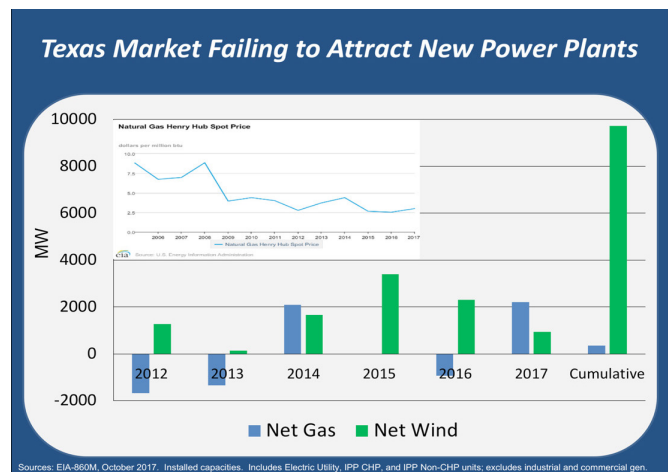
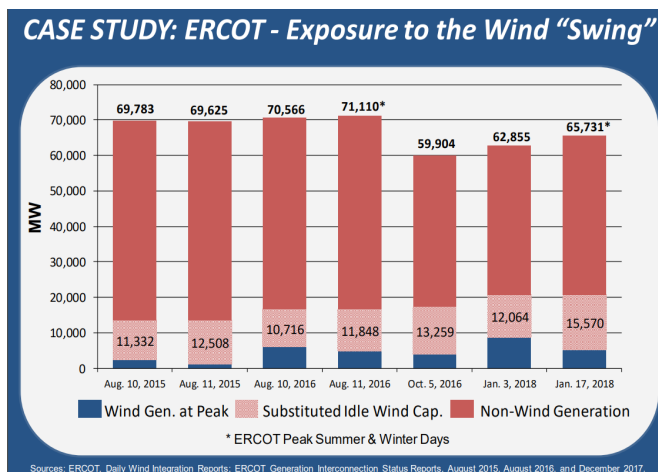


## A BRIEF HISTORY OF RENEWABLE ENERGY

- Renewable energy had almost of 100 percent market share throughout human history until it was replaced by more affordable and efficient carbon-based energies that powered the industrial revolution and vastly increased living standards.
- The birth of wind power as commercial energy began in California in the early 1980s. The winds were no stronger than before, but government largesse kicked in as a misguided response to the energy crisis.
- Corporate cronyism fueled by massive government subsidies to solar and wind energies over four decades have enriched companies like Enron and NextEra, while costing consumers and taxpayers hundreds of billions of dollars, but have failed to make these sources of energy competitive with fossil and nuclear fuels.



## UNRELIABLE & COSTLY RENEWABLE ENERGY IN TEXAS

- Before subsidies, in 1999 the state of Texas hosted 184 megawatts (MW) of installed wind energy representing 7.4 percent of the 2,473 MW of wind operating in the United States.
- After pouring more than \$18 billion of federal, state, and local subsidies into the state, Texas now has nearly 23,000 MW of wind, representing 25 percent of the total installed in the U.S.
- U.S. and Texas renewable energy projects are uneconomical without heavy reliance on taxpayer subsidies.
- Renewable subsidies have significantly contributed to this summer's tight electrical grid reserve margin, increased unreliability, and added billions of dollars of costs to the grid.

# FEDERAL SUBSIDIES: THE PRODUCTION TAX CREDIT

- The Production Tax Credit (PTC) is a federal subsidy that provides a \$23 tax credit for each megawatt-hour of renewable energy sold.
- The PTC will cost taxpayers approximately \$65 billion in foregone revenue before it fully phases out as currently scheduled. In 2017 the PTC cost \$4.2 billion.
- The PTC is a subsidy that benefits a few energy corporations. Only 15 parent companies account for more than three-fourths of all PTC eligibility—more than \$19 billion in 10 years (2007-2016).
- The PTC distorts electricity markets. Combined with depreciation it can represent as much as 70 percent of project capital cost. The PTC results in negative prices, increases costs for other energy producers, and decreases reliability of the grid.

## Production Tax Credit Eligibility by Top 15 Parent Companies

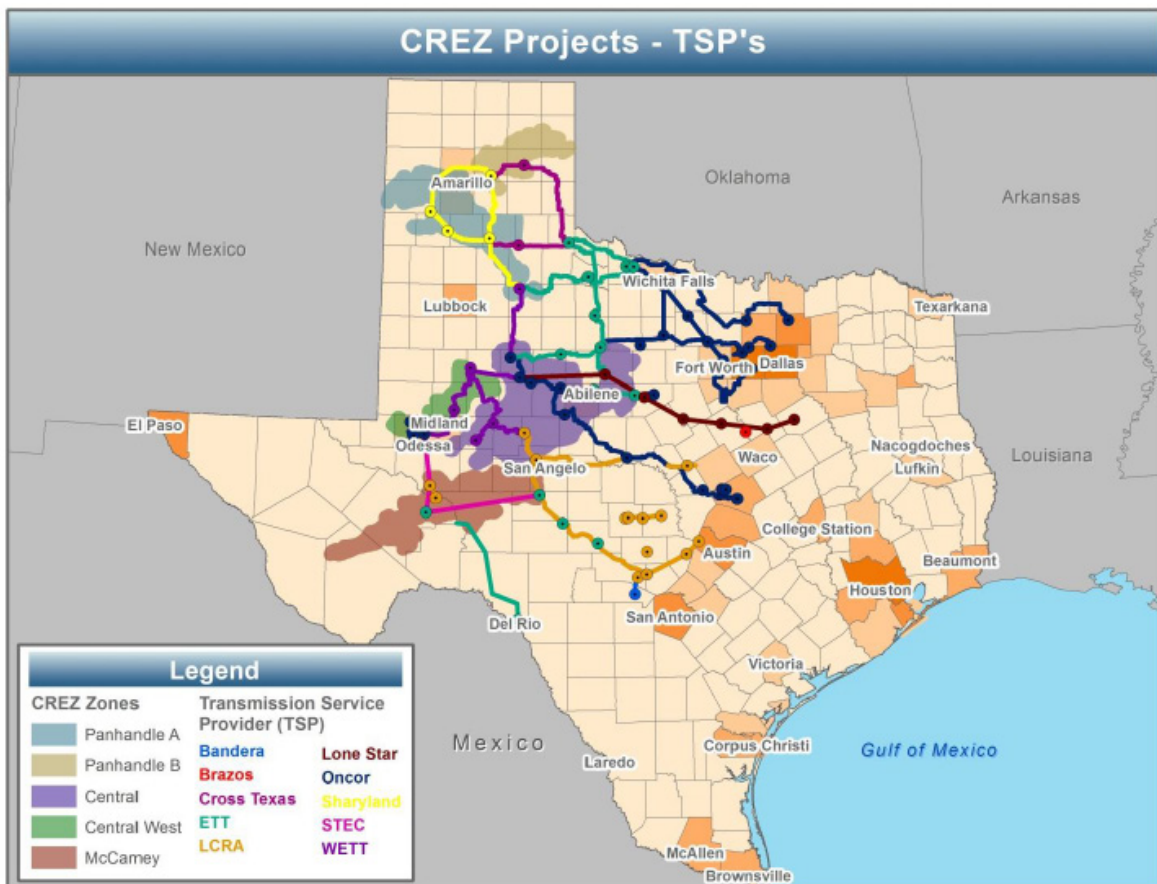
| Parent Company                            | 2016           | 2007-2016       | # of Turbines |
|---|----------------|-----------------|---------------|
| NextEra Energy, Inc.*                     | \$778          | \$5,702         | 9,287         |
| Iberdrola/Avangrid Renewables (Spain)*    | \$301          | \$2,651         | 3,497         |
| EDP-Energias de Portugal*                 | \$217          | \$1,671         | 2,487         |
| Invenergy, LLC*                           | \$227          | \$1,290         | 2,181         |
| NRG Energy, Inc.                          | \$178          | \$1,143         | 1,553         |
| E.ON (Germany)*                           | \$171          | \$1,134         | 1,987         |
| Duke Energy*                              | \$158          | \$938           | 1,636         |
| BP plc (England)                          | \$148          | \$913           | 1,179         |
| Brookfield Asset Management Inc. (Canada) | \$189          | \$770           | 1,525         |
| Dominion Energy, Inc.                     | \$107          | \$727           | 762           |
| EDF-Electricite de France*                | \$174          | \$622           | 1,783         |
| Exelon Corp.                              | \$95           | \$528           | 839           |
| Pattern Energy*                           | \$131          | \$500           | 870           |
| Enel (Italy)*                             | \$144          | \$462           | 1,320         |
| AES Corporation                           | \$36           | \$330           | 1,191         |
| <b>Subtotal</b>                           | <b>\$3,054</b> | <b>\$19,380</b> | <b>32,097</b> |
| Share of PTC Market                       | 71%            | 76%             | 59%           |
| <b>TOTAL</b>                              | <b>\$4,298</b> | <b>\$25,474</b> | <b>54,528</b> |

Notes: Data are in millions of dollars from the U.S. Energy Information Administration (2018b; 2018c) and author's calculations. These values represent PTC eligibility and do not account for investment tax credit claims made in lieu of the PTC during some of the years.

\*Current AWEA board of directors member (AWEA 2018a)

# STATE & LOCAL SUBSIDIES FOR RENEWABLE ENERGY

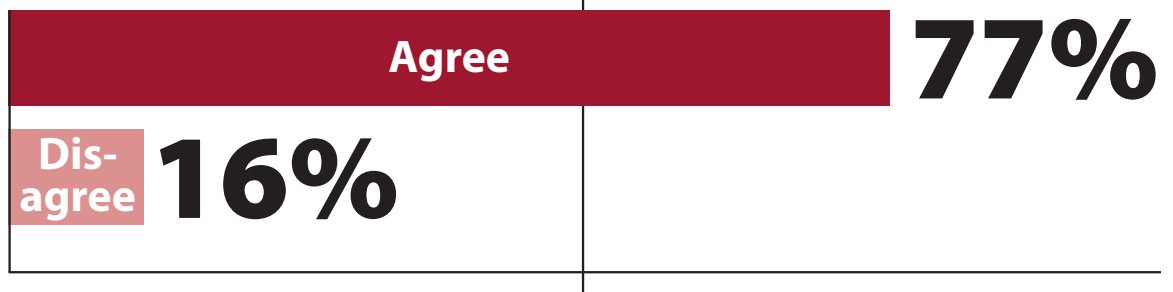
- Starting in 1999, the Texas Legislature, the Public Utility Commission of Texas, and the Electric Reliability Council of Texas (ERCOT) have either passed laws or adopted rules or operating procedures that have forced Texans to subsidize renewable energy.
- The Texas renewable portfolio standard (RPS) requires the purchase of renewable energy credits (RECs) that have cost Texas consumers more than \$500 million.
- Competitive Renewable Energy Zone (CREZ) transmission lines were built exclusively to promote wind and solar generation in Texas. The cost to Texas consumers for these lines was over \$7 billion. Texans pay this cost through their monthly electricity bill.
- The cost to consumers of paying for connecting renewable energy generation facilities to the grid has reached almost \$1 billion.
- Property tax abatements for wind and solar farms under Chapters 312 and 313 of the Tax Code are the main form of local subsidies.
- Fifty percent of the active Chapter 313 agreements involve wind energy facilities with a lifetime total cost of \$1.56 billion as of 2016.
- While Chapter 313 requires at least 10 new qualifying jobs be created for rural projects, most renewable projects request and are granted waivers.
- There is little transparency for Chapter 312 and 313 deals which are exempt from disclosure that discussions over such subsidies enjoy under the Texas Open Meetings Act and the Texas Public Information Act.



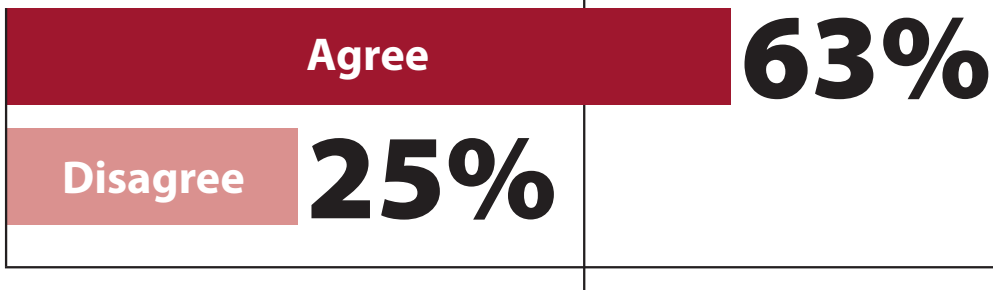
# TEXANS SUPPORT ENDING RENEWABLE ENERGY SUBSIDIES

Texans should have access to reliable, affordable energy. Texas shouldn't be picking winners and losers in the economy.

"The state legislature should eliminate handouts to big business for renewable energy that drive up electricity bills and reduce the reliability of the electric grid."



"The Texas Legislature should let local tax abatements expire for big companies, including wind and solar generators, because they give unfair advantages to one business over another."



## RECOMMENDATIONS

- End the use of Chapter 313 agreements for renewable energy.
- Eliminate the ability of local governments to waive the Chapter 313 jobs requirement.
- Require all generation to be dispatchable.
- Require market participants benefitting from subsidies to pay for the costs they impose on the electric grid.
- Create wind easements in Texas.
- Make the Texas portfolio standards voluntary for all types of fuels.
- Eliminate the restriction on the percent of ownership capacity of the generation fleet.