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PUC's Market Redesign Increases Costs and Reduces Reliability *Market Interventions will Cost Texans Close to \$8 billion a Year by 2026*

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Overview

The Public Utility Commission of Texas (PUC) recently released the Energy+Environmental Economics' (E3) report it commissioned on the market redesign of the Texas electric grid. This was in response to the 2021 blackouts during Winter Storm Uri and direction from the Texas Legislature. Unfortunately, the report follows the lead of the Texas Legislature in failing to address the primary problem behind the reliability problem Texas is facing: the manipulation of market prices by the federal and Texas governments in ERCOT (Electric Reliability Council of Texas), the grid that supplies electricity to about 80% of Texans. The manipulation has occurred through three primary market interventions. First, federal, state, and local renewable energy subsidies. Second, market power regulations designed to reduce competition and market prices. Third, the PUC's direct manipulation of prices through mechanisms like the Operating Reserve Demand Curve (ORDC) and Ancillary Services.

The PUC's actions affecting market prices over the last 17 years or so, supported by the Texas Legislature, have turned into a circular action akin to a dog chasing its tail. First, the PUC intervenes in the market because regulators believe the market price is too high. Then, after their intervention and renewable energy subsidies drive prices—though not costs—downward, generators complain that prices are too low and that they need subsidies to increase their profits in order to keep the lights on. The PUC then again intervenes in the market, this time to drive prices higher through mechanisms like the ORDC and ancillary services. Of course, at this point politicians and consumers again begin to complain about high electricity prices.

At the same time regulators and renewable energy subsidies are disrupting market prices, they are also reducing the reliability of the market. Without accurate price signals to incentivize investment in reliable generation, ERCOT's energy-only market has become dominated by intermittent, unreliable renewable energy generation from wind turbines and solar panels. Since 2007, the share of renewables in ERCOT has increased from 3% to 31%. Investors have poured more than \$66 billion into renewable generation in Texas chasing after more than \$26 billion of federal, state, and local renewable energy subsidies. As a result, investment in new reliable generation such as plants powered by natural gas have come to a standstill. Politicians and regulators, panicked by the reliability crisis seen most clearly in the 2021 blackouts during Winter Storm Uri, have been chasing increased reliability for the Texas electric grid but without addressing the major cause of the problem, renewable energy.

Unfortunately for Texas consumers, the Texas Legislature's and PUC's intervention in the market has led to two spirals: one which drives electricity costs up and the other that drives grid reliability down. These trends can both be clearly seen in the proposals contained in the E3 report. The Energy Alliance calculates that existing federal and state interventions and others proposed in the E3 report will result in Texans being saddled with an annual electricity tax as high as \$8 billion a year by 2026. Meanwhile, the E3 report projects that unreliable renewable generation will continue to dominate the Texas market, with 99% of all new generation through 2026 coming from wind and solar.

The primary problem with the PUC's market redesign project is it seeks to solve the problem of excessive government intervention in the market with more government intervention. If Texans are going to get out of the continuous dual spiral of regulation leading to higher prices and less reliability, the only path forward is to scrap the PUC's market redesign effort. Instead, the Texas Legislature and the PUC should repent of their previous efforts that have brought Texas' once-world class competitive electricity market to its knees by restoring market prices and competition in Texas' energy-only market.

The PUC/E3 Report Doubles Down on the Status Quo

As energy economists Michael's and Kleit explained in 2013, the beauty of the Texas market's energy-only design was that it provided adequate capacity at a much lower cost than the so-called capacity markets:

ERCOT's "energy-only" market relies on competitive market forces to meet the long-term electricity needs of the 23 million Texans in its service area. Shorter-term needs are also met through the competitive market. ... Competition has worked remarkably well in ERCOT since its introduction about 15 years ago. Consumers can choose over a hundred different plans from dozens of providers. Billions of dollars invested in generation have provided Texas with a reliable supply of affordably priced electricity.

While today's market still bears the name Energy-Only, regulators have done everything possible to turn it into a capacity market through continuous intervention in the market. Yet the E3 report treats the current market as a fully functional Energy-Only market. Its analysis of the proposed market redesigns use the current, dysfunctional market design as a baseline. E3 made no effort to model the costs and efficiency of a true energy-only market without subsidies for renewable and traditional generators and the numerous market interventions of the PUC.

The PUC/E3 Report Offers No Path for Addressing the Growth of Intermittent Generation

The E3 report projects what the installed capacity for each generation source in the electric market would be under each of the seven scenarios it analyzed. One notable aspect of this is that the amount of capacity from renewable energy, wind and solar farms is the same under the proposed market redesigns as it is under the baseline status quo. This means that the proposed market redesigns will do nothing to reduce the growth of intermittent generation in Texas. This is remarkable because it has been well documented that renewable energy has played a major role in making the Texas electricity market less affordable and more unreliable.

Figure 1	New 2018-21	%	Total 2022	%	New 2022-26	%	Total 2026	%
Wind	15,947	58.52%	35,210	30.29%	5,394	16.26%	40,605	29.00%
Solar	7,213	26.47%	11,992	10.32%	27,335	82.42%	39,347	28.10%
Natural Gas	4,075	14.96%	48,479	41.71%	436	1.31%	48,915	34.94%
Nuclear	13	0.05%	4,973	4.28%	0	0.00%	4,973	3.55%
Coal	0	0.00%	13,568	11.67%	-7,396	-22.30%	6,172	4.41%
Battery Storage	0	0.00%	2,014	1.73%	5,397		7,411	5.29%
Total	27,249		116,236		33,165		140,012	
Renewable %		85.00%		40.61%		98.69%		57.10%

In 2007, electricity from wind and solar generation [made up 3%](#) of the total electricity generated in ERCOT. This year, the total is 31%, which is [expected to increase to 37%](#) next year; more than electricity from natural gas. The reason for this is simple. Renewables totaled 85% of new generation over the last four years as subsidies allowed renewables to practice predatory pricing and keep new natural gas plants from coming online. Even when the intermittency of renewables hasn't directly caused reliability problems, it has significantly increased the cost of electricity as regulators have forced Texans to [pay billions of dollars](#) to subsidize reliable generation in an effort to keep the lights on. And the market redesign won't make things better. The E3 report estimates that almost 99% of new generation coming online in Texas through 2026 will be renewables.

The Market Design Recommendations in the PUC/E3 Report Will Transfer Billions of Dollars of Wealth from Texas Consumers to Texas Generators

On p. 5 of its report, E3 suggests that its proposed redesign of the Texas market will result in an incremental increase in costs to Texans of \$460 million per year. However, the costs imposed on Texans through government intervention in markets will be much higher. E3 is able to justify the \$460 million figure by comparing the proposed market redesigns to its status quo scenario. Yet the status quo scenario contains billions of dollars of current and future cost increases already added to Texans' electric, property tax, and income tax bills by federal, state, and local governments.

Figure 2: Annual Est. Energy Costs Imposed on Texans by U.S. & Texas Governments – 2026	
Source	Amount
CREZ Lines	\$573,683,601
RPS/RECs	\$27,219,750
Securitization	\$738,246,192
ORDC/Ancillary	\$3,300,000,000
Congestion (Renewables)	\$766,475,000
Market Redesign	\$460,000,000
Chapters 312 & 313	\$167,584,402
U.S. Renewable Subsidies	\$2,437,015,948

Figure 3: How Texans Will Pay	
Source	Amount
Electric Bill	\$5,865,624,543
Income Taxes	\$2,437,015,948
Property Taxes	\$167,584,402
Total Annual Cost	\$8,470,224,893
Under Control of Texas Legislature	\$6,033,208,945

For instance, Figure 2 shows that the E3 report includes the \$3.3 billion of increased costs through July 31 from the PUC's Operating Reserve Demand Curve (ORDC) and ancillary services. Of this, \$1 billion was a result of changes the PUC made to the ORDC made in January 2022, which, one group estimates, will add an additional \$1.3 billion to the cost of Texas electricity next year.

The costs also include securitization of the debt caused by the PUC's arbitrary and capricious decision during the 2021 winter storm to raise electricity prices to \$9,000 per MWH. The result is that Texas consumers are on the hook for at least \$10.5 billion in costs from the storm. The annual cost on consumers' electric bills will be at least \$738 million per year.

Additionally, Figure 2 shows the annual costs associated with CREZ lines (\$573 million), Texas Renewable Portfolio Standard (\$27 million), and congestion costs associated with renewables (\$766 million).

Add all these up, and Figure 3 shows the recommended alternative in the E3 report and other PUC and legislative interventions will force Texas consumers to pay \$5.8 billion a year for the electricity they purchase in ERCOT by 2026. Most of that will be used to subsidize thermal and renewable generators in Texas with multi-billion-dollar market caps in Texas' newly designed capacity market. Add in the \$167 million in annual subsidies for renewable energy through local property tax abatements, and the Texas Legislature has essentially imposed a \$6 billion annual electricity tax on Texans.

In addition to these costs imposed by the state, Texans will also have to bear the costs of federal renewable subsidies through their income taxes. The Energy Alliance estimates that these costs will total about \$2.4 billion through the Production Tax Credit (wind) and Investment Tax Credit (solar). The federal subsidies include increases contained in the recently passed Inflation Reduction Act. The total annual cost in 2026 that Texans will have to pay for their electricity above market-priced energy costs will be about \$8.4 billion.

Recommendations

Restore Texas' energy-only market through these steps:

- Scrap the PUC's market redesign project
- Do not adopt a mandatory reliability standard
- Eliminate/do not renew Chapter 312 and 313 property tax abatements for wind and solar generation
- Make Texas' Renewable Energy Credits program voluntary
- Directly address the price distortions caused by renewable resources receiving out-of-market tax incentives from the federal government by requiring either
 - Renewable energy minimum offer price
 - Firmness of dispatch for renewable energy
- Eliminate the ORDC and ERCOT's Ancillary Services
- End the socialization of grid connection and transmission costs
- Require the PUC to model the costs and reliability of competitive energy-only market

Executive Summary – The Energy Alliance

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