition at both wholesale and retail levels

When Gov. George Bush signed Senate Bill 7 into law in 1999, he said “competition in the electric industry will benefit Texans by reducing monthly rates.”

However after 15+ years...

# While wholesale electricity price follows natural gas price



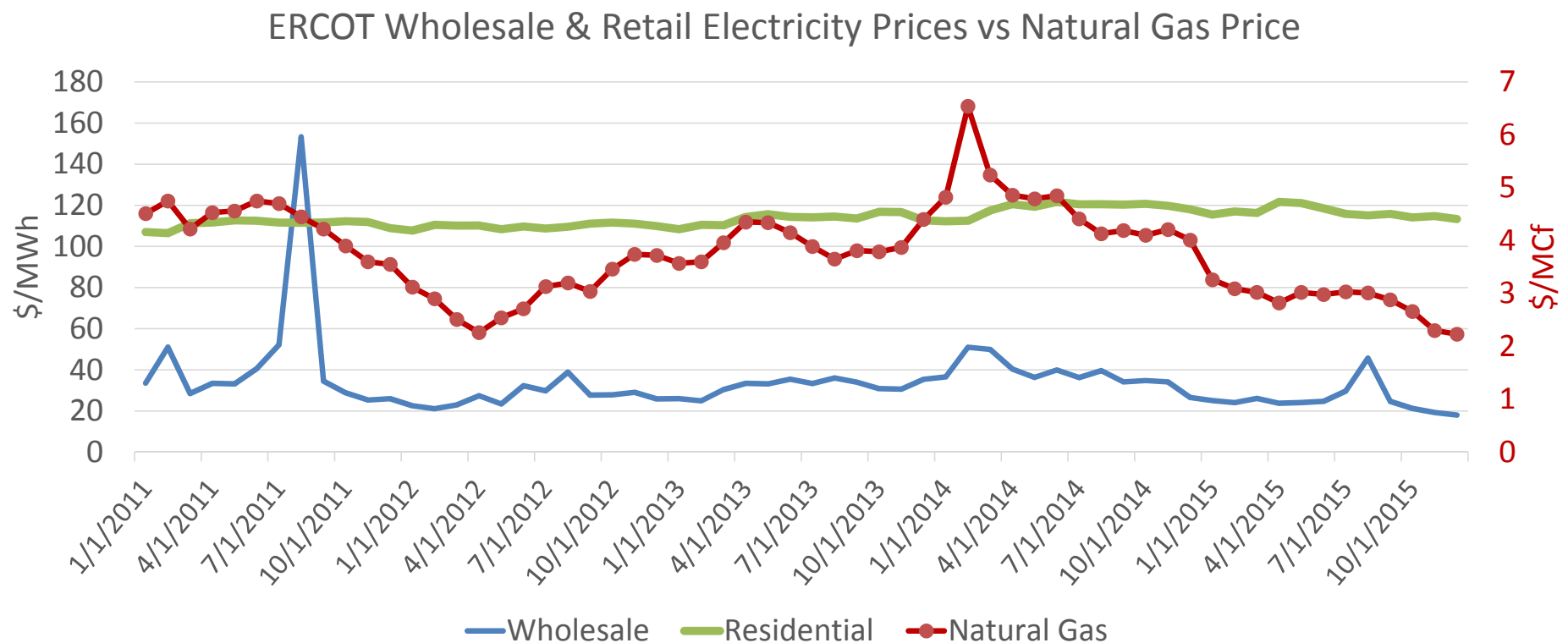
Data Source:

ERCOT hub average wholesale price: from SNL

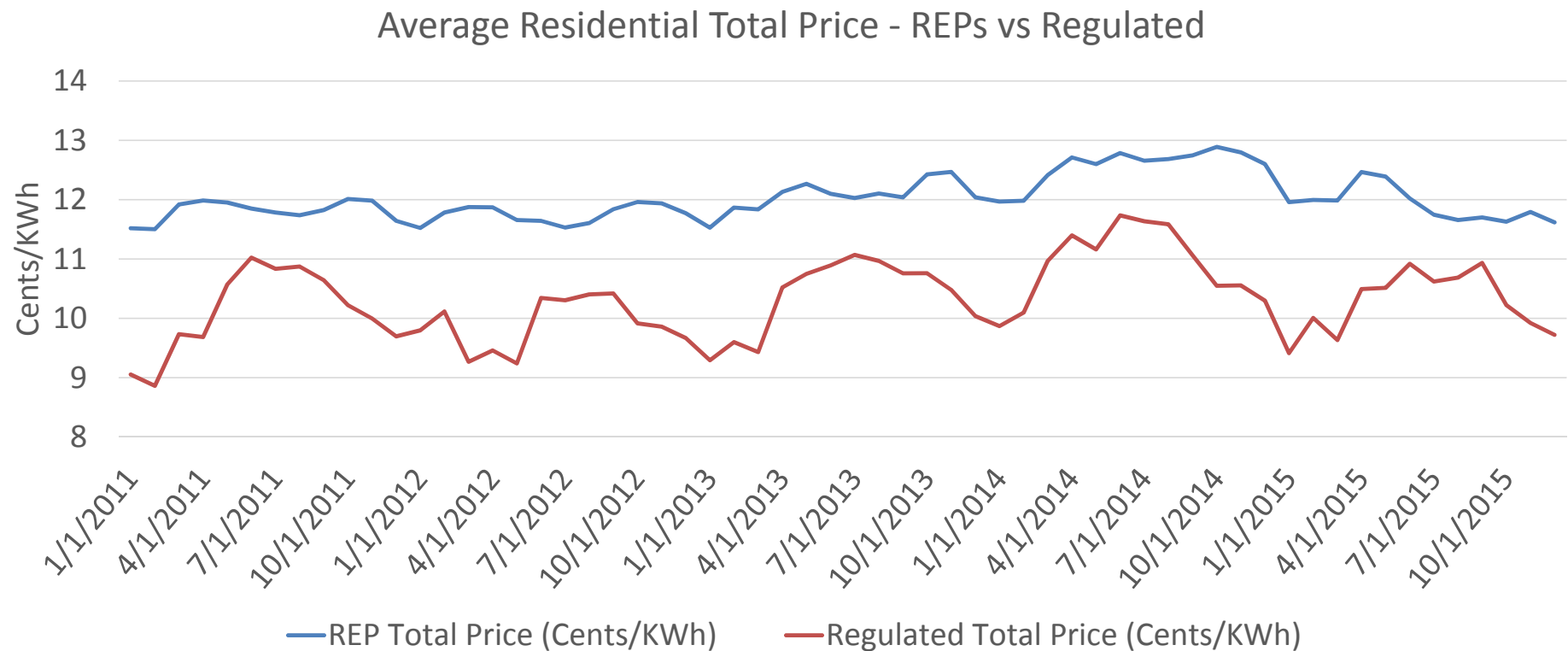
Natural gas price for power generation: from US EIA



# Average retail residential “price” appears disconnected from wholesale price



# Average retail residential prices by REPs vs Regulated Utilities



Data Source: US EIA Form 826 "Monthly Electric Utility Sales and Revenue Report with State Distributions" ; 2015 data is preliminary

# Can we conclude that the competitive electricity market has been effective or not in lowering consumer bills?

HOUSTON★CHRONICLE ENERGY

## Texas consumers pay more in deregulated electricity markets, study says

But affordable deals for electricity are starting to increase, official for nonprofit coalition says

By Jordan Blum | June 8, 2016 | Updated: June 9, 2016 12:30am

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## Texas power

Time to re-regulate electricity.

Copyright 2016 Houston Chronicle | June 10, 2016

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Electricity rates have risen higher in competitive markets throughout Texas than they have in some markets where the electric utility remains regulated.

That's close to direct language from an editorial printed on this page 11 years ago. Since then, the problems of a deregulated electricity market haven't gone away. Each year seems to bring more evidence that Texans living in deregulated service areas pay higher rates than residents who get their electricity from a public utility in San Antonio or Austin, for example.

The Texas Coalition for Affordable Power last week released a report showing how folks living in deregulated markets - such as Houston - pay about 15 percent more on their electricity bills.

To put it bluntly: You're getting screwed. And according to Public Utility Commissioner Ken Anderson, it is your fault. Anderson said that people pay too much because they don't shop around for better deals.

Competitive markets are supposed to lead to lower prices as private companies try to entice consumers to buy their products. The problem here stems from the fact that buying electricity over the state's Power to Choose website is convoluted, time-consuming and requires a slog through



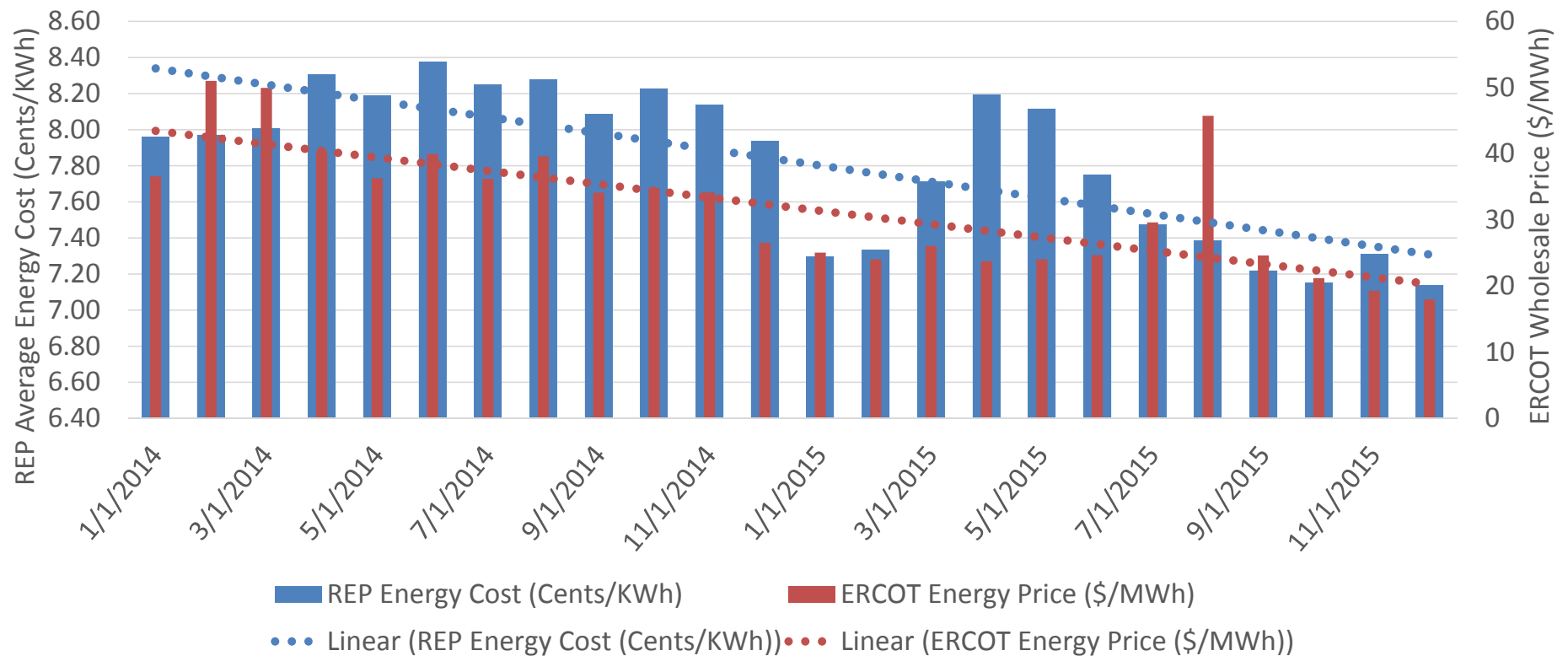
Photo: Tony Delmonico, STX

Electricity rates have risen higher in competitive markets throughout Texas

Let's take another closer look at 2014-2015, when natural gas price dropped to \$2/Mcf and wholesale electricity price also dropped 50%

We subtracted T&D charges from average REPs total retail price to get average REP energy cost

# Energy component in REPs' average retail residential prices have declined, but...



T&D Charge data from PUC of Texas at <http://www.puc.texas.gov/industry/electric/rates/tdr.aspx>

©BEG/CEE, Mid-year Meeting, June 2016

# Numerous cheap deals are out there, but...

**Shop. Compare. Choose.**

Welcome to Power to Choose, the official and unbiased electric choice website of the Public Utility Commission of Texas. This website is available to all electric providers to list their offers for free. Compare offers and choose the electric plan that's right for you.

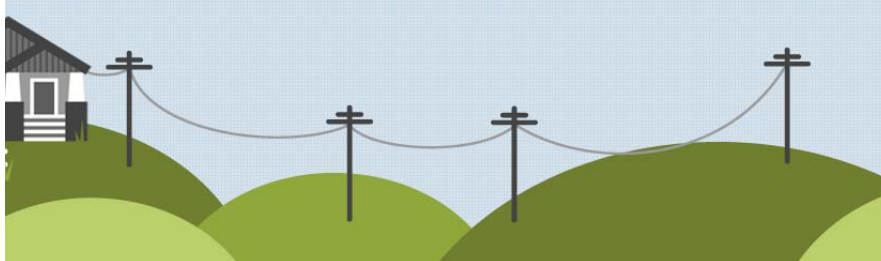
ENTER YOUR ZIP CODE

**77019**

**337 PLANS FOUND**






Need help? Answer 3 simple questions. Want to see plans for your area?

**NARROW YOUR SEARCH** OR **VIEW RESULTS**



**Shop. Compare. Choose.**

77019 1-10 OF 337 1 2 3 4 SORT BY PRICE/kWh VIEW 10 PER

COMPARE	Company	Plan Details	Price/kWh	Pricing Details	Ordering Info
	Infuse Energy	<ul style="list-style-type: none"> <li>• Prime 3-Month</li> <li>• Fixed Rate</li> <li>• 3 Months</li> <li>• 6% Renewable</li> </ul>	1,000 kWh <b>1¢</b> 500 kWh 11¢ 2000 kWh 11¢	Minimum Usage Fees / Credits Cancellation Fee: \$50.00 Fact Sheet Terms of Service	Special Terms (877) 928-8766 OR <b>SIGN UP</b>
	Infuse Energy	<ul style="list-style-type: none"> <li>• PTC True Blue Instant 3</li> <li>• Fixed Rate</li> <li>• 3 Months</li> <li>• 11% Renewable</li> <li>• NEW CUSTOMERS</li> </ul>	1,000 kWh <b>1¢</b> 500 kWh 11.7¢ 2000 kWh 8.1¢	Minimum Usage Fees / Credits Cancellation Fee: \$100.00 Fact Sheet Terms of Service	Special Terms (844) 463-8712 OR <b>SIGN UP</b>
	Giga Choice	<ul style="list-style-type: none"> <li>• Giga Choice Select Plan 2</li> <li>• Fixed Rate</li> <li>• 3 Months</li> <li>• 6% Renewable</li> <li>• NEW CUSTOMERS</li> </ul>	1,000 kWh <b>1¢</b> 500 kWh 10.6¢ 2000 kWh 5.3¢	Minimum Usage Fees / Credits Cancellation Fee: \$150.00 Fact Sheet Terms of Service	Special Terms (866) 329-4392 OR <b>SIGN UP</b>
	Infuse Energy	<ul style="list-style-type: none"> <li>• PTC True Blue Instant 12</li> <li>• Fixed Rate</li> <li>• 12 Months</li> <li>• 11% Renewable</li> <li>• NEW CUSTOMERS</li> </ul>	1,000 kWh <b>1.1¢</b> 500 kWh 11.8¢ 2000 kWh 8.3¢	Minimum Usage Fees / Credits Cancellation Fee: \$200.00 Fact Sheet Terms of Service	Special Terms (844) 463-8712 OR <b>SIGN UP</b>
	Giga Choice	<ul style="list-style-type: none"> <li>• Giga Choice 1000 12</li> <li>• Fixed Rate</li> <li>• 12 Months</li> <li>• 6% Renewable</li> <li>• NEW CUSTOMERS</li> </ul>	1,000 kWh <b>1.1¢</b> 500 kWh 6.7¢ 2000 kWh 9.9¢	Minimum Usage Fees / Credits Cancellation Fee: \$150.00 Fact Sheet Terms of Service	Special Terms (866) 329-4392 OR <b>SIGN UP</b>

# Where are we now and where are we going

- PUCT seeks to reform Power to Choose website
  - Will/can all consumer complaints be addressed?
  - Should we abandon the Power to Choose website and let private companies compete to create the best electricity shopping portal?
- Or if it's so hard to change residential consumers' behavior, should we limit retail choice to only commercial and industrial customers?