



Why Texas Should Stop Worrying and Learn to Love the Clean Power Plan



Doug Lewin,
Executive Director



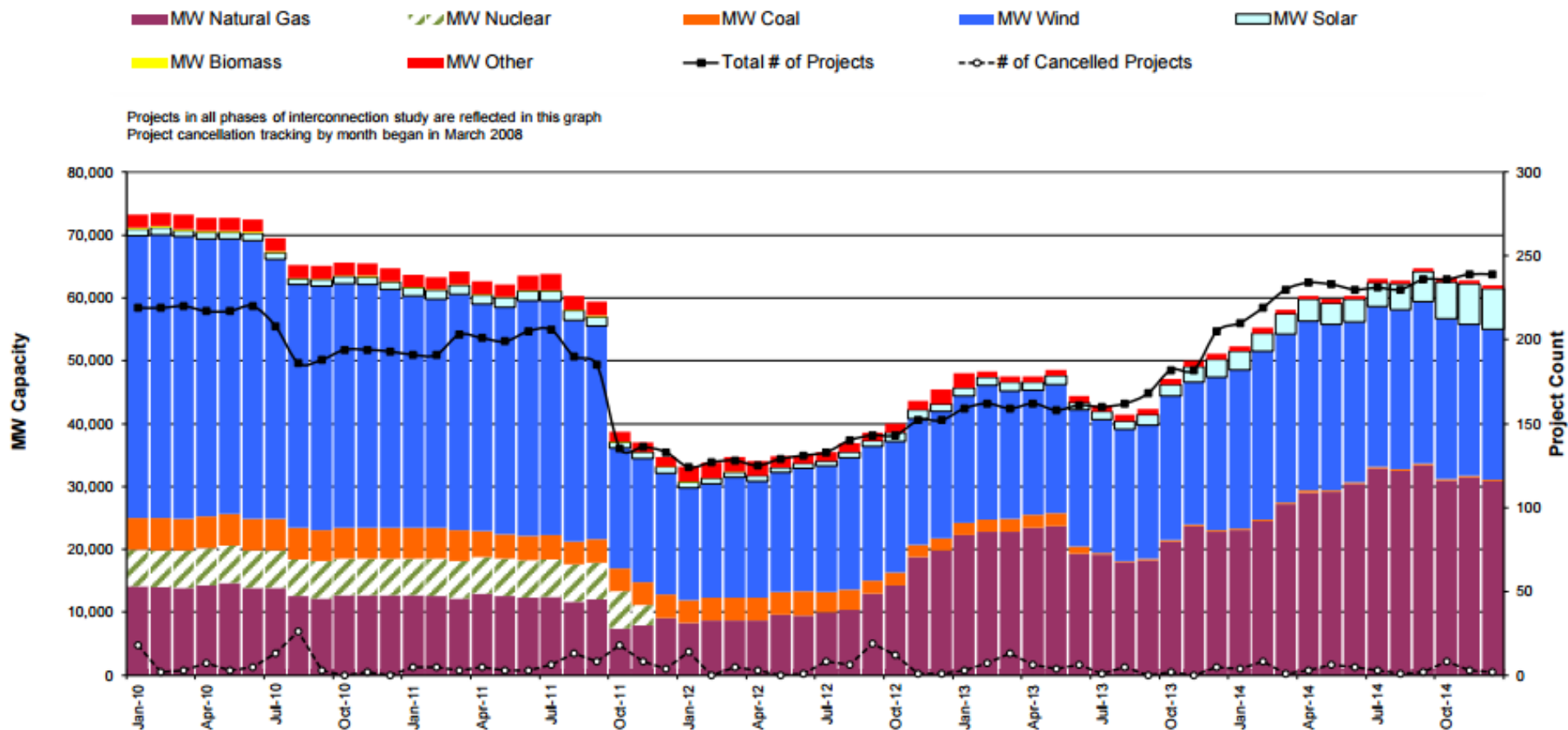
Key Points

- Texas will hit more than 75% of goal with BAU.
- Texas will not hit the Energy Efficiency Building Block (BB4) under BAU scenarios.
- Texas stands to gain from CPP from a macro-economic perspective (i.e., increased natural gas demand and production, etc.)
- EE would keep reduce consumer costs of compliance, but will take a portfolio approach in Texas. (i.e., we won't get there through utility programs alone.)



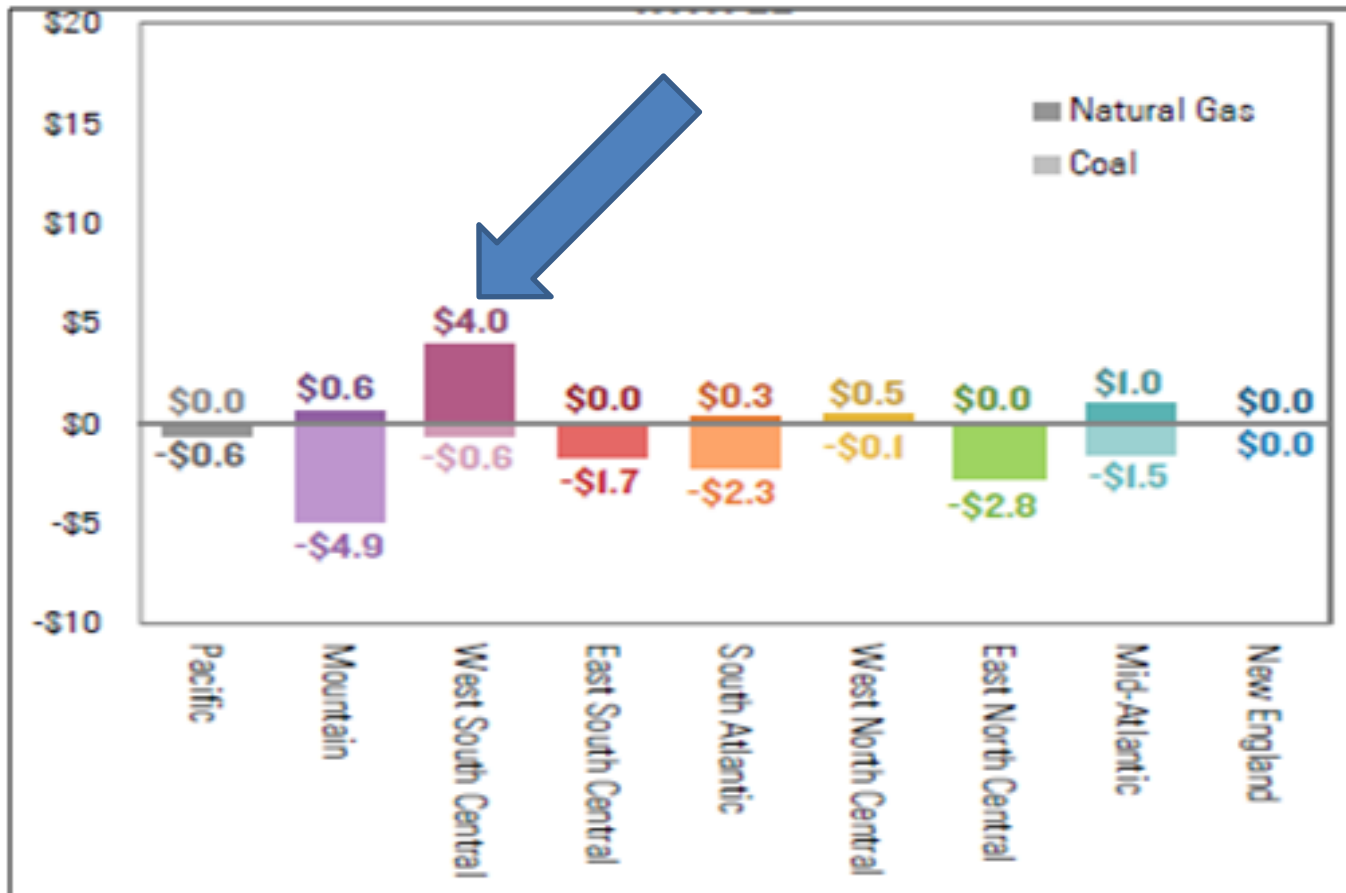
Texas and the CPP

Texas has 39% reduction goal, but rapid decarbonization makes that very achievable.



Texas stands to gain from the CPP

Change in Average Annual Production Revenue, 2012 Billion USD, 2020-2030



The above graph demonstrates impacts under a national cooperation model. We would expect similar geographic effects without national cooperation. Source: "Remaking American Power, Preliminary Results." Rhodium Group, July 2014.

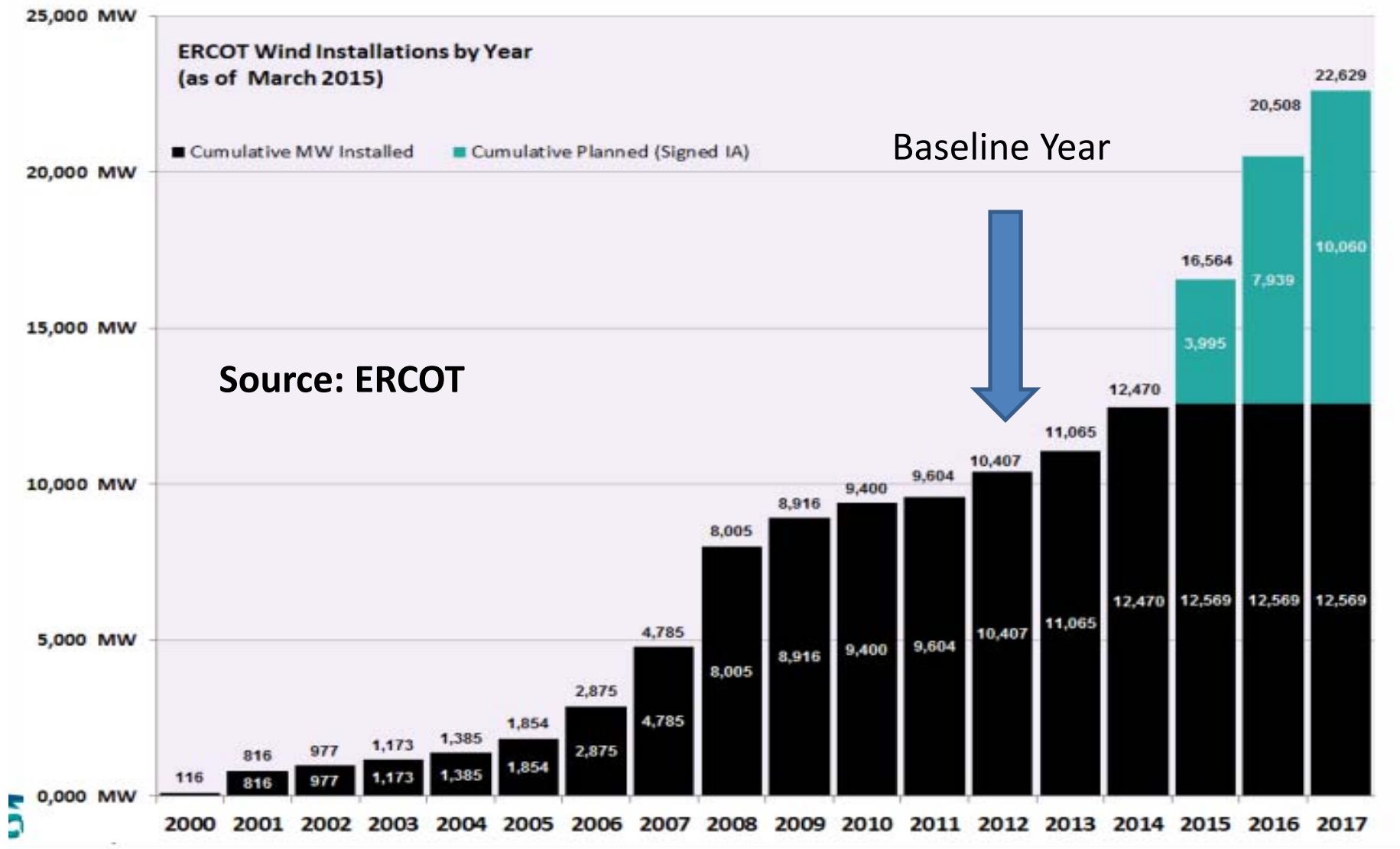


Building Block 3

- Wind capacity will more than double from 2012 levels by 2017.
- 35m MWh already included in EPA denominator
- Block 3 for Texas = 89m MWh
- Wind alone puts the state very close to BB3 goal.
- ERCOT projects 10GW of solar which at 25% capacity factor would equal >22m MWh
- **With BAU, Texas will exceed BB3**



Wind Development in ERCOT



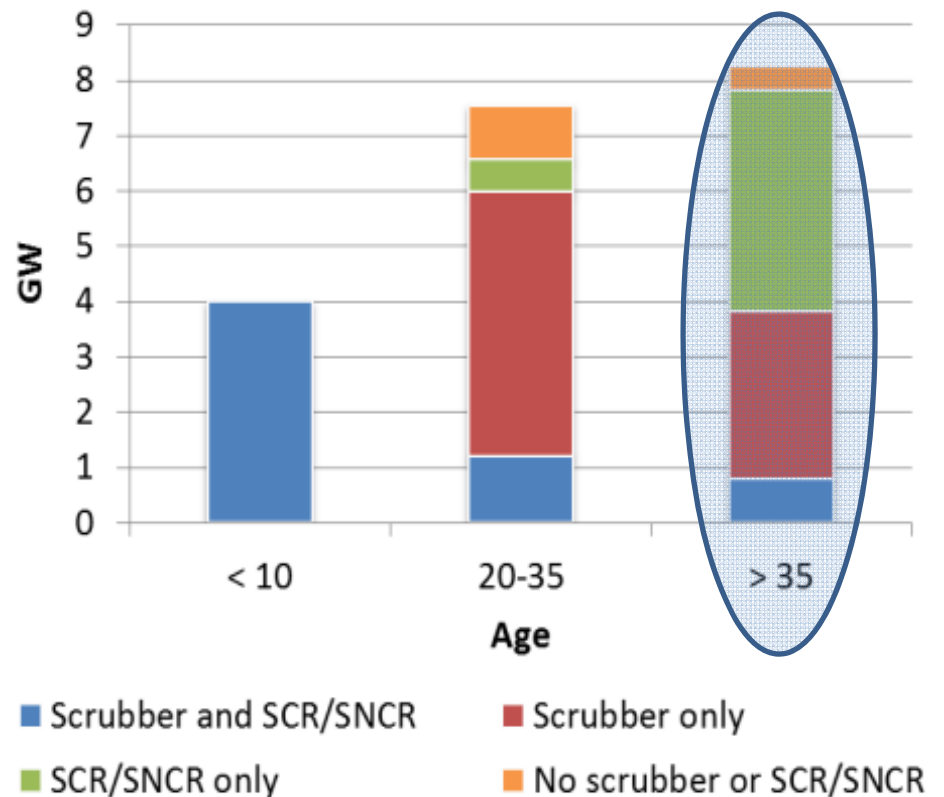
Building Block 2

- Natural Gas would need to increase by 56% to meet EPA's stated goal in BB2. This equals about a 3% Compound Annual Growth Rate.

Fuel Type	Screening Study (MW)	Full Study (MW)	IA Executed (MW)	Total (MW)
Natural Gas	4,594	16,694	9,574	30,862
Coal	0	0	240	240
Wind	1,400	13,276	9,256	23,932
Solar	620	5,420	385	6,425
Storage	0	594	0	594
Total	6,614	35,984	19,455	62,053

Source: ERCOT

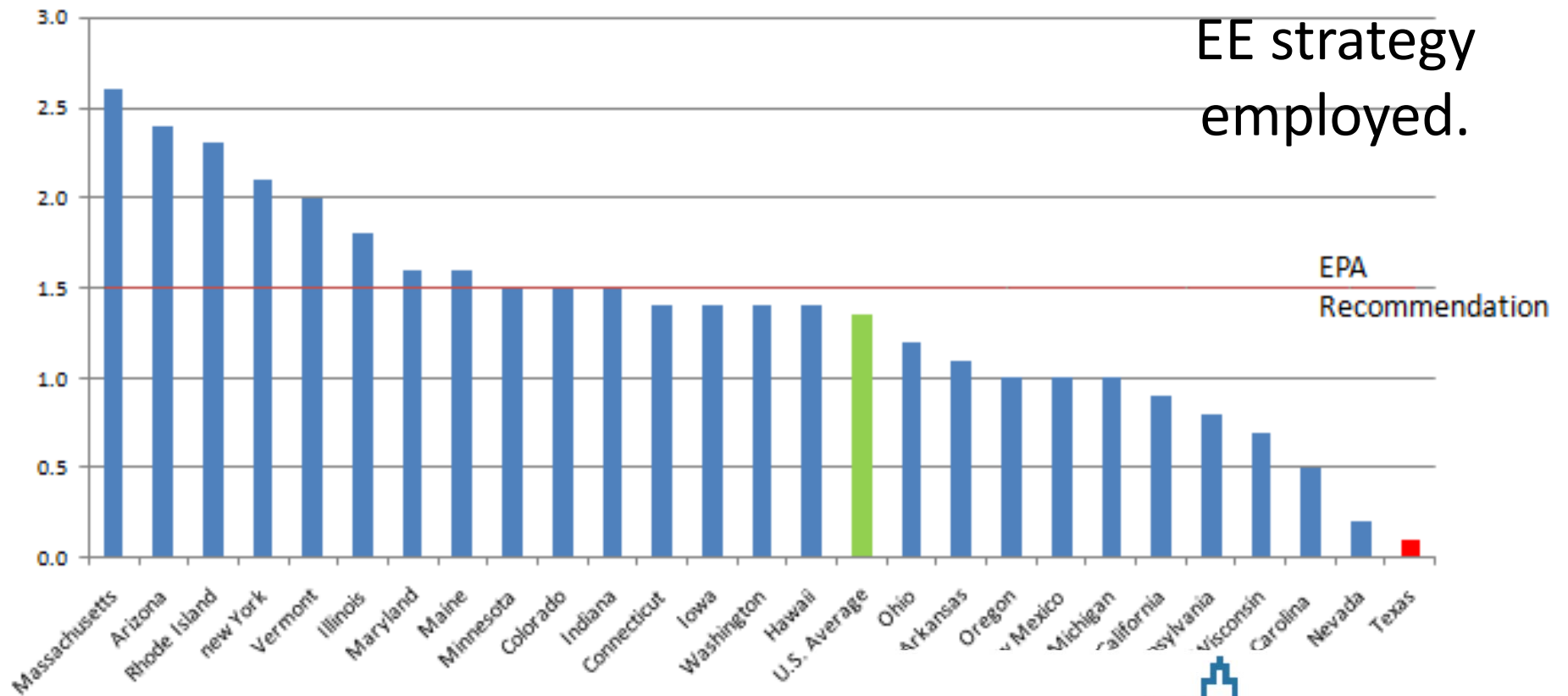
Coal Capacity by Age and Controls



Texas' Utility Efficiency Levels

Texas would need an 8x increase in utility programs *if* that were the only EE strategy employed.

Annual % Electricity Savings Target
By State EERS Policy



Source: ACEEE 2013 State Energy Efficiency Scorecard, p. 33.



Texas' Utility Efficiency Levels

- Texas utilities testified last fall that programs would need to grow from \$200 million to \$3 billion to meet levels in BB4.
- But they did not consider (nor were they asked to consider) any efficiency strategies besides utility administered programs.
- Nor did they calculate benefits which, based on avoided energy alone, would equal in excess of \$5 billion.



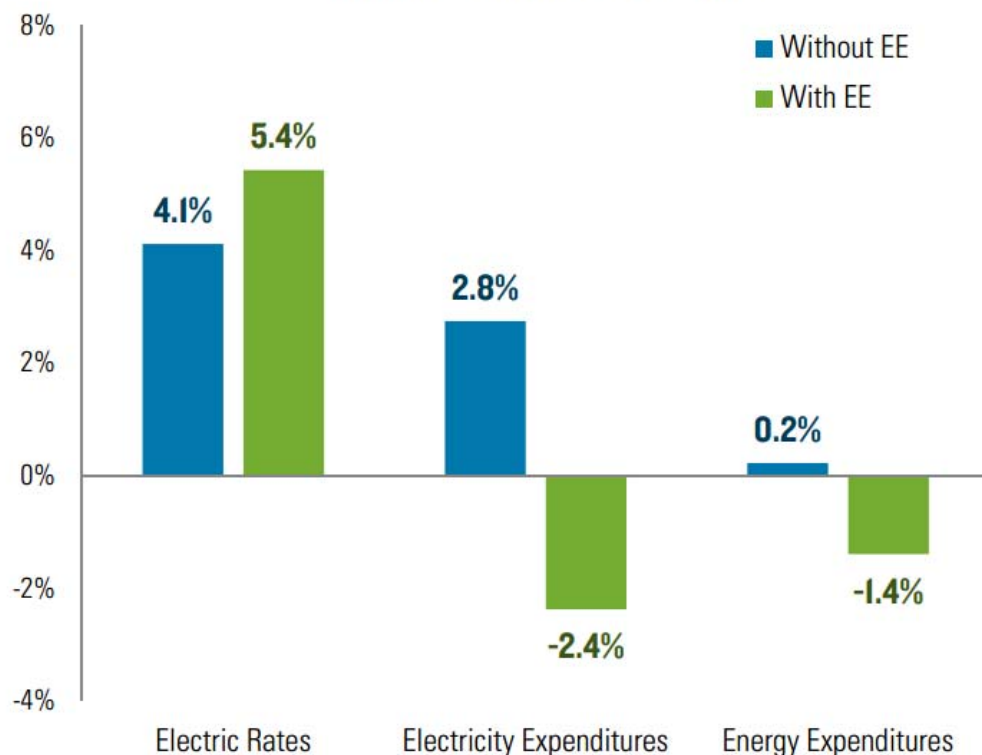
With EE, electric bills go down.
Without it, bills go up.

Electric *rates* go up with energy efficiency as efficiency programs are expanded.

But electric *bills* go down because consumers are buying less electricity.

This is a key point because Texas' rates are low but Texas' bills are high.

CHANGE FROM REFERENCE



Source: Center for Strategic and International Studies and Rhodium Group






Outcome Measure		2015	2016
1-1.04	Average Price of Electricity per kWh in Texas for Residential Customers from Competitive Suppliers as a Percentage of the National Residential Average	99.17%	99.38%
1-1.05	Average Price of Electricity per kWh in Texas for Commercial Customers as a Percentage of the National Commercial Average	85.05%	88.79%
1-1.06	Average Price of Electricity per kWh in Texas for Industrial Customers as a Percentage of the National Industrial Average	101.41%	101.06%
1-1.07	Average Annual Residential Electric Bill from Competitive Suppliers as a Percentage of the National Average	123.25%	119.38%

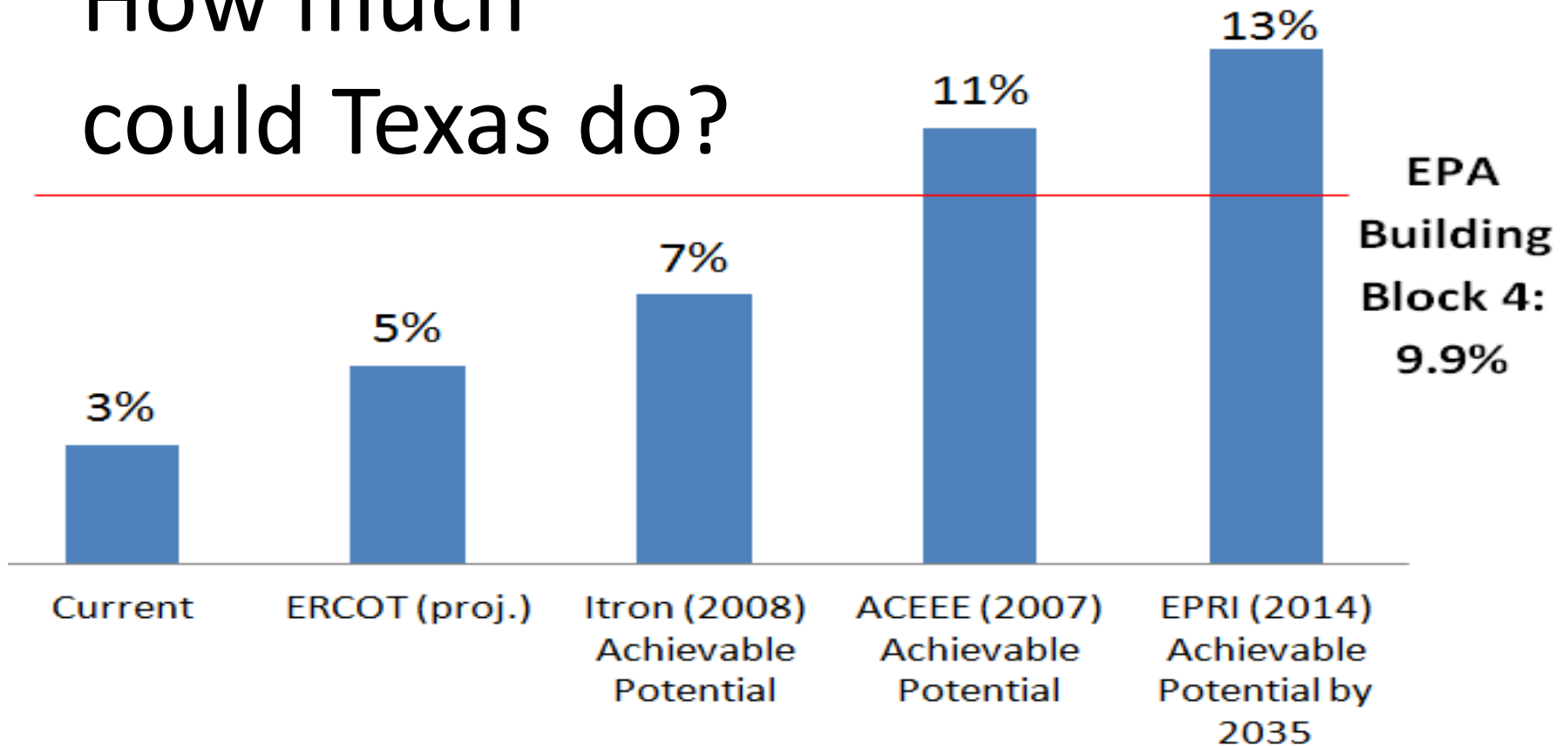
Texas' rates are average. But total bills are significantly higher.

Source: Public Utility Commission of Texas Strategic Plan.





How much could Texas do?



Note: EPA's 10% is over 15 years, while Itron's 7% was over 10 years and EPRI's is 13% over 20 years.



First, what is the Goal?

- Increase Utility Programs?
- We should not confuse the means for the end.
- The goal is higher efficiency, greater savings, reduced emissions, and lower costs.
- If we can do that with smaller ratepayer funded programs, we should. Goal should be maximum efficiency, minimum ratepayer expense.



The Opportunities

- Expand current utility programs
- Residential financing programs
- Commercial financing programs
- Building Energy Codes
- Competitive Retail Energy Services
- ESCOs, Industrial EE, Local Governments and more



Expand Utility Efficiency Programs

- One possibility would be to expand from .2% to .5%.
- Still places Texas among lowest states, but provides a 150% increase over 15 years and would get Texas 1/3 the way to the 1.5% goal.
- In line with last PUCT commissioned potential study.



Residential Retrofit Financing Programs

- Set a goal of 5% of homes in next 15 years.
- More than half of homes will have a major renovation, repair, or replacement in that time.
- If programs like WHEEL and PACE are in place, they can finance higher efficiency.
- 20% savings in 5% of Texas homes would equal 1.5m MWh annually in 2030



Commercial Retrofit Financing

- There have been \$250 million in PACE deals completed national in only a few years' time.
- With Texas' large building stock, \$100 million per year by 2030 is feasible.
- With an SIR >1, that would equal over \$100m in savings or at least 1m MWh annually by 2030.



Building Energy Codes

- If the 2012 or 2015 are adopted statewide, there is a 15% improvement over 2009 (current code).
- With an average of 80,000 new homes per year, that's a savings of 1.5m MWh annually in 2030.
- These four strategies equal 89% of Texas' goal under Building Block 4.

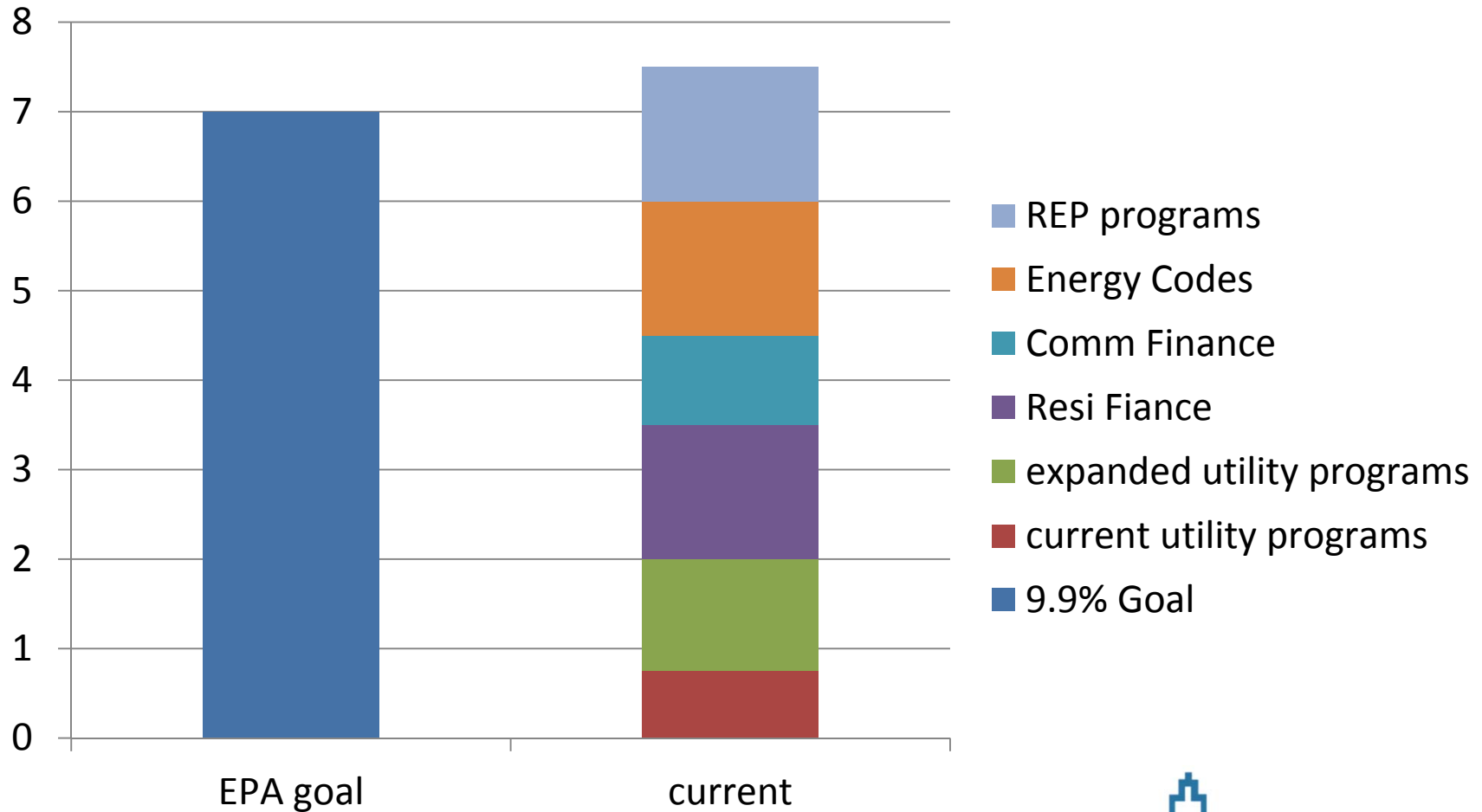


EE Delivered by REPs

- Retail Electric Providers increasingly providing efficiency as a competitive offering (e.g., free thermostats, etc.)
- If 1 in 7 customers enrolled in such a program and saved on average 10%, would equal 1.5m MWh
- Over 300,000 customers currently on some kind of TOU or peak rebate; approximately 200,000 on pre-pay.
- Meters could verify savings.



Adding It Up





Additional Strategies to Exceed Goal

- Public Buildings (Texas has a 5% goal for local governments.)
- ESCO Projects
- Industrial Efficiency
- Combined Heat and Power (CHP)
- T&D improvements (e.g., Volt VAR)
- Others?



Commission of utility executives, trade associations, former elected officials, and more recommended that Texas create an energy efficiency registry to track efficiency initiatives.

www.eepartnership.org/speercommission





Challenges to this Approach

- Registry needs to have significant interagency cooperation.
- Registry needs to ensure no double counting.
- Can meters be used to prove reductions from voluntary programs?
- Biggest challenge: Can Texas policymakers be convinced that compliance is not difficult and the CPP would benefit the state overall? (i.e., can Texas stop worrying and learn to love the Clean Power Plan?!?)



Conclusions

- CPP is favorable to Texas given existing trends; BAU gets Texas three-quarters of the way.
- Efficiency is only place BAU won't get Texas to the goal.
- Utility programs not likely to be increased to the levels called for by EPA.
- Portfolio approach, tracked with a registry, would allow Texas to significantly increase EE, reaching or exceeding 1.5%, with up to 2/3 of reductions coming from non-utility programs.



Thank you.

For more info, questions, or if you'd like to tell me how wrong I am, here's my contact info:

Doug Lewin

512-279-0753

Dlewin@EEPartnership.org

www.eepartnership.org

