

Electricity Affordability and Price Competitiveness



Report to the Resource
Management Commission
October 19, 2010



City Council Adoption of the Resource, Generation and Climate Protection Plan (April 22, 2010)

- Implementation contingent upon adoption of an “affordability matrix.”
- Explicit guidance on the “affordability matrix”:
 - Include benchmarking of residential and commercial & industrial rates across the State.
 - Use as a tool when evaluating new resource acquisitions.



AE's Initial Approach

■ Original Working Assumptions:

- Data-driven
- Specific to customer classes
- Benchmarking w/ Texas cities
- Simple, visual presentation
- Detailed methodology and sources
- Updated annually
- Used as tool for making resource investment decisions

■ Challenges:

- Data availability and complexity
- Making results meaningful to decision makers and community

■ Summary Tables

- Suitable for policy discussion

■ Detailed Report

- Detailed documentation of methodology
- Address a variety of issues raised by customers
- Present a complete copy of each report component



Focus of AE's Research Efforts

- First develop measurement tools.
 - Benchmark residential rates.
 - Assess residential customers' "energy burden."
 - Benchmark commercial rates.
- Develop a tool that can be used in evaluating a resource decision.



Residential Rate Benchmarking

■ Methodology:

- Compare service on comparable terms to terms offered by Austin Energy.
 - ▶ Minimum 3 month fixed price offers in competitive territories.
 - ▶ Calculate the average of offers over 12 months to see annualized results.
 - Impact of short term changes in price offers will be minimized, but evident if sustained over a longer period.
 - ▶ Show lowest, highest, and average offer for competitive territories.

■ Data:

- Competitive territories: “powertochoose” website; all in offers for retail service collected monthly.
 - ▶ Monthly from 2007 to July 2010.
- Regulated utilities: calculated from tariffs.



Residential Rate Benchmarking

■ Benchmarks selected:

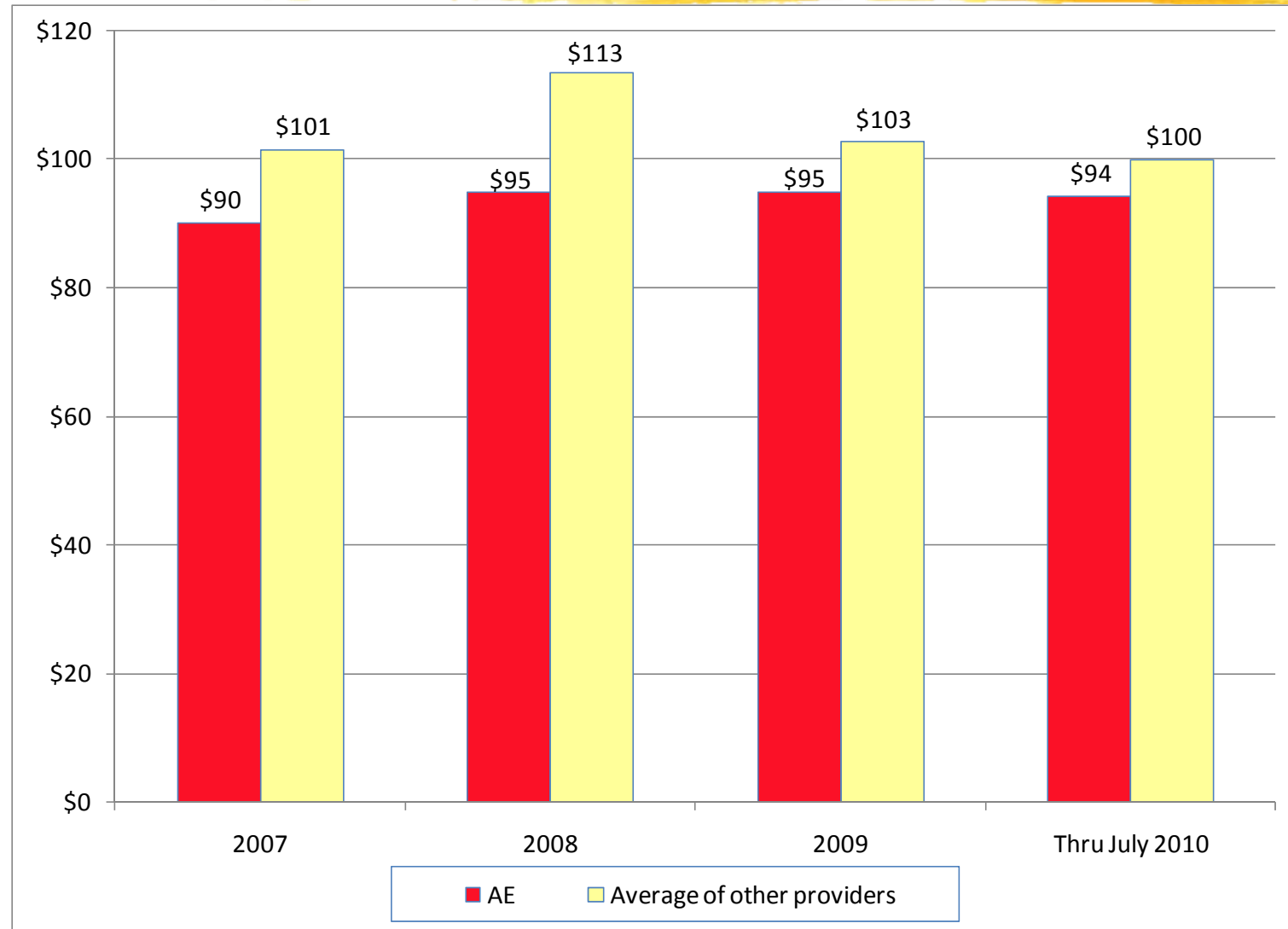
- Four competitive zones in the ERCOT market.
- Other munis and coops in Central Texas and across ERCOT as suggested by customers.
- Renewable energy options.
- Bills for qualifying low-income customers.

■ Usage levels compared:

- 500 kWh, 1,000 kWh, 1,500 kWh, and 2,000 kWh per month.

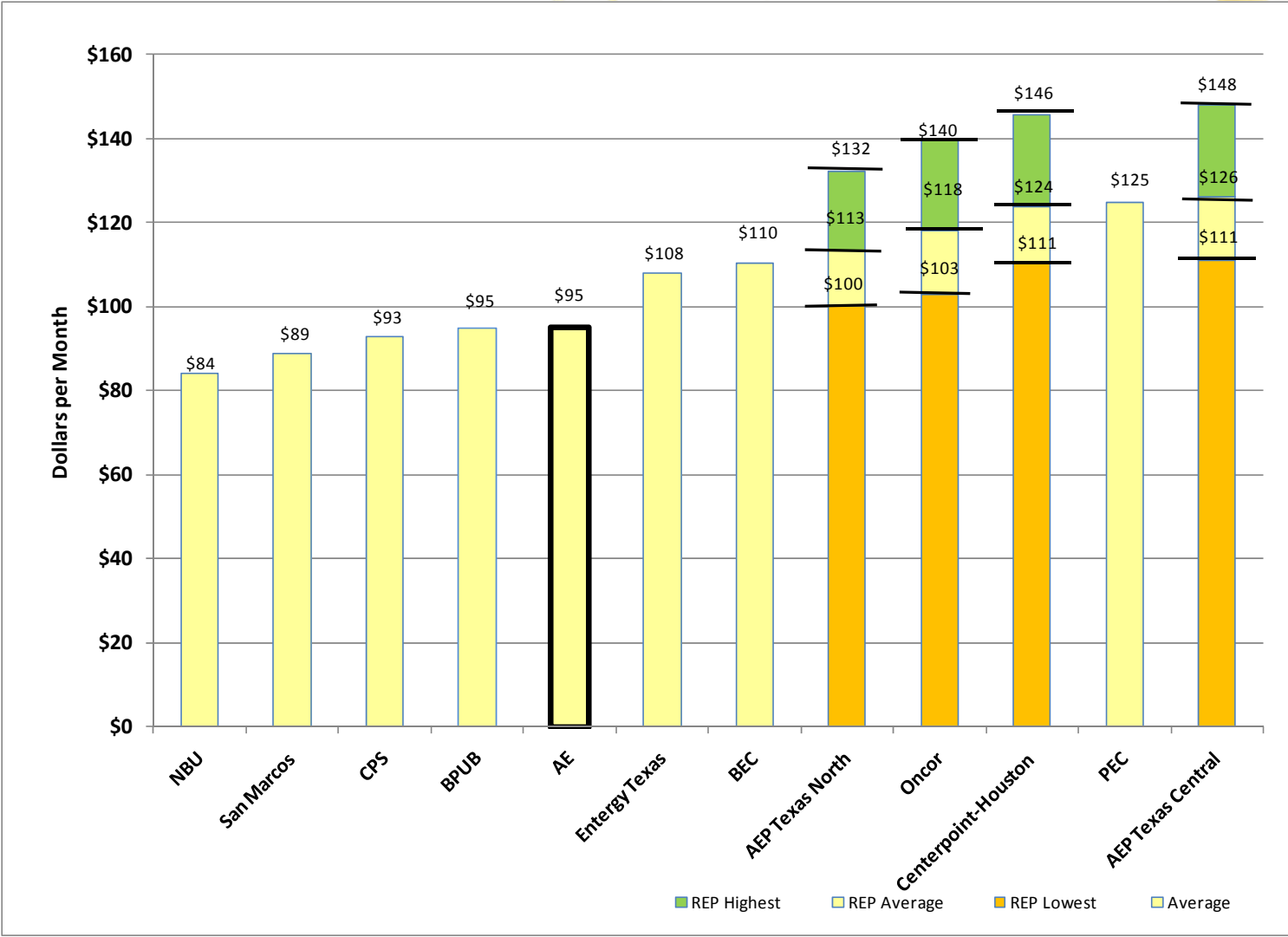


Average Electricity Costs at 1,000 kWh/month for 2007 to July 2010



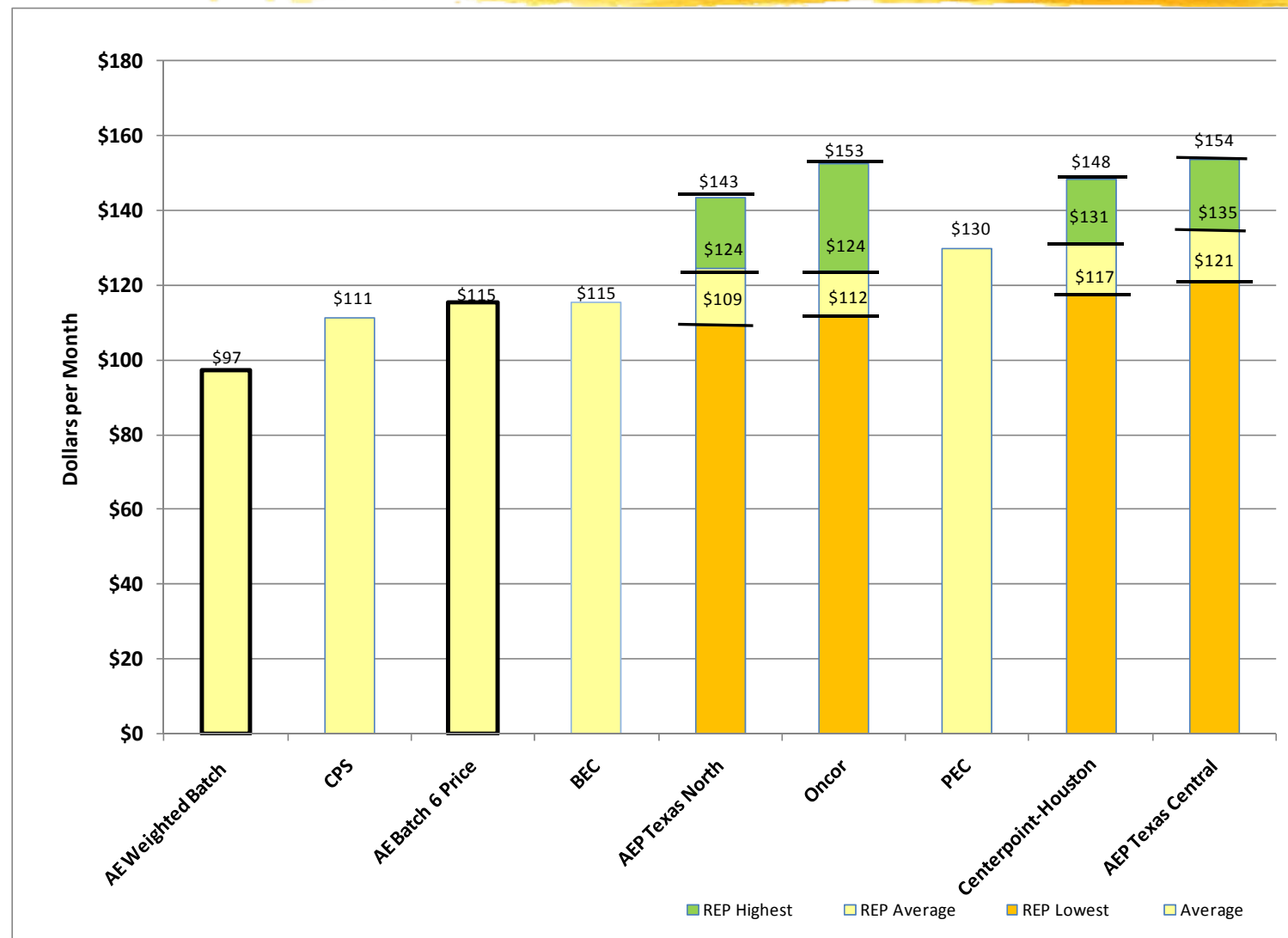


Average Monthly Electric Rates at 1,000 kWh/month for 2009



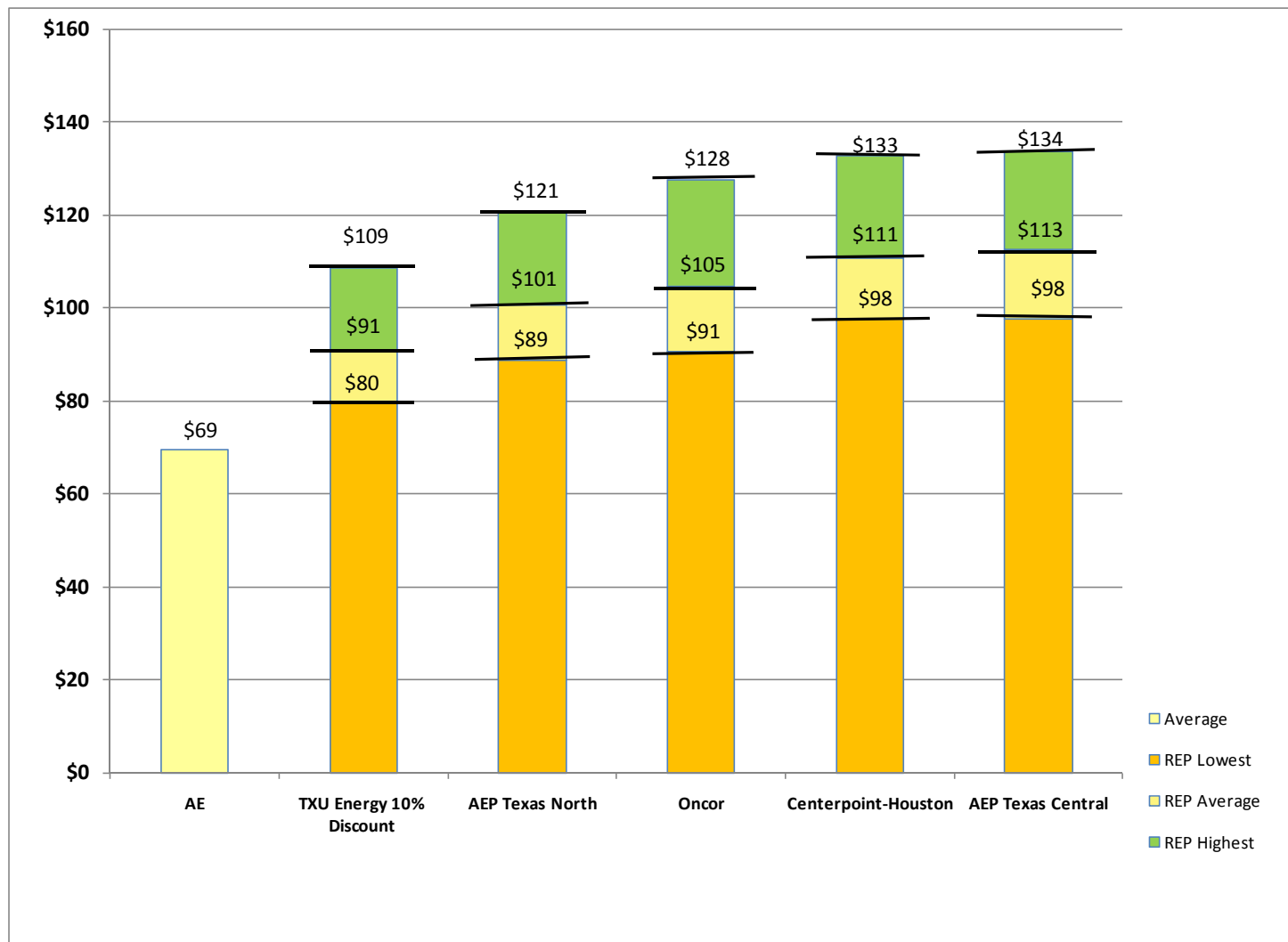


Average Monthly *Renewable* Rates at 1,000 kWh/month for 2009





Average Monthly *Low-income* Rates at 1,000 kWh/month for 2009





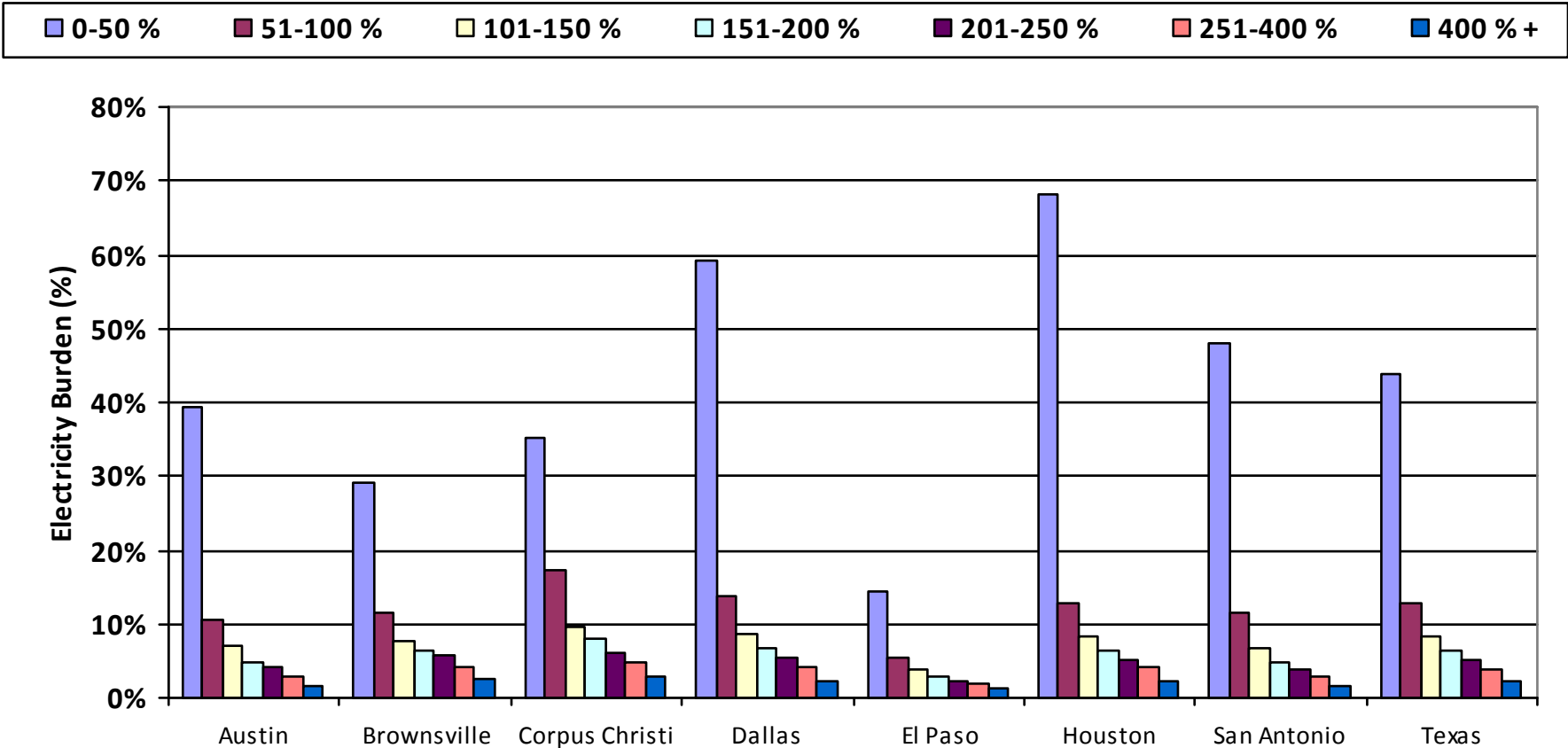
Residential Electricity Burden

- Research: Literature review on assessing residential energy affordability.
- Established metric: Residential electricity burden—share of a household's income spent on electricity.
 - Reflects customer bills, not just rates.
- Data set: United States Census, American Community Survey (2006 – 2008)
 - Data limitations:
 - ▶ Self reporting by households on electricity expenditures.
 - ▶ Census areas not precisely consistent with service territory boundaries.
- Original research report: Documentation of all assumptions; expanded presentation of results.
 - Review by Customer Advisory Group and representative of residential customers.



Residential Electricity Burden by Poverty Classification Benchmarked Against Sample Communities (2006 – 2008)

Household Income as Percent of Federal Poverty Level

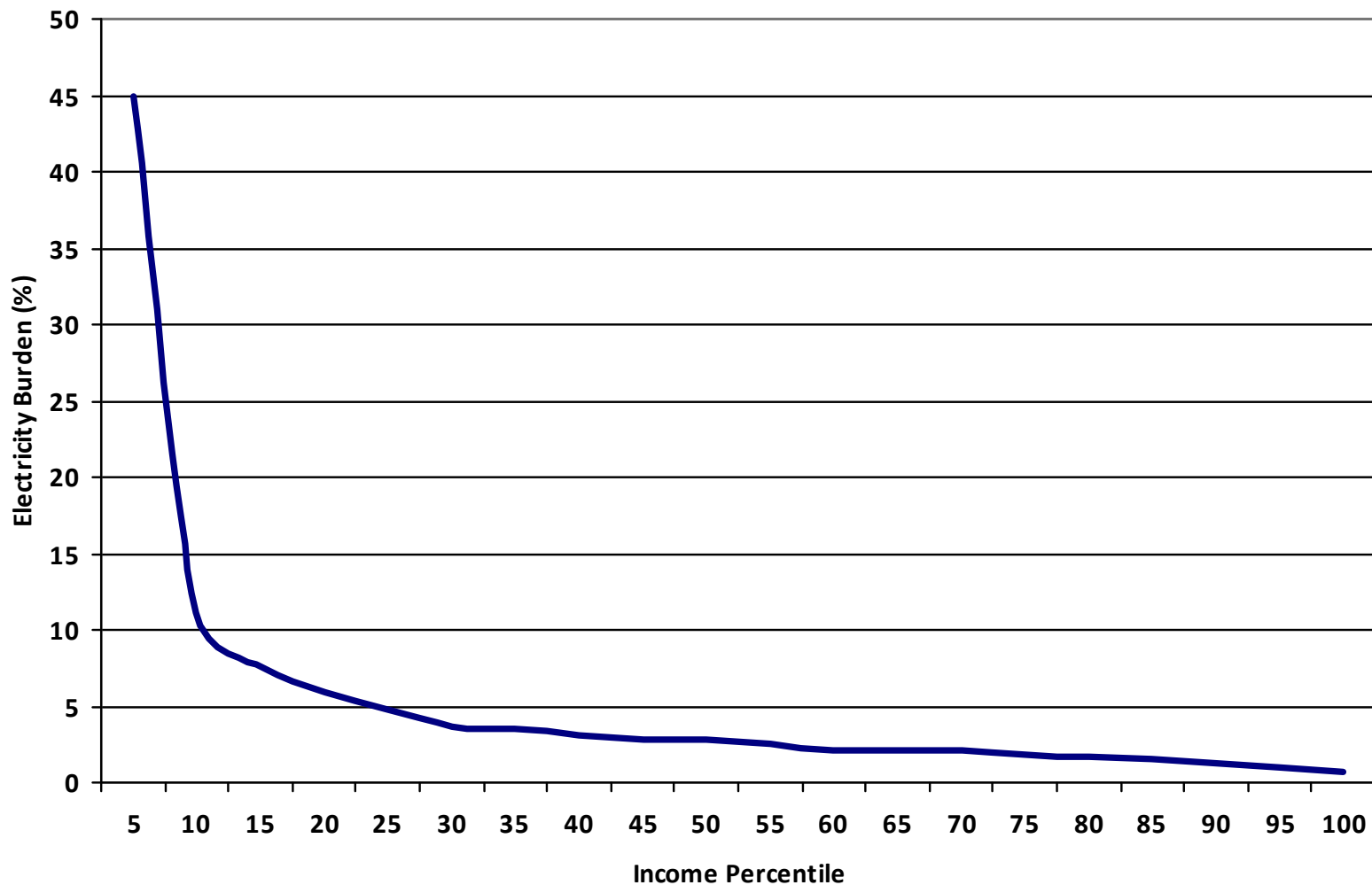


Based on data as reported to Census. AE internal data suggest lower average bills in AE's territory than reported in the Census data.

Area



Austin Residential Electricity Burden by Income Classification (2006 – 2008)





Commercial / Industrial Affordability: “Competitiveness”

- Commercial/industrial customers assess affordability in terms of competitiveness.
- How do we assess competitiveness?
 - Characterize the general economic environment.
 - Austin Energy customer electric bill data benchmarked with comparative Texas cities' electric bill data.



Commercial and Industrial Rates Benchmarking Methodology

■ Data availability:

- Regulated territories—rates based on tariffs.
- Competitive territories—rates not readily available.

■ Methodology:

- Regulated territories—calculated from tariffs.
- Competitive territories—estimated based on methods that prices are created in competitive market.
 - ▶ Fixed-rate methodology—"heat rate" method.
 - ▶ Variable methodology—"MCPE" method.
 - Adjusted to an annualized rate.
 - ▶ Methods differ by amount of risk a retail customer is willing to accept.



Commercial and Industrial Rates Benchmarking Methodology

■ Benchmarks Selected:

- Regulated territories—munis and coops in Central Texas plus selected other companies.
- Competitive territories—one estimate for each of the four “congestion zones” in the ERCOT market; consistent with the territories of the four largest wires companies operating in competitive territories.

■ Usage Levels Compared:

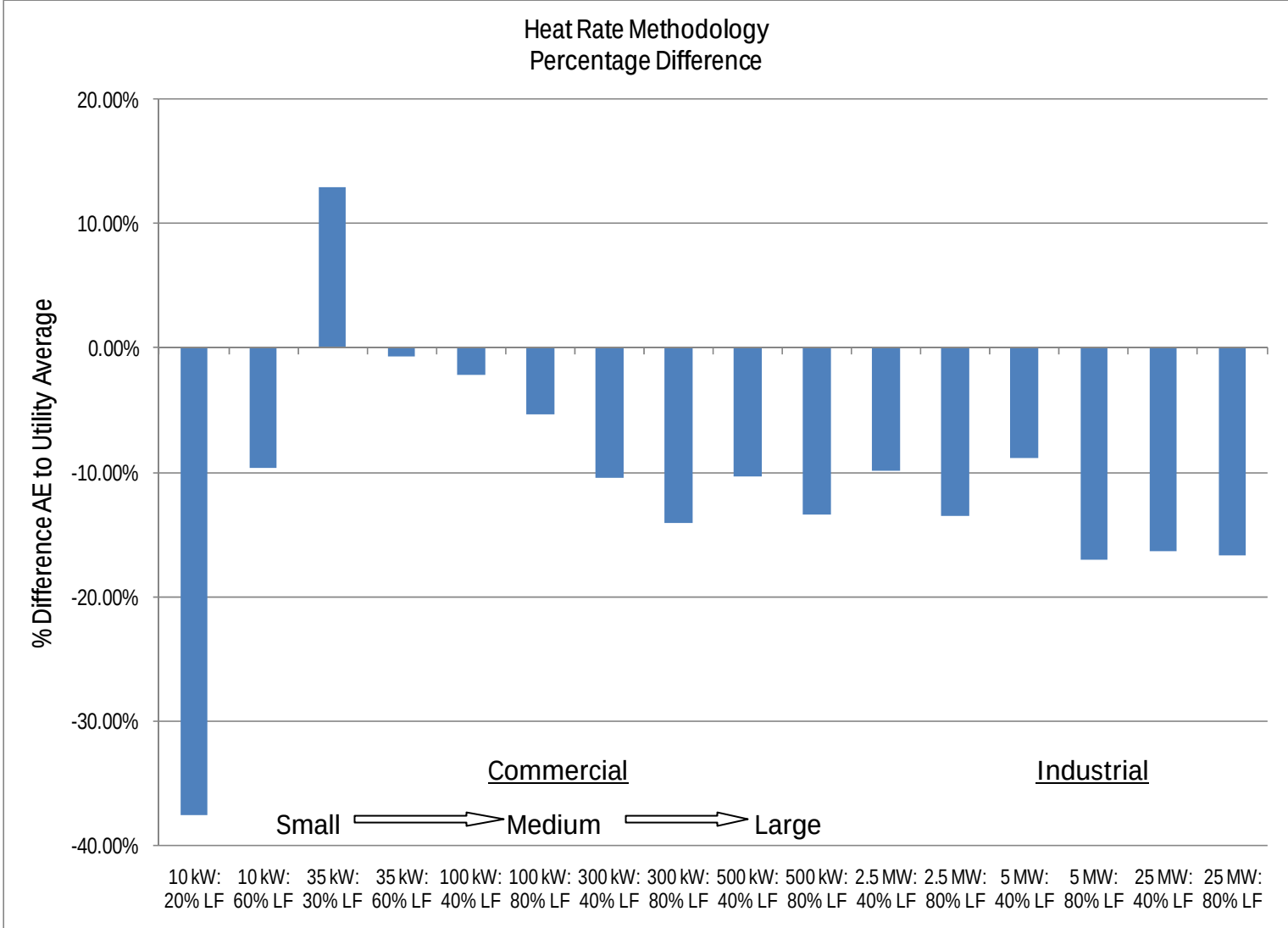
- 16 combinations of size and load factor.



C&I Benchmarking Results: AE vs. Competitive Average (2009)

Above 0 % , AE rates *more* expensive than average benchmark.

Below 0 % , AE rates *less* expensive than average benchmark.

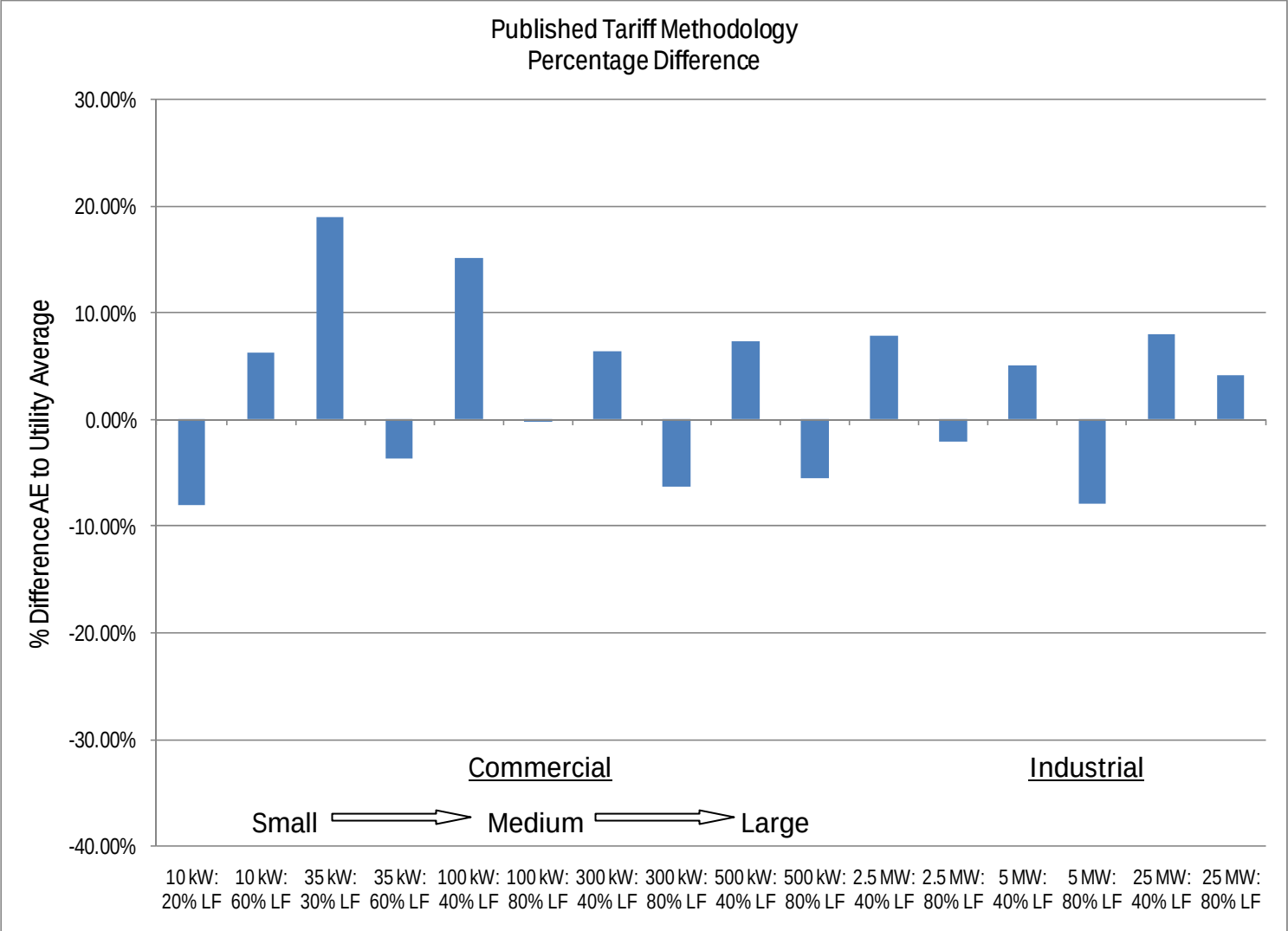




C&I Benchmarking Results: AE vs. Regulated Average (2009)

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Predictability: Components of a Forward-looking Assessment

- Generation resource plan implementation.
 - Timing of specific resource investments.
 - Build vs. buy.
- Fuel cost expectations—natural gas cost.
- State-wide transmission build out costs and schedule.
- Environmental cost expectations.
 - Climate change legislation.
 - Environmental impact of natural gas drilling.
- Economic conditions.
- Rate review revenue requirement.
 - Transition path to new rate structure.
- Programmatic priorities and expenditures.
 - Cost containment.
- Unknown unknowns.

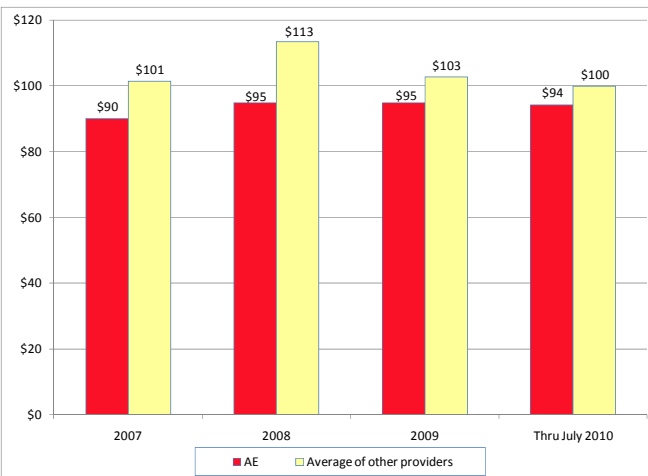


Dashboard Example: Benchmarks Proposed for Tracking

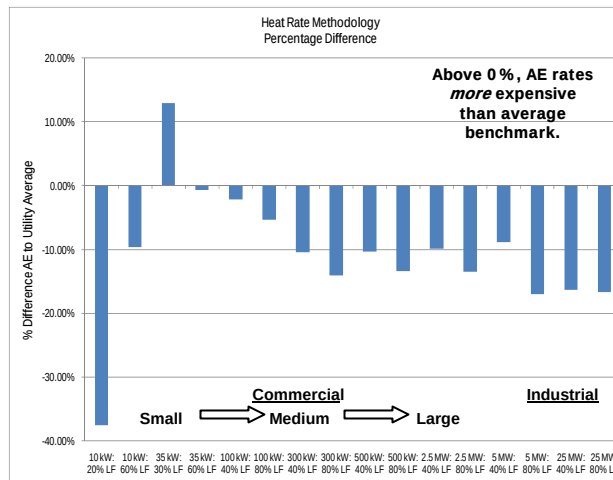
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Based on Electric Rate Benchmarking Data From R.W. Beck Study

Average Electricity Costs at 1,000 kWh/mo for 2007 through July 2010

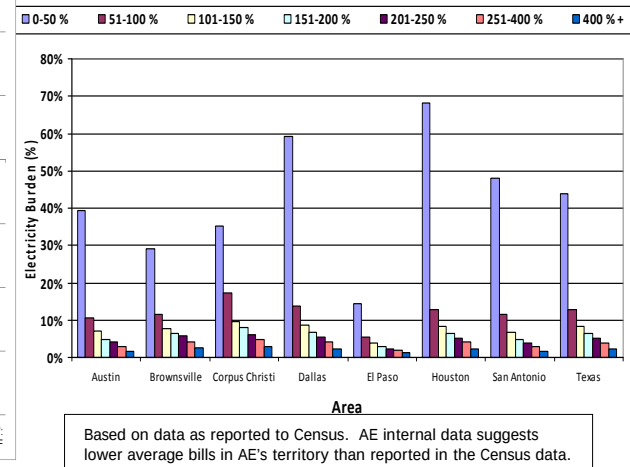


C&I Benchmarking Results: AE vs. Competitive Average (2009)

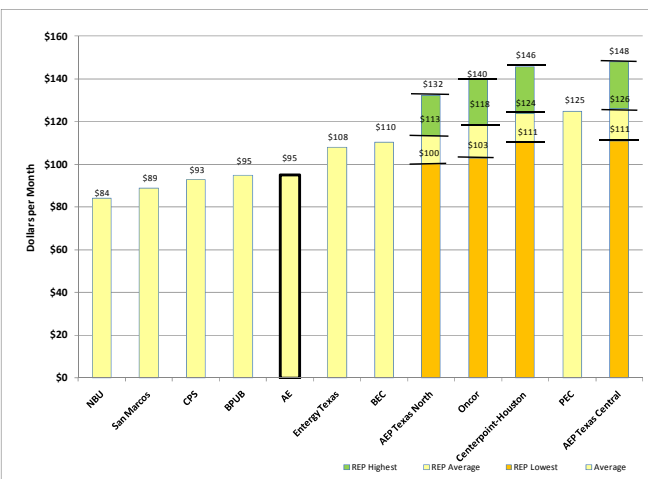


Electricity Affordability Measures - Based on AE Energy Burden Analysis

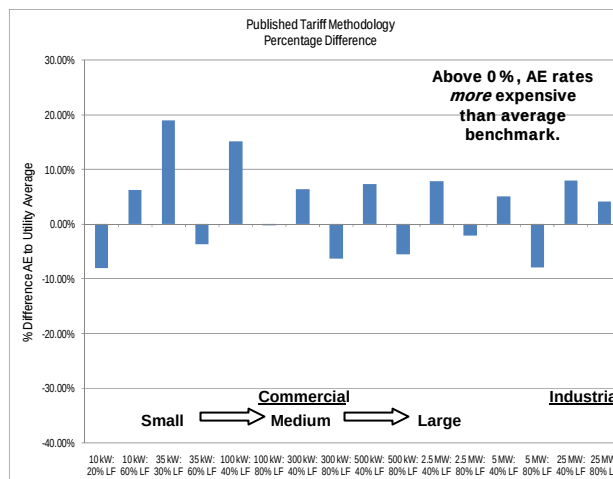
Residential Electricity Burden by Poverty Classification Benchmarked Against Sample Communities (2006 – 2008)



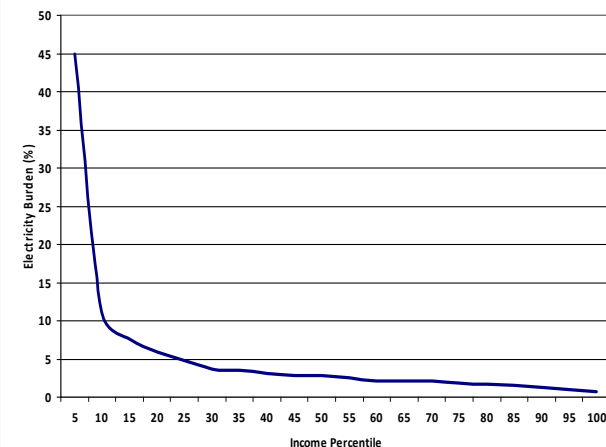
Average Monthly Electric Rates at 1,000 kWh/month for 2009



C&I Benchmarking Results: AE vs. Regulated Average (2009)



Austin Residential Electricity Burden by Income Classification (2006 – 2008)





Sample Application: Biomass and Webberville Solar Plant Impact on Household Electricity Burden

Income Level (Relative to Federal Poverty Level)	Base Case		Base Case plus Solar and Biomass Additions	
	Median Bill	Electricity Burden	Median Bill	Electricity Burden
0-50%	\$ 103.84	39.3%	\$ 107.89	40.9%
51-100%	\$ 106.79	10.5%	\$ 110.95	11.0%
101-150%	\$ 120.00	7.2%	\$ 124.68	7.5%
151-200%	\$ 106.79	4.9%	\$ 110.95	5.0%
201-250%	\$ 110.00	4.1%	\$ 114.29	4.2%
251-400%	\$ 114.23	2.9%	\$ 118.68	3.0%
401-500%	\$ 124.61	2.3%	\$ 129.47	2.3%
> 500%	\$ 140.00	1.4%	\$ 145.46	1.4%
All Households	\$ 124.61	2.7%	\$ 129.47	2.8%

Based on 2013 Estimated Costs



Next Steps

- November 15th: post for EUC consideration.
- November 18th: briefing for Council.
- December 9th: post for Council consideration.