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Austin, TX

Impacts of Energy Efficiency and Onsite Renewable Energy on Houston and Dallas/ Ft. Worth Metro Areas

Presented by

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**American Council for an Energy-Efficient
Economy**

Washington, D.C



The American Council for an Energy Efficient Economy (ACEEE)

- Non-profit (501c (3)) dedicated to advancing energy efficiency through research and dissemination.
- 25+ staffers in Washington, DC, Delaware, Michigan and Wisconsin
- The Energy Efficiency “Think Tank”
- Internationally Respected Source of Research Focus on End-Use Efficiency, Policy and Programs
- Funding:
 - Foundation and Government Grants (55%)
 - Specific Contract work (20%)
 - Conferences and Publications (25%)



Purpose of this Analysis

- Consider how statewide energy efficiency and on-site renewable energy policies affect the two largest and rapidly growing metro areas
- Estimate the impact of statewide policies on meeting electricity needs, emissions and the local economy
- Explore how local policies can increase the impacts of statewide policies

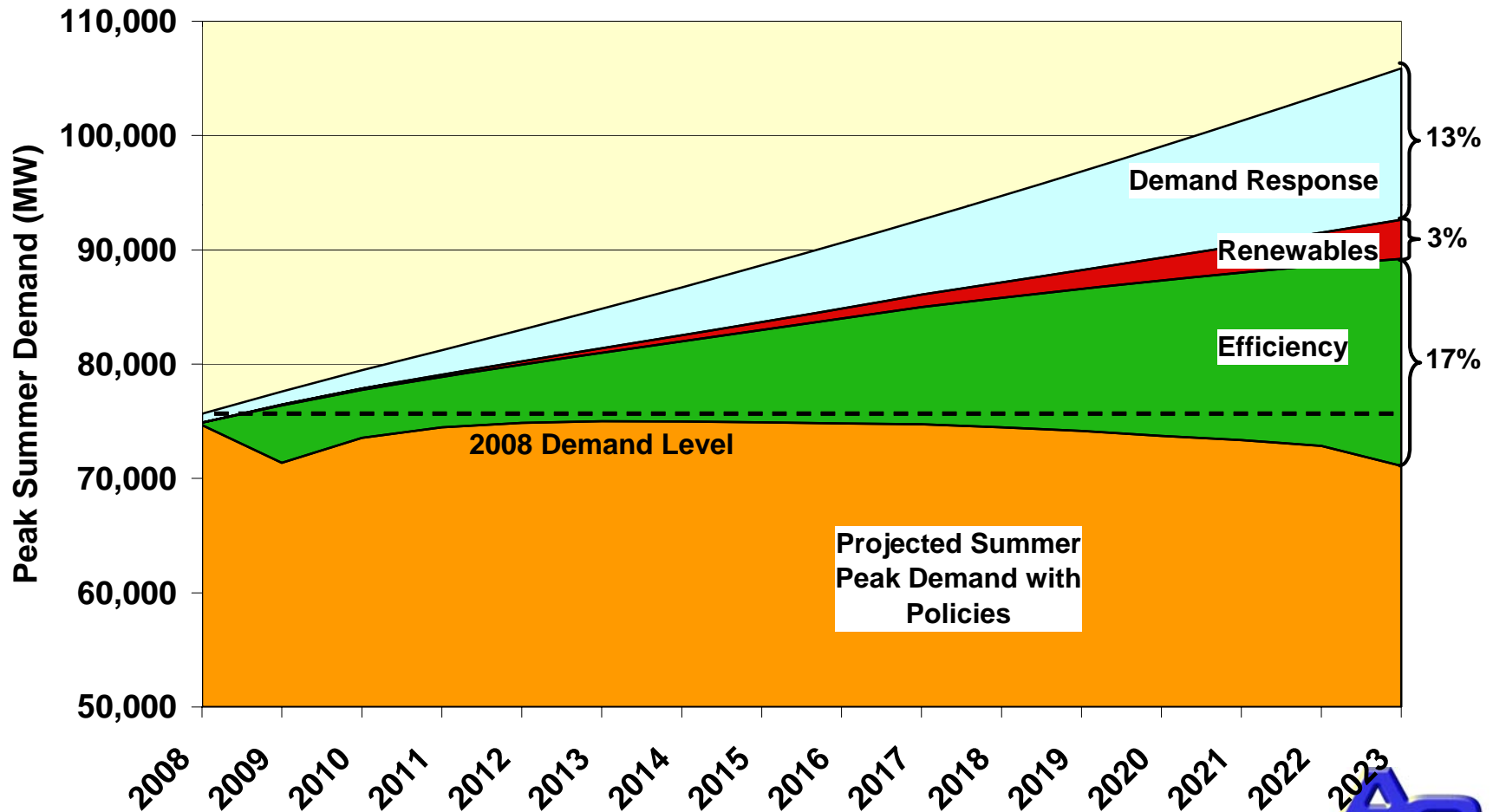


Statewide Policies

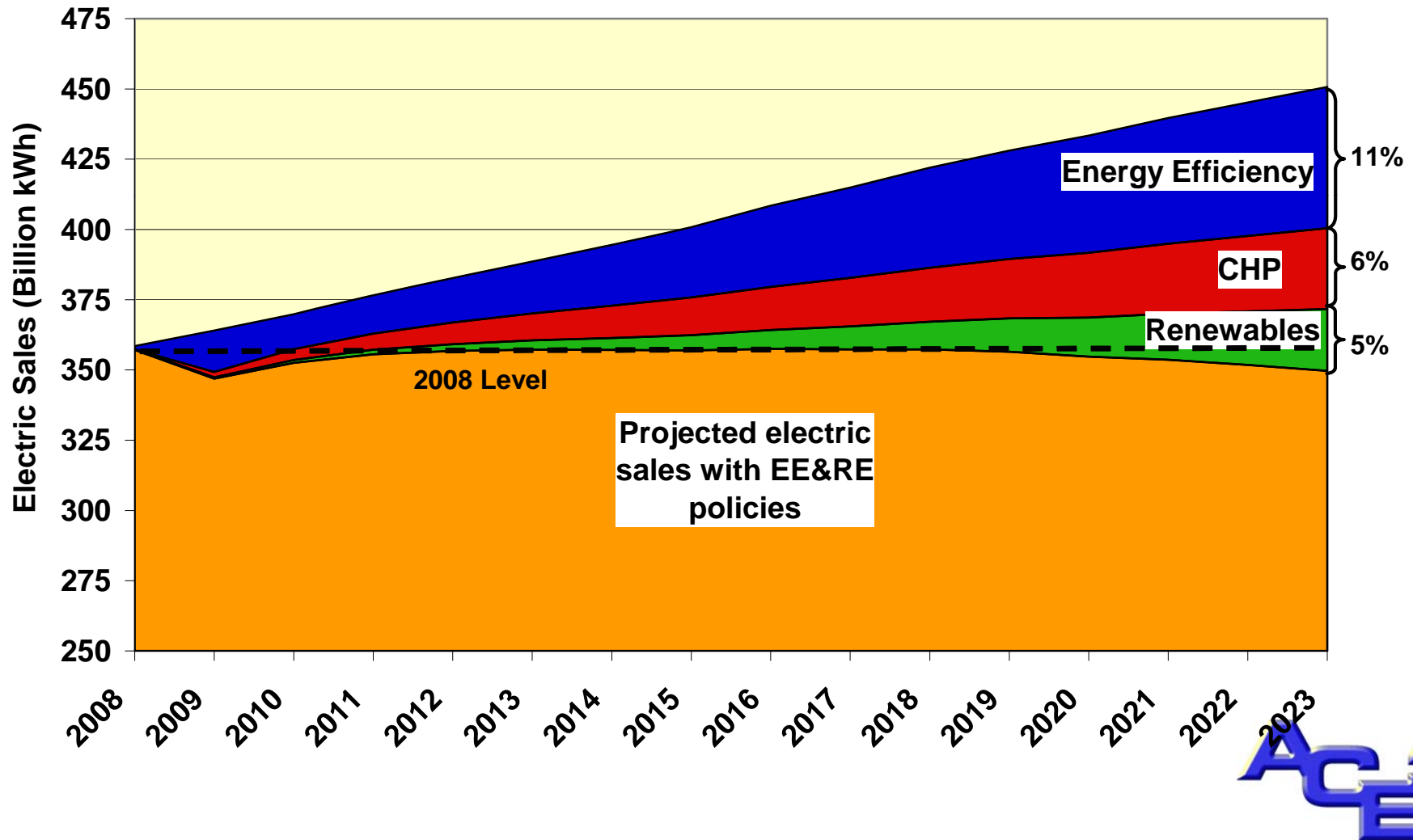
1. Expanded Energy Efficiency Improvement Program (EEIP)
2. Combined Heat and Power Capacity Target
3. Tighter Building Energy Codes
4. Advanced Energy-Efficient Building Program
5. Energy-Efficient State and Municipal Buildings Program
6. New State-Level Appliance and Equipment Standards
7. Short-Term Public Education and Rate Incentives
8. Onsite Renewable Energy Incentives
9. Demand Response



Impact of Statewide Policies on Texas's Summer Peak Demand

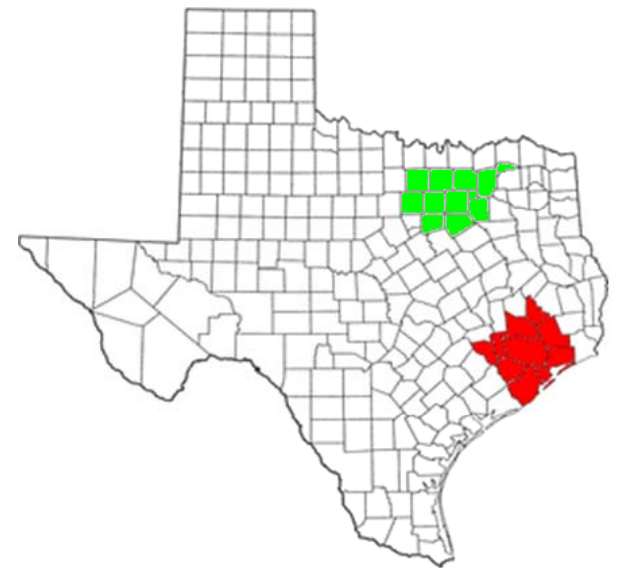


Statewide Policies Role in meeting Texas's Future Electricity Needs

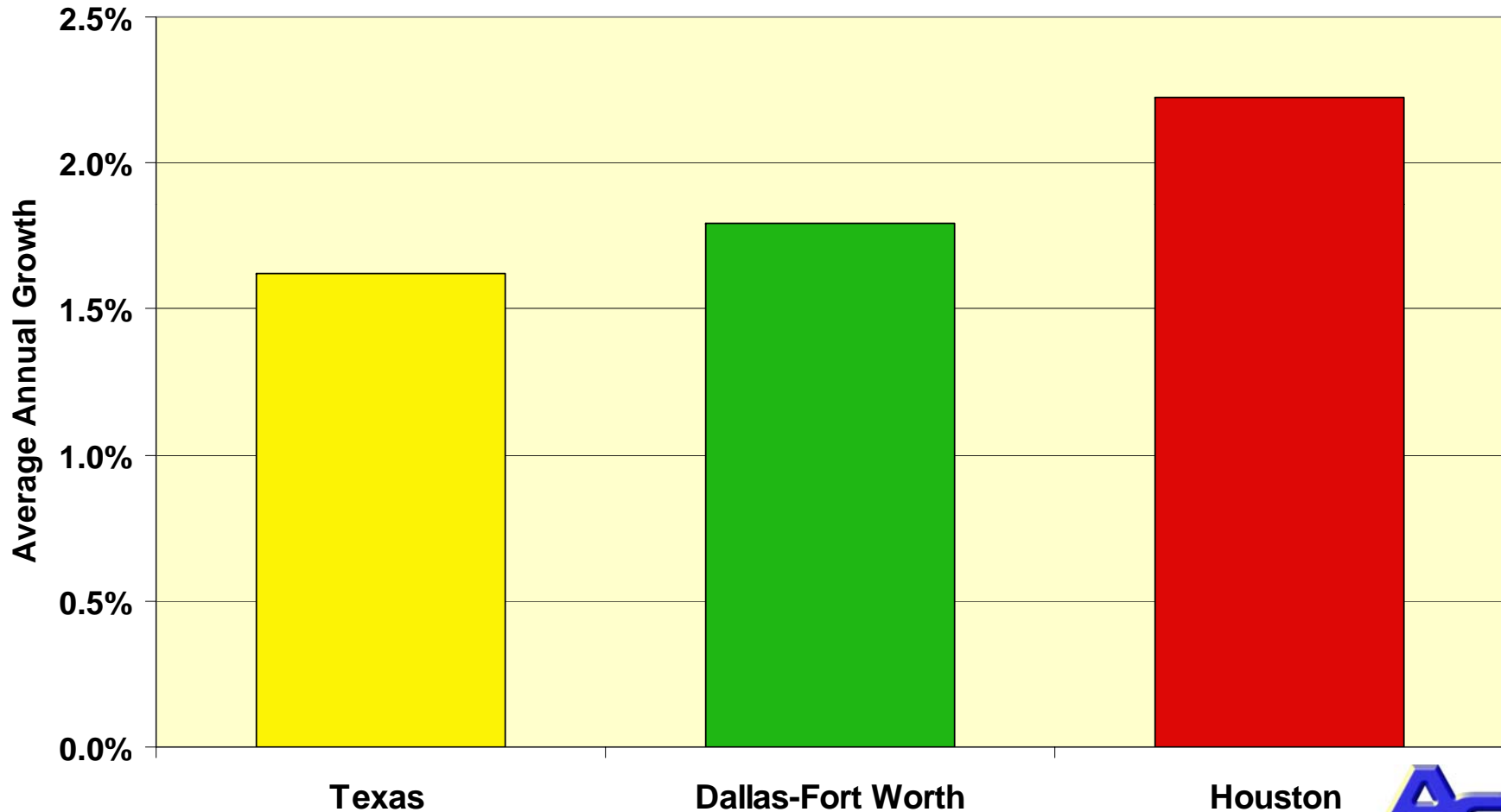


Houston and Dallas-Ft. Worth Metro Regions

- Together account for about half of state's electricity demand
- Growing much faster than the state
- Facing a triple challenge: rapid economic growth, environmental non-attainment and rapid increases in electricity demand
- Energy efficiency and on-site renewable energy can help meet all three of these challenges



Annual Electricity Consumption Growth 2008-2023



Differences Between Metro Regions

Houston area:

- Fastest growing electric demand
- Heavily industrial
- Source of much of the pollution in east-Texas – much from mobile sources

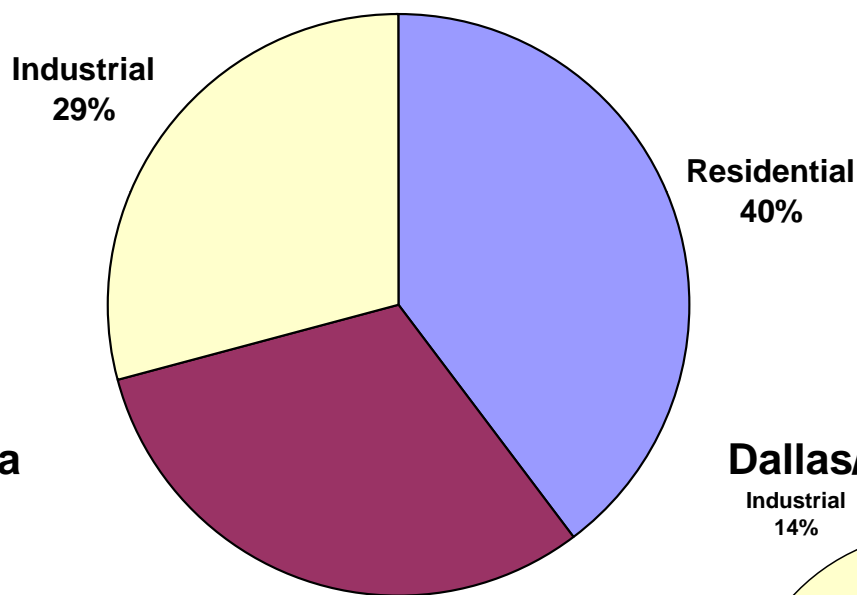
Dallas-Ft. Worth area:

- Less energy-intensive manufacturing
- More commercial/institutional load
- Pollution carried from Houston compounded by local traffic

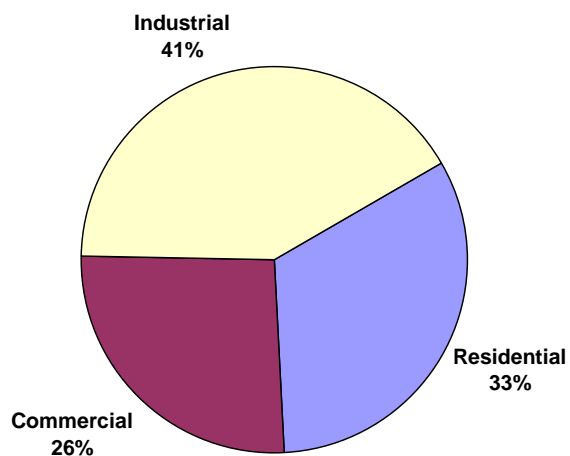


Electric Consumption Distribution for State and Metro Areas

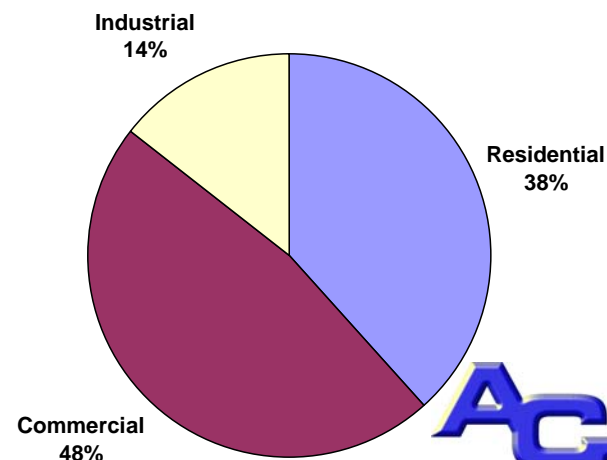
Texas State-Wide



Houston Metro Area



Dallas/Fort Worth Metro Area



Impact of Policies

Statewide policies would:

- Meet 101% of load growth in DFW and 78% in Houston
- Local policies would facilitate 2/3 of savings in DFW and half in Houston:
 - On-site renewable energy
 - Combined heat and power
 - New and existing buildings



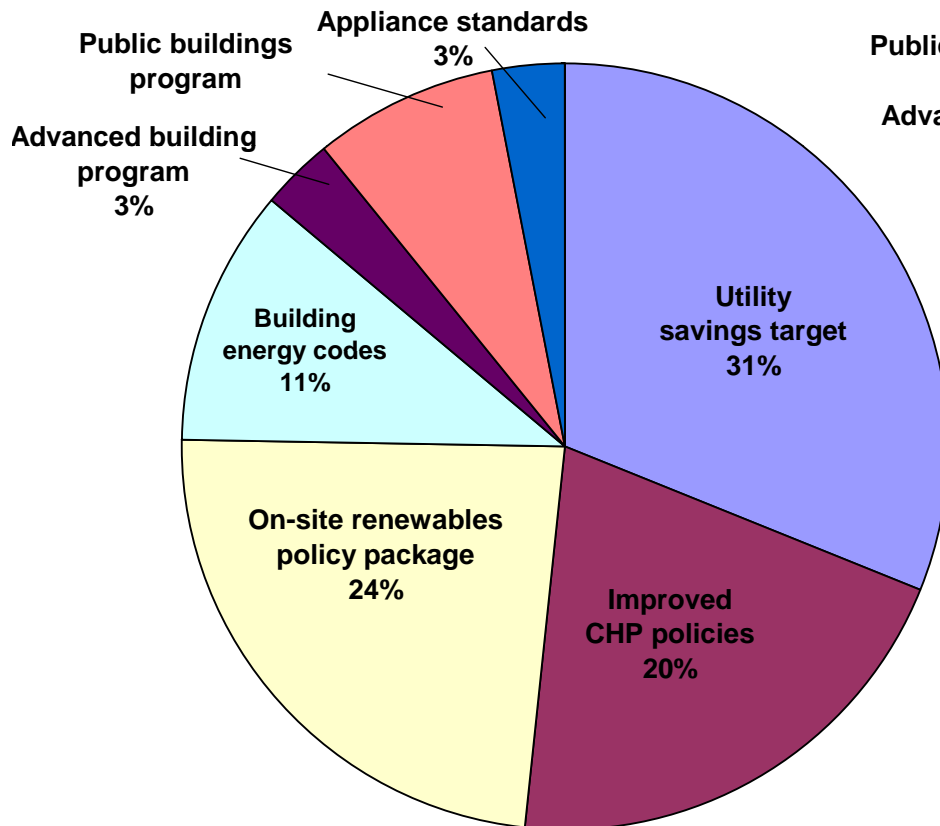
Implementation of Policies

Policy	Implementation	
	Statewide	Local
Expanded Energy Efficiency Improvement Program (EEIP)	X	
Combined Heat and Power	X	X
Tighter Building Energy Codes	X	X
Advanced Energy-Efficient Building Program	X	X
Energy-Efficient State and Municipal Buildings Program	X	X
New State-Level Appliance and Equipment Standards	X	
Short-Term Public Education and Rate Incentives	X	
Onsite Renewable Energy Incentives	X	X
Demand Response	X	

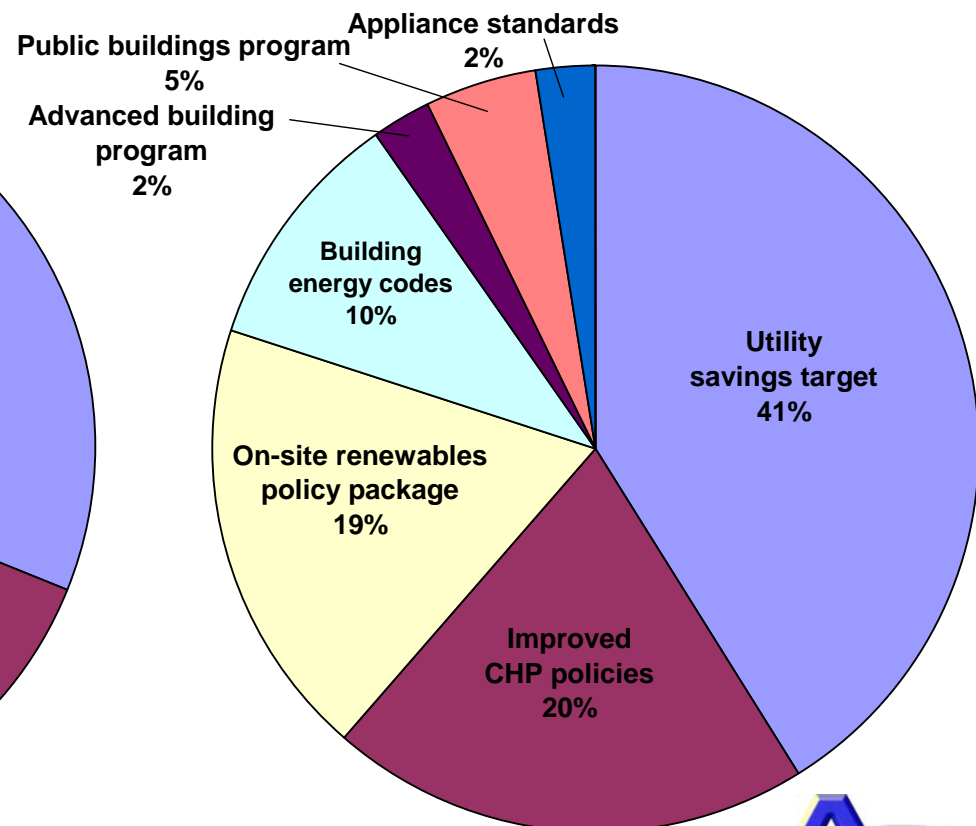


Electricity Savings by Policy in Metro Areas

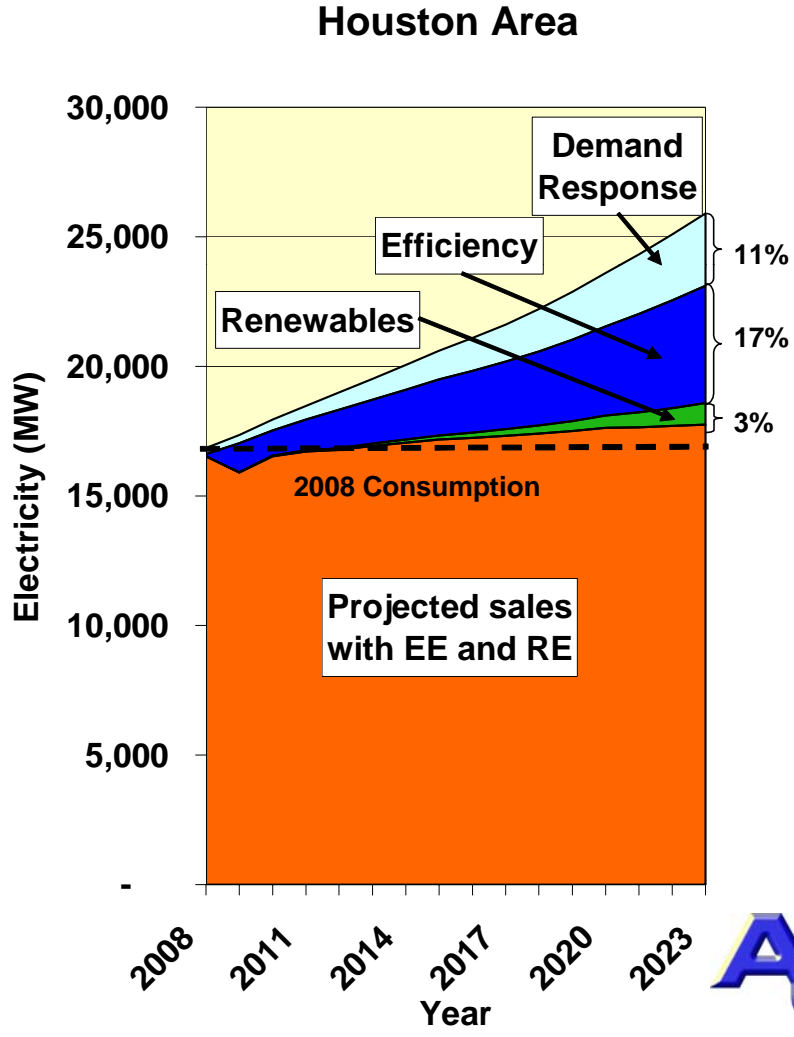
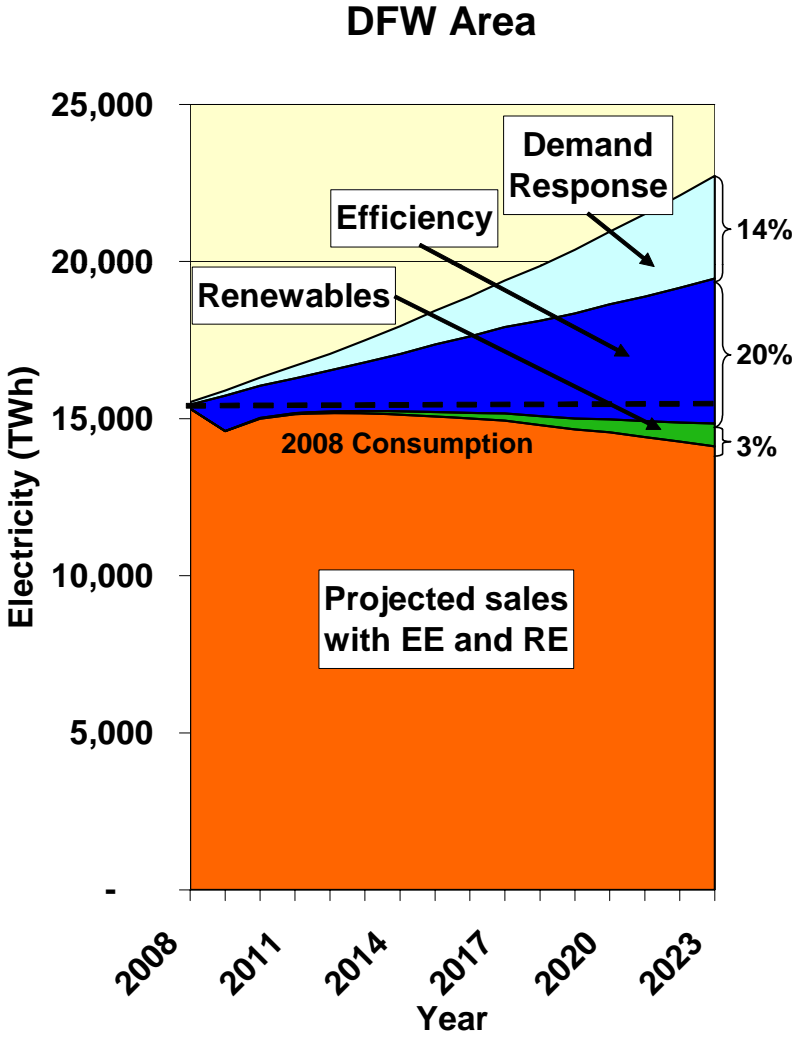
2023 DFW Electricity Savings = 23,330 million kWh



2023 Houston Electricity Savings = 23,174 million kWh

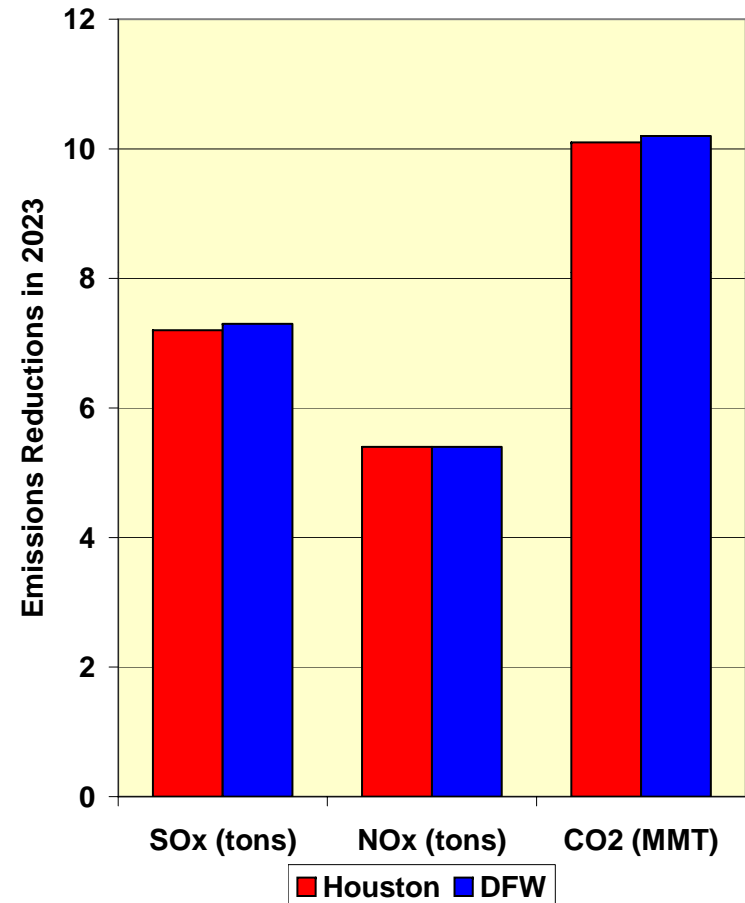


Impact on Peak Demand



Environmental Impacts

- EE/RE won't solve pollution problems in metro areas
- Clean resources will meet surging electric needs without exacerbating environmental problems
- Contributes to the overall environmental solution while maintaining economic growth



2023 Economic Impacts

Policies reduce expenditures on electricity. Savings and investments to implement policies create additional economic activity in regions that translates into new jobs.

	Statewide	DFW	Houston
Cum. Net Electric Expend Savings (Bill. \$)	\$73	\$22	\$21
Net New Jobs	38,300	11,700	11,100



Conclusions

- Energy efficiency and renewable energy policies can allow regions to meet electricity needs, and allow continued economic growth while not contributing further to environmental problems
- EE&RE can add economic benefits in form of new jobs and new local revenues
- Important for local governments to take leadership – half to 2/3 of opportunity can be realized by local policies



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