

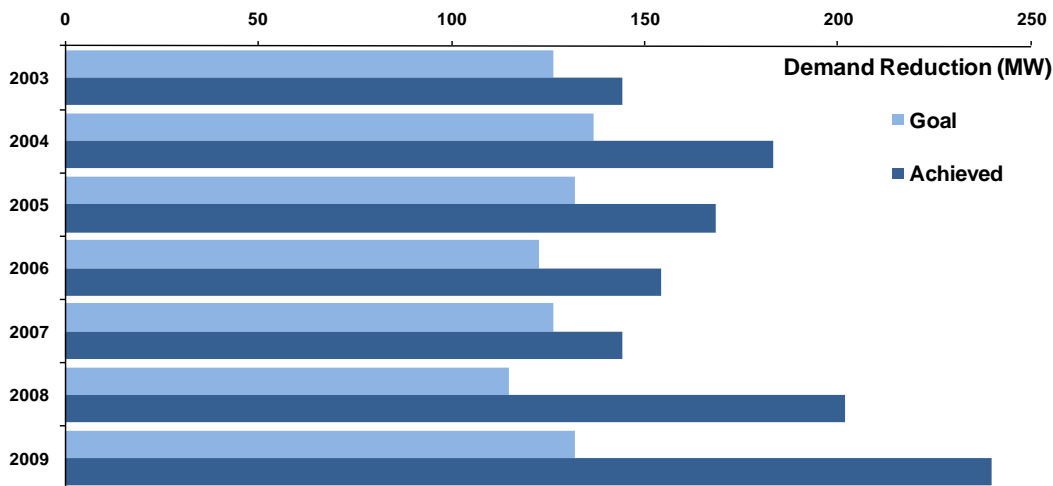
Energy Efficiency Accomplishments of Texas Investor Owned Utilities Calendar Year 2009

Frontier Associates LLC

1 Accomplishments

In 2009, the nine Texas investor-owned utilities (IOUs) exceeded their statewide legislative energy efficiency goals for the seventh straight year. The utilities achieved 559.8 gigawatt hours (GWh) of energy reduction and 240 megawatts (MW) of peak demand reduction, which was 82% above their 132 MW goal.¹ These energy savings correspond to an equivalent reduction of 827,409 pounds of nitrogen oxide (NOx) emissions per year.² In addition, American Electric Power, CenterPoint, Entergy and Oncor were recognized by the Environmental Protection Agency (EPA) with ENERGY STAR awards for their outstanding commitment to the new homes program. Figure 1 illustrates the annual savings for the past seven years.

Figure 1: Total Demand Reduction by IOUs, 2003-2009³



¹ Total demand reduction and energy savings do not include any savings attributed to Oncor's commitment programs.

² NOx emissions in this report were calculated using emission factors from the 2007 eGRID database compiled by the EPA. The average emissions factor for the ERCOT utilities was also applied to non-ERCOT utilities to provide a rough estimate of their emissions reductions.

³ Data for 2005 and 2006 has been adjusted with a 7% T&D loss to reflect "at meter" savings.

Most of the utilities' programs involve financial incentives which are paid to project sponsors to offset the costs of a variety of energy efficiency improvements. Combined, the IOUs spent approximately \$106 million on energy efficiency programs (including administrative expenses) in 2009.

Between 1999 and 2009, the utilities' programs implemented after electric industry restructuring in Texas have produced 1,365 MW of peak demand reduction and 3,574 GWh of electricity savings. This translates to approximately 3,903 tons of NOx emissions reductions.

2 Energy Efficiency Program Overview

The 75th Texas Legislature passed a law requiring IOUs to meet certain energy efficiency goals. To comply with this law, the IOUs contract with energy efficiency service providers (EESPs) to install energy efficiency measures that result in peak demand reduction and energy savings.

Both national and local EESPs contact consumers (residential and commercial) about performing work to save energy and reduce their electric bills. Customers select the EESP, decide what equipment will be installed, and choose what work the contractor will do. Price, warranty, financing, and other purchasing matters are entirely between the contractor and customer.

Table 1 lists the Texas IOUs and respective acronyms used throughout this report.

Table 1: Texas Investor Owned Utilities

Utility Name	Utility Acronym
American Electric Power-Southwestern Electric Power Company	AEP-SWEPCO
American Electric Power-Texas Central Company	AEP-TCC
American Electric Power-Texas North Company	AEP-TNC
CenterPoint Energy Houston Electric LLC	CNP
El Paso Electric Company	EPE
Entergy Texas, Inc.	ETI
Texas-New Mexico Power Company	TNMP
Oncor	Oncor
Xcel Energy Company ⁴ *	Xcel

2.1 Legislative Background

In 1999 the Texas Legislature passed Senate Bill 7 (S. B. 7) which mandated that at least 10% of an IOU's annual growth in electricity demand be met through energy efficiency programs each year. Eight years later, the Legislature passed House Bill 3693 (H. B. 3693) which raised the goals for energy efficiency to 20 percent of each utility's annual growth in demand by 2009, superseding the goals set by S. B. 7. The Public Utility Commission of Texas (PUCT) Substantive Rule §25.181 establishes procedures for meeting this legislative mandate.

Utilities are required to administer energy savings incentive programs, which are implemented through retail electric providers (REPs). All programs are designed to reduce system peak demand, energy consumption, or energy costs. Utilities must achieve their energy efficiency goals through either standard offer programs (SOPs) or limited, targeted market transformation programs (MTPs). Programs are made available to all customers, in all customer classes. This gives each customer a choice of a variety of energy efficiency alternatives.

Table 2 lists the types of SOPs and MTPs offered by each utility. Please note that this list does not include every program offered by each utility; complete lists including SOPs, MTPs, pilot and other programs can be found in each utility's Energy Efficiency Plan and Report.⁵

⁴ Voluntary participant in energy efficiency programs.

⁵ Energy Efficiency Plan & Reports are filed with the PUCT on or before April 1 each year. The 2010 reports can be found on the PUCT site by searching for control no. 37982.

Table 2: Programs Offered by Utility in 2009

Program Type	Type	AEP ⁶	CNP	ETI	EPE	TNMP	Oncor	Xcel
Commercial & Industrial	SOP	•	•		•	•	•	•
Residential & Small Commercial	SOP	•	•	•	•	•	•	•
Hard-to-Reach	SOP	•	•	•	•	•	•	•
Load Management	SOP ⁷	•	•	•	•		•	
Underserved Area	SOP					•		
Low-Income Weatherization	SOP	•	•	•	•	•	•	•
ENERGY STAR [®] New Homes	MTP	•	•	•		•	•	
Air Conditioning Distributor	MTP		•				•	
Air Conditioning Installer Training	MTP		•				•	
Retro-Commissioning	MTP		•					
Large C&I Solutions	MTP	•		•	•			
Residential and Small Commercial Solutions	MTP				•			
Hard-to-Reach Solutions	MTP				•			
LivingWise Education	MTP				•		•	
Texas SCORE/CitySmart	MTP	•	•	•	•	•		
A/C Tune-Up	MTP						•	
Appliance Recycling	MTP	•					•	
Small Distributed Renewable Generation (Solar PV)	MTP	•		•		•	•	
Residential Demand Response	MTP	•					•	
Texas Statewide CFL	MTP	•	•	•	•	•	•	

⁶ AEP includes AEP-TNC, AEP-TCC and AEP-SWEPSCO in this table.

⁷ Entergy offered its 2009 load management program as an MTP.

Figure 2 depicts an overview of the Texas Energy Efficiency Process. Figure 3 is a map of Texas outlining the individual IOU service areas.

Figure 2: Overview of Texas Energy Efficiency Programs

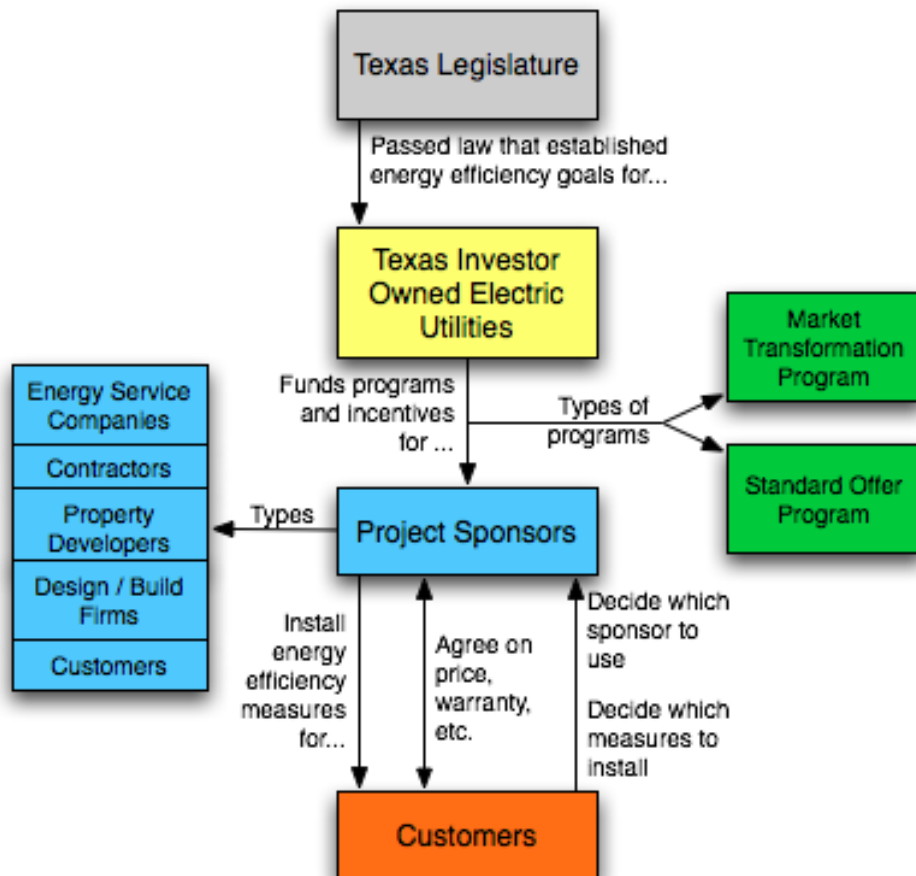


Figure 3: Texas Investor Owned Utility Service Area Map

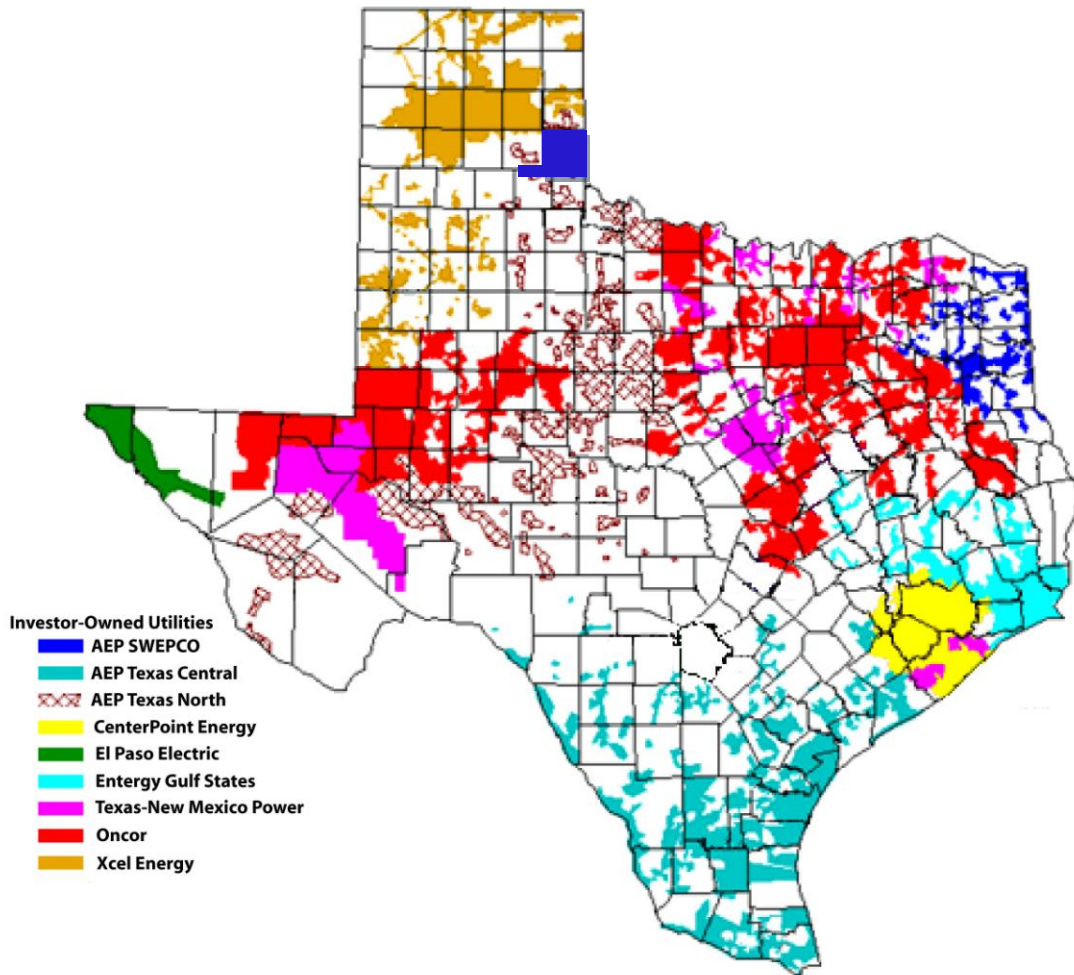


Table 3 lists each utility’s 2009 program savings and expenditures as reported to the PUCT.

Table 3: Program Expenditures and Reported/Verified Savings for 2009⁸

Utility	Funds Expended (\$)	Demand Savings (MW)	Energy Savings (MWh)
AEP-SWEPCO	\$3,075,156	9.556	17,879.8
AEP-TCC	\$12,585,140	26.073	63,256.3
AEP-TNC	\$1,376,849	3.257	8,418.8
CNP	\$25,345,473	76.110	125,427.2
ETI	\$7,870,000	13.660	33,970.0
EPE	\$3,379,110	5.845	17,908.0
Oncor	\$48,305,448	98.756	271,005.9
TNMP	\$2,419,823	4.110	11,407.0
Xcel	\$1,453,293	2.700	10,271.0
TOTAL	\$105,810,292	240.067	559,544.0

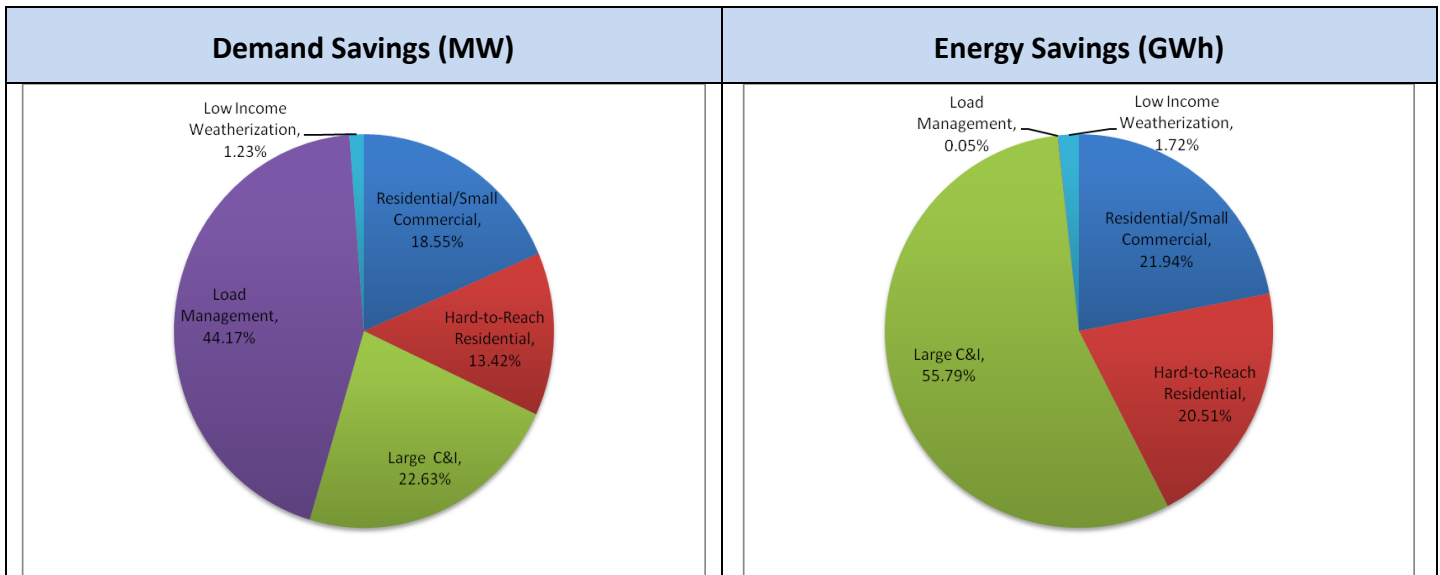
3 Standard Offer Programs

An SOP is a type of energy efficiency program where parties enter into a contract with standard terms and conditions. Utilities offer standard incentives for a wide range of measures that are bundled together as a project. Incentive rates are set for each kW of demand reduction and each kWh of energy savings produced and are based on prescribed avoided costs. Payment is based on the measures installed and deemed savings values for each measure with random inspections to verify proper installation. The following sections describe the different types of SOPs offered by Texas IOUs. It is important to note that some utilities offer variations of “standard” SOPs.

Figure 4 illustrates the breakdown of savings attributed to each SOP.

⁸ As provided in each utility’s Energy Efficiency Plan & Report for 2009; all savings are reported at the meter.

Figure 4: Demand & Energy Savings by Standard Offer Program in 2009⁹



3.1 Commercial & Qualifying Industrial¹⁰

The Commercial and Qualifying Industrial (C&I) program targets large commercial and industrial customers with a minimum demand requirement (this varies by utility). Utilities pay incentives to project sponsors for certain measures installed in new or retrofit applications that provide verifiable demand and energy savings. Typical projects include the replacement of existing chillers and lighting equipment with more efficient chillers and lighting, and industrial process retrofits.

3.2 Residential & Small Commercial

The Residential and Small Commercial program targets small commercial and residential customers including multi-family, single-family, and mobile homes. The program provides incentives for the installation of a wide range of measures that reduce system peak demand, energy consumption and energy costs. Retrofits and efficient new construction of low-income housing may also be undertaken.

Utilities pay incentives to Energy Efficiency Service Providers (EESPs). These incentives are based on deemed savings when available. (Deemed savings estimates are predetermined, validated estimates of energy and peak demand savings attributable to an energy efficiency measure.) Otherwise, the EESPs set incentives based off actual peak

⁹ For consistency, savings from Entergy’s Load Management MTP were included in this chart.

¹⁰ Generally, industrial facilities served at transmission voltage are not eligible to participate in the programs described here. However, exceptions may be made for non-profit facilities or other situations dictated by regulatory orders.

demand reduction and energy savings as verified using the International Performance Measurement and Verification Protocol.

The primary objective of the Residential and Small Commercial SOP is to achieve cost-effective reduction in energy consumption during peak summer demand. There are five additional objectives of the program: (1) to encourage private sector delivery of energy efficiency products and services; (2) to achieve customer energy and cost savings; (3) to significantly reduce barriers to participation by streamlining program procedures and M&V requirements; (4) to encourage participation by a wide range of EESPs; and (5) to produce demand, energy, and bill savings in new single-family affordable housing projects and in new multifamily projects.

3.3 Hard-to-Reach

The Hard-to-Reach program encourages energy efficiency improvements in households with annual incomes at or below 200% of the federal poverty guideline. It is designed to be a comprehensive program by emphasizing first improving the building shell and then addressing end uses. It is a retrofit program that targets multi-family, single-family, and mobile homes.

Incentives are paid to project sponsors for eligible measures that provide verifiable demand and energy savings. Special measures include the replacement of incandescent light bulbs with compact fluorescent lighting and water savers.

3.4 Load Management

Load Management programs encourage electric load control or shifting of electric loads in C&I facilities. Participating project sponsors provide on-call, voluntary curtailment of electric consumption during peak demand periods in return for incentive payments. The program is designed to assist businesses to reduce their on-peak energy demand and help meet the state's energy efficiency goals. Targeting a mix of industrial, office, and hospital facilities, program requirements differ on a utility-by-utility basis.

3.5 Low Income Weatherization

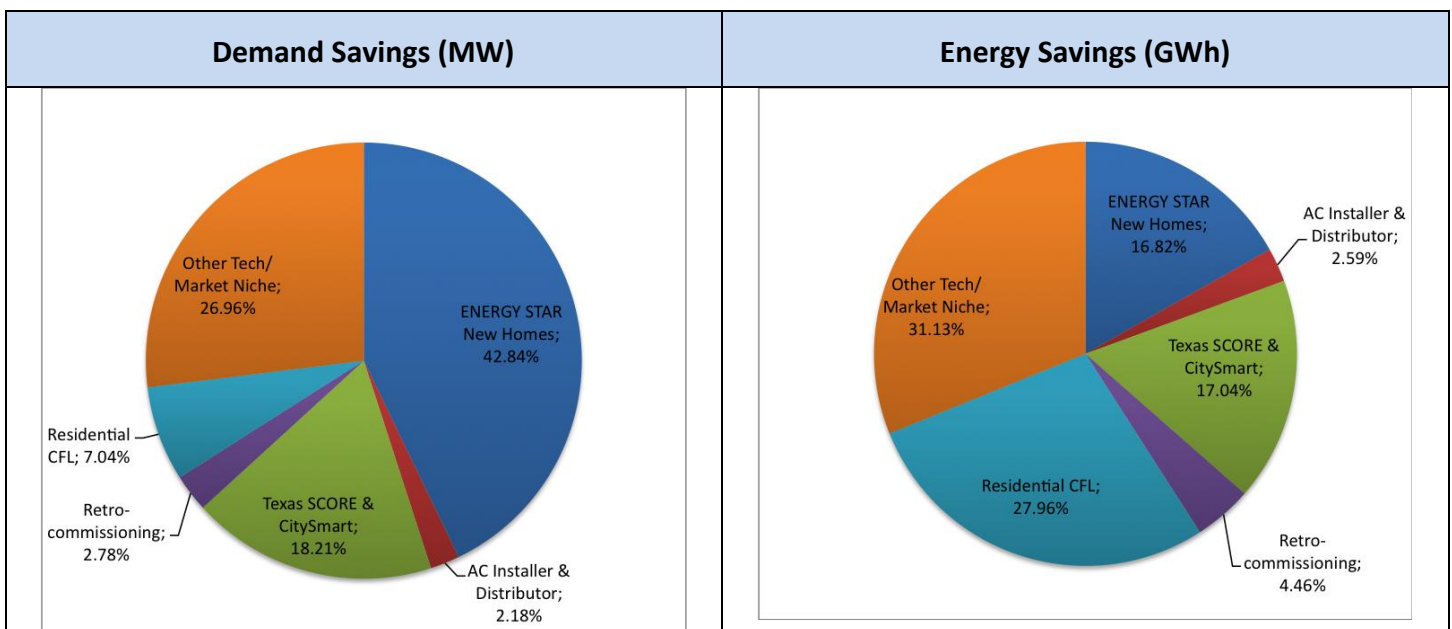
Low Income Weatherization Programs are designed to cost-effectively reduce the energy consumption and energy costs for low-income residential customers. Program implementer(s) provide eligible weatherization and energy efficiency measures to residential customers who meet the current Department of Energy (DOE) income eligibility guidelines. Implementation of this Senate Bill 712 Weatherization Program also provides targeted eligible residential customers with basic on-site energy education to satisfy the requirements of Substantive Rule 25.181(p).

4 Market Transformation Programs

An MTP is a strategic effort to make lasting changes in the market that result in increased adoption of energy efficient technologies, services, and practices. MTPs are designed to overcome specific market barriers that prevent energy efficient technologies from being accepted.

Figure 5 shows the demand reduction and electricity savings resulting from MTPs as reported to the PUCT. The most common MTPs offered by the IOUs are described below. A complete list and description of all programs can be found in each utility's 2010 Energy Efficiency Plan & Report.¹¹

Figure 5: Demand & Energy Savings by Market Transformation Program in 2009¹²



4.1 ENERGY STAR New Home Construction

The ENERGY STAR New Home Construction program targets residential new construction. It promotes the construction of energy efficient ENERGY STAR® new homes. To qualify, homes must score an 85 or less on the Home Energy Rating System and be 15% more efficient than the energy requirements of the 2004 International Energy Conservation Code. The program provides education and technical assistance to builders and subcontractors. In addition, the program is supported by training, education, and advertising components.

¹¹ Energy Efficiency Plan & Reports are filed with the PUCT on or before April 1 each year. The 2010 reports can be found on the PUCT site by searching for control no. 37982.

¹² "Other Tech/Market Niche" include the following types of programs: solar/distributed generation, appliance recycling, commercial/residential/hard-to-reach Solutions, and other utility specific offerings.

4.2 Air Conditioning Distributor

The Air Conditioning (A/C) Distributor Program promotes the sale of matched, high efficiency air conditioning units. Qualifying equipment must have a capacity of 5 tons or less and be rated at a Seasonal Energy Efficiency Ratio (SEER) of 14 or above. A complete system change-out is required. Single/multi-family and new and existing homes (retrofits) are eligible.

4.3 Air Conditioning Installer Training

The Air Conditioning Installer Training Program targets improved installation practices of heating, ventilation, and air conditioning contractors. The program provides training, education, and incentives. It encourages proper sizing, charging, and duct sealing. Local Air Conditioning Contractors Association chapters implement this program.

4.4 Retro-Commissioning

The Retro-Commissioning program helps energy end users reduce their peak demand and energy usage. The program provides expert analysis and systematic evaluation of building systems. By implementing low-cost and no-cost measures that improve system operation, customers reduce energy and peak demand while maintaining or improving customer comfort.

4.5 Texas Schools Conserving Our Resources (SCORE)/CitySmart

The Texas SCORE Program promotes a structured process to K-12 school districts to identify opportunities and implement energy efficiency measures. Incentives to school districts encourage these installations. Non-cash incentives promote best business practices. The Texas CitySmart Program promotes a similar program to a targeted audience of local and state government entities and municipalities.

4.6 Large Commercial & Industrial (C&I) Solutions¹³

The Large C&I Solutions program offers customers both cash and non-cash incentives. The cash incentives are at a lower \$/kW than SOPs, with the difference used to provide non-cash incentives that include technical assistance, education on financing energy efficiency projects, and communications services. The Solutions program helps companies that do not have the in-house capacity or expertise to 1) identify, evaluate, and undertake efficiency improvements; 2) properly evaluate energy efficiency proposals from vendors; and/or 3) understand how to leverage their energy savings to finance projects.

¹³ Generally, industrial facilities served at transmission voltage are not eligible to participate in the programs described here. However, exceptions may be made for non-profit facilities or other situations dictated by regulatory orders.

4.7 Residential and Small Commercial Solutions

The Residential and Small Commercial Solutions Pilot MTP offers customers both cash and non-cash incentives. The cash incentives are at a lower \$/kW than the SOPs, with the difference used to provide non-cash incentives for technical assistance, education on financing energy efficiency projects, and communications services. The program focuses on improving the efficiency and installation practices of products and services that residential consumers purchase and those local contractors install. In addition to capturing kW reductions, the implementer helps residential and small commercial contractors improve their ability to identify, evaluate, and sell efficiency improvements to home and small business owners and assist consumers in evaluating energy efficiency proposals from vendors.

4.8 Hard-to-Reach Solutions

This program mirrors the Residential and Small Commercial Solutions Pilot MTPs described above.

4.9 LivingWise Education

The LivingWise Program uses a school-based method that builds student knowledge, provides high efficiency devices to families and serves as an effective community outreach program. The Program identifies and enrolls students and teachers within a utility's service territory. The enrolled participants receive educational materials designed to build participant knowledge and demonstrate simple ways to save energy by not only changing habits but also changing devices.

4.10 Small Distributed Renewable Generation Pilot

The Small Distributed Renewable Generation (Solar Photovoltaic (PV)) Pilot Program is designed to help customers meet a portion of their energy needs with solar electric systems. Through market development and financial incentives, the program will increase the number of installations of photovoltaic systems among utility customers, while also creating a foundation for a self-sustaining market.

5 NOx Emission Reductions

Table 4 shows the emission reductions of all Texas IOUs implementing SOPs and MTPs as part of the Texas Energy Efficiency Program.

Table 4: Annual Emission Reductions by Utility for Activities Completed in 2009¹⁴

Utility	Electricity Savings (MWh)	Emission Factor (lbs NOx/MWh)	Emission Reduction (lbs NOx) ¹⁵
AEP-SWEPCO	17,880	1.429	25,550
AEP-TCC	63,256	1.122	70,974
AEP-TNC	8,419	1.122	9,446
CNP	125,427	1.629	204,321
ETI	33,970	1.429	48,543
EPE	17,908	1.429	25,591
TNMP	11,407	1.222	13,939
Oncor	271,006	1.529	414,368
Xcel	10,271	1.429	14,677
TOTAL	559,554	-	827,409

6 National Awards

In 2009, CenterPoint received the ENERGY STAR Sustained Excellence and the Leadership in Housing awards for its long-standing commitment to the residential new construction program. Oncor was also recognized by the EPA with the Sustained Excellence award for its commitment to transforming the Dallas/Ft. Worth new homes construction market to meet ENERGY STAR standards. In addition, AEP Texas and Entergy Texas were honored with the Leadership in Housing award for their dedication to the new homes program.

¹⁴ Emission factors are from the 2007 eGRID database compiled by the EPA; these factors are the same as those reported to the Texas Commission on Environmental Quality by the Energy Systems Laboratory for the PUCT. The average emissions factor for the ERCOT utilities has been applied to the non-ERCOT utilities, as well, to provide a rough estimate of the emissions reductions achieved by the programs implemented by the non-ERCOT utilities.

¹⁵ NOx Emission Reduction values assume discount (0%), and degradation (0%). There is a 7% T&D adjustment.

7 Summary & Conclusion

Once again, the nine Texas investor-owned utilities exceeded the legislature's statewide goals for energy efficiency. The utilities exceeded their 2009 demand reduction goal of 132 MW by 82%, achieving 240 MW of demand reduction. Furthermore, 559.8 GWh of energy savings were achieved, effectively reducing NOx emissions by 827,409 pounds for the year.

8 Appendices

8.1 Acronyms & Abbreviations

A/C	Air Conditioning
C&I	Commercial & Industrial
EEIP	Energy Efficiency Improvement Program
EEM	Energy Efficiency Measure
EESP	Energy Efficiency Service Provider
EPA	Environmental Protection Agency
GW	Gigawatt=one billion watts
GWh	Gigawatt-hour
IOU	Investor Owned Utility
kW	Kilowatt=one thousand watts
kWh	Kilowatt-hour
MTP	Market Transformation Program
M&V	Measurement & Verification
MW	Megawatt=one million watts
MWh	Megawatt-hour
NFP	Not-For-Profit
NOx	Nitrogen Oxides
PUCT	Public Utility Commission of Texas
RSC	Residential and Small Commercial
S.B. 7	Senate Bill 7
SEER	Seasonal Energy Efficiency Ratio
SOP	Standard Offer Program
TDHCA	Texas Department of Housing and Community Affairs

8.2 Key Terms

Deemed savings estimate: a predetermined, validated estimate of energy and peak demand savings attributable to an energy efficiency measure. Deemed savings estimates may be used instead of determining energy and peak demand savings by measurement and verification activities.

Energy efficiency measure: systems, pieces of equipment, or materials that result in either reduced electric energy consumption, reduced peak demand, or both.

Nitrogen oxides: gases consisting of one molecule of nitrogen and one or more molecules of oxygen. Power plants and gasoline-powered vehicles typically emit NO_x. When NO_x molecules reach the atmosphere, they often contribute to the formation of smog. NO_x are thus considered pollutants and are recognized as such by the EPA.

Market transformation program: strategic efforts to induce lasting structural or behavioral changes in the market that result in increased adoption of energy efficient technologies, services, and practices.

Measurement & verification: all necessary equipment surveys, metering and monitoring, statistical estimation and analysis, and reporting used to quantify the energy savings and demand reduction resulting from the installation of energy efficiency measures.

Standard offer program: a type of energy efficiency program where parties enter into a contract with standard terms and conditions, and utilities offer standard incentives for a wide range of installed energy efficient measures bundled together as a project.