EPA's Clean Power Plan: The Texas Electricity Market & Energy Efficiency

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Two Major Options for State Plans

- Direct Emission Limits
  - Rate-based CO^2 emission limits
  - Mass-based CO^2 emission limits
- Portfolio Approach
  - State-based portfolio approach
  - Utility-driven portfolio approach
- Whatever the approach, the EPA sees “end-use energy efficiency and renewable energy measures that avoid EGU CO^2 emissions [as a] major component of a state’s overall strategy for cost-effectively reducing EGU CO^2 emissions.”

EPA Criteria for Evaluation Don't Work for a Competitive Market

- Enforceable measures that reduce EGU CO^2 emissions
- Projected achievement of emission performance equivalent to the goals established by the EPA
- Quantifiable and verifiable emissions reductions
- Plan for reporting progress toward and corrective actions available for achieving CO^2 goals

CPP EE Criteria Would Expand and Disrupt Current Efforts

- Public and private sector entities would be required to have enforceable obligations under a SIP: this might include TDUs, state agencies, coops and munis, and private third-party entities
- Market-based energy efficiency gains can't be projected, enforced, or corrected

CPP Energy Efficiency Goals

- Under EPA's fourth "building block," state's will be required to achieve an incremental savings as a percentage of retail sales through demand-side management (DSM) of 1 to 2 percent: 1.5% is Option 1
- 1.5% goal developed from survey of states. Top four states:
  - Vermont: 2.19%
  - Maine: 1.96%
  - Arizona: 1.61%
  - California: 1.24%
- Incremental savings represent the reduction in electricity use in a given year associated with new EE activities in that same year
- States will also have cumulative goals in 2020 & 2029

CPP Goals Rely on False Assumptions about Energy Efficiency

- 90% of California's flat residential electricity consumption due to climate and demographics, not energy efficiency programs
- Benefits are overestimated: Ohio EE program, with utility-only EE costs of $1 billion since 2008, fails to pass Ratepayer Impact Method (RIM)
- Assumptions about market failure wrong
- EE doesn't benefit those who pay for it
- EE programs increase cost of electricity

How is Texas Doing?

- The EPA calculated that in 2012 Texas' EE program achieved incremental savings of 0.18% as a percentage of retail sales
- EPA Ranks Texas 33rd Nationally in EE Incremental Savings

CPP Requires an Eightfold Increase in Texas' Incremental Energy Efficiency Savings

Year	EPA Incremental Target	EPA Cumulative Target	EPA Cumulative Mandate	Texas Mandate (BAU)
2012	**0.18%**			25%
2013				30%/0.4%
2017	0.18%	0.18%		30%/0.4%
2018	0.38%	0.55%		30%/0.4%
2019	0.58%	1.08%		30%/0.4%
2020	0.78%	1.78%	**1.78%**	30%/0.4%
2021	0.98%	2.62%		30%/0.4%
2022	1.18%	3.59%		30%/0.4%
2023	1.38%	4.68%		30%/0.4%
2024	1.50%	5.78%		30%/0.4%
2025	1.50%	6.79%		30%/0.4%
2026	1.50%	7.70%		30%/0.4%
2027	1.50%	8.52%		30%/0.4%
2028	1.50%	9.26%		30%/0.4%
2029	**1.50%**	**10.48%**	**9.91%**	**30%/0.4%**

Problems with the CPP's Energy Efficiency Goals for Texas

- Many Texas programs having difficulty making current goals
- Shift from focus on system capacity or reliability to "meeting state objectives for reducing CO^2 emissions."
- Texas' relative inexpensive load management programs may not meet EPA's criteria for DSM
- Required increase in incremental savings would dramatically increase per unit and total costs
- Market-based demand response gains would be lessened, and at best would be complementary to a SIP

Increased Texas Goals Lead to Increasing Costs per Unit of Energy Saved

Year	Program Cost	Energy Savings	Cost /KWh
2006	$60,768,013	365,703	$0.17
2007	$80,289,664	427,862	$0.19
2008	$96,582,000	581,626	$0.17
2009	$105,810,292	559,544	$0.19
2010	$105,318,747	533,457	$0.20
2011	$113,817,338	529,334	$0.22
2012	$120,214,787	483,193	$0.25

Texas' Energy Efficiency Program Costs 2006-2015: $1.38 Billion

Year	State	All
2006	$60,768,013	$60,874,278
2007	$80,289,664	$81,242,492
2008	$96,582,000	$102,871,763
2009	$105,810,292	$118,632,668
2010	$105,318,747	$124,296,375
2011	$113,817,338	$141,396,155
2012	$120,214,787	$170,809,632
2013	$132,910,193	$194,253,359
2014	$139,811,799	$204,340,322
2015	$125,876,701	$183,973,640
Total	**$1,081,399,534**	**$1,382,690,684**

Texas' CPP Energy Efficiency Program Cost 2017-2029: $14 - $21 Billion

Goal: 1%	2017	2018	2019	2020	2021	2022	2023
EPA Savings (MWh)	686,554	1,264,469	1,847,981	2,434,945	3,023,386	3,611,513	3,883,263
EPA Program Costs	$188,802,350	$347,729,076	$508,194,892	$803,531,977	$997,717,396	$1,191,799,449	$1,495,056,157
	2024	2025	2026	2027	2028	2029	Total
EPA Savings (MWh)	3,886,769	3,892,601	3,900,739	3,911,166	3,923,867	**3,938,827**	**40,206,080**
EPA Program Costs	$1,496,406,233	$1,498,651,419	$1,501,784,558	$1,505,799,044	$1,510,688,813	**$1,516,448,337**	**$14,562,609,700**

Goal: 1.5%	2017	2018	2019	2020	2021	2022	2023
EPA Savings (MWh)	686,554	1,455,487	2,231,082	3,009,387	3,786,767	4,559,937	5,325,994
EPA Program Costs	$188,802,350	$400,259,025	$736,257,046	$993,097,716	$1,249,632,984	$1,755,575,553	$2,050,507,852
	2024	2025	2026	2027	2028	2029	Total
EPA Savings (MWh)	5,770,886	5,754,769	5,743,928	5,738,276	5,737,730	**5,742,214**	**55,543,012**
EPA Program Costs	$2,221,791,166	$2,215,586,086	$2,211,412,361	$2,209,236,260	$2,209,026,176	**$2,210,752,567**	**$20,651,937,142**

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Texas' CPP Energy Efficiency Economic Costs 2017-2029

- 1% Annual 2029: $3 billion
- 1% Cumulative 2017-2029: $29 billion

- 1.5% Annual 2029: $4.4 billion
- 1.5% Cumulative 2017-2029: $41 billion

What the Clean Power Plan Means for Texas

- Texas' implementation plan (SIP) must be enforceable as a prerequisite for EPA acceptance
- Decisions now made in the market under economic criteria will be made/influenced by federally-driven regulatory apparatus using environmental criteria: new generation, dispatch, renewable energy, energy efficiency, etc.
- EPA approval would likely be required for future changes to many/most "market" protocols

What the Clean Power Plan Means for Texas

- Adoption of a SIP will require legislation to restructure the market and the jurisdictional relationships of the PUC, TCEQ, and ERCOT
- The EPA's authority under a federal implementation plan (FIP) to force state officials to enforce obligations they do not have the authority to enforce under state law is highly questionable
- Passing legislation creates the opportunity for the EPA to indirectly regulate entities through a FIP

Clean Power Plan Bottom Line

- Texas must share part of the blame for the CPP
- Texas' energy-only market cannot survive under a EPA-approved SIP or a FIP
- Texas' attempt to comply will cede authority over operation of entire market to EPA:
  - "A state will [lose] its ability to chart its own course as to how it regulates public utilities and its energy sector as a whole." – FERC Commissioner Tony Clark
- Bigger than ERCOT: implementation/compliance with the CPP will comprehensively reorder jurisdictional relationship between federal government & states
- PUC should not move forward w/ preparations to implement CPP

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