

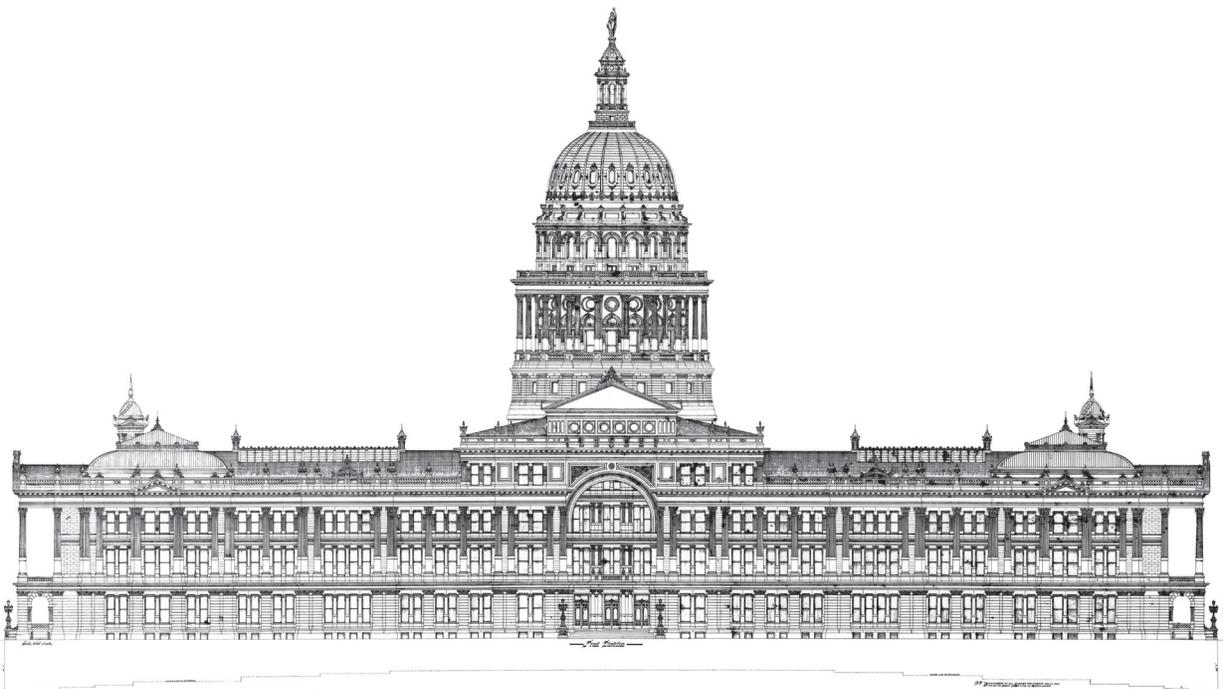


INTERIM REPORT

TO THE

82ND TEXAS LEGISLATURE

House Committee on
STATE AFFAIRS
December 2010



**HOUSE COMMITTEE ON STATE AFFAIRS
TEXAS HOUSE OF REPRESENTATIVES
INTERIM REPORT 2010**

BURT R. SOLOMONS
CHAIRMAN

LESLEY FRENCH
COMMITTEE CLERK/GENERAL COUNSEL

ROBERT ORR
DEPUTY COMMITTEE CLERK/POLICY ANALYST

ALFRED BINGHAM
LEGAL INTERN

COMMITTEE ON STATE AFFAIRS

TEXAS HOUSE OF REPRESENTATIVES
P.O. BOX 2910 • AUSTIN, TEXAS 78768-2910
CAPITOL EXTENSION E2.108 • (512) 463-0814



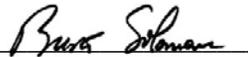
September 27th, 2010

The Honorable Joe Straus
Speaker, Texas House of Representatives
Texas State Capitol, Rm. 2W.13
Austin, Texas 78701

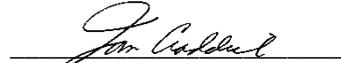
Dear Mr. Speaker and Fellow Members:

The Committee on State Affairs of the Eighty-First Legislature hereby submits its interim report for consideration by the Eighty-Second Legislature.

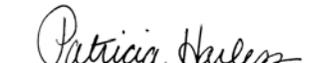
Respectfully submitted,


Burt Solomons, Chair

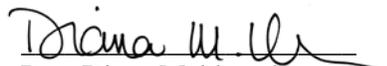

Rep. José Menéndez, Vice-Chair


Rep. Tom Craddick

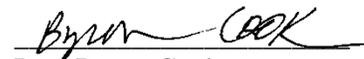

Rep. Pete Gallego

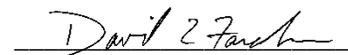

Rep. Patricia Harless

Rep. Delwin Jones


Rep. Diana Maldonado

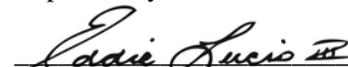

Rep. Sylvester Turner


Rep. Byron Cook


Rep. David Farabee


Rep. Charlie Geren

Rep. Harvey Hilderbran


Rep. Eddie Lucio III


Rep. Rene Oliveira

TABLE OF CONTENTS

Introduction.....1

Interim Study Charges.....3

Charge on Costs of Illegal Immigration.....4

Charge on Green Technology.....19

Charge on Federal Climate Legislation Impact.....27

Charge on Utility Generation.....36

Charge on Monitoring the Agencies.....54

INTRODUCTION

At the beginning of the 81st Legislature, the Honorable Joe Staus, Speaker of the Texas House of Representatives, appointed fifteen members to the House Committee on State Affairs (the Committee). The Committee membership included the following appointees: Burt Solomons, Chair, Jose Menendez, Vice Chair, Byron Cook, Tom Craddick, David Farabee, Pete Gallego, Charlie Geren, Patricia Harless, Harvey Hilderbran, Delwin Jones, Eddie Lucio III, Diana Maldonado, Rene Oliveira, David Swinford and Sylvester Turner.

During the interim, Speaker Straus assigned the Committee on State Affairs the following charges:

1. Review state compliance with federal law regarding undocumented immigrants. Evaluate the costs of services and benefits provided to undocumented immigrants by state agencies and local governments.
2. Examine state policy on "green" technologies for all state building and costs associated with such implementation.
3. Monitor federal legislation and regulatory initiatives pertaining to climate change and its effects on utilities and consumers. Consider Texas' response to proposals and make recommendations as to any further preparations.
4. Examine the state's portfolio of electric generation resources, including traditional sources, emerging renewable technologies, and energy efficiency. Determine whether the existing state regulatory programs and incentives are adequate to meet the energy needs of the future. Consider factors relating to reliability, requirements, for additional transmission, or auxiliary services. Joint Interim Charge with House Committee on Energy Resources.
5. Monitor the agencies and programs under the committee's jurisdiction.

The Committee met in three public hearings, held April 29, 2010, May 12, 2010, and August 18, 2010. The Committee would like to express its appreciation to Chairman Barry Smitherman, Commissioner Ken Anderson and Commissioner Donna Nelson as well as the staff at the Public Utility Commission, Trip Doggett and the staff at the Electricity Reliability Council of Texas, Sheri Givens and the staff with the Office of Public Utility Counsel, and Karen Robinson and staff at Texas Department of Information of Resources.

The Committee would also like to express its appreciation to the following state government employees, industry representatives, consumer representatives and interested public citizens who testified before the Committee and contributed to the interim process:

Jorge Ramirez, Deputy Executive Director for Facilities and Energy Management, (Texas Facilities Commission), Paul Fowler (Texas Facilities Commission), Dub Taylor, Director, (SECO), Dr. Bryan Shaw, Commissioner, (TCEQ), Rick Rhodes, Assistant Commissioner for Rural Economic Development, (Texas Department of Agriculture), Laurie Barker, Director of Litigation and General Counsel, (OPUC), Danny Bivens, Director of Market Representation, (OPUC), Mike Cleary, Chief Technology Officer, (ERCOT), Dan Woodfin, Director of System Planning, (ERCOT), Victor Carrillo, Chairman, (Texas Railroad Commission), Mike Cleary, Chief Technology Officer, (ERCOT), John Fainter, President and CEO, (AECT), Andy Weissman, Editor and Chief, (Energy Business Watch), Phillip Oldham, (Texas Manufacturers Association), Tom "Smitty" Smith, (Public Citizen), Ray Gifford, Partner, (Wilkinson Barker Knauer, LLP, and Senior Adjunct Fellow, Silicon Flatirons Center for Law, Technology and Entrepreneurship, Univ. of Colorado.), Kevin Howell, Executive Vice President and Regional President, Texas, (NRG), Barbara Clemenhagen, VP of Commercial and External Relations, (Topaz Power), Chris Kirksey, Texas Director of Projects, (Summit Energy), Greg Kunkel, VP of Environmental Affairs, (Tenaska), Luke Bellsnyder, (Texas Association of Manufactures), Mike Sloan, (Virtus Energy Research Associates), Paul Sadler, (Wind Coalition), Luke Metzger, (Environment Texas), Steve Vavrik, (Solar Alliance), Brad Jones, VP of Government Relations, (Luminant), Jason Bagley, Government Affairs Manager, (Intel), David Stevens, CEO, (El Paso Electric), Phil Williams, General Manager, (Denton Municipal Electric), Michael Golden (Boulette & Golden), the Honorable Mary Horn (Denton County Judge), Steve McCraw (Texas Department of Public Safety), Jerry McGinty (Texas Department of Criminal Justice), Dr. Rick Allgeyer (Texas Health & Human Services Commission), and David Morales (Texas Attorney General's Office).

HOUSE COMMITTEE ON STATE AFFAIRS

INTERIM STUDY CHARGES

- CHARGE Review state compliance with federal law regarding undocumented immigrants. Evaluate the costs of services and benefits provided to undocumented immigrants by state agencies and local governments.
- CHARGE Examine state policy on "green" technologies for all state building and costs associated with such implementation.
- CHARGE Monitor federal legislation and regulatory initiatives pertaining to climate change and its effects on utilities and consumers. Consider Texas' response to proposals and make recommendations as to any further preparations.
- CHARGE Examine the state's portfolio of electric generation resources, including traditional sources, emerging renewable technologies, and energy efficiency. Determine whether the existing state regulatory programs and incentives are adequate to meet the energy needs of the future. Consider factors relating to reliability, requirements, for additional transmission, or auxiliary services. Joint Interim Charge with House Committee on Energy Resources.
- CHARGE Monitor the agencies and programs under the committee's jurisdiction.

COSTS OF ILLEGAL IMMIGRATION

BACKGROUND

In preparation for the 82nd Legislative Session, Speaker Joe Straus charged the Committee on State Affairs to review state compliance with federal law regarding undocumented immigrants and evaluate the costs of services and benefits provided to undocumented immigrants by state agencies and local governments.

Immigration to the United States can take two forms: legal or illegal.¹ The Constitution of the United States grants the federal government exclusive power over immigration matters, including the naturalization process.² The states face daily challenges with illegal immigration, especially the border states of Texas, California, New Mexico and Arizona. While this report focuses on the costs of illegal immigration to Texas, it is important to understand the legal barriers to entrance that cause people to illegally enter the country.

LEGAL IMMIGRATION

Before traveling to the United States, a citizen of a foreign country must generally obtain a nonimmigrant visa for temporary stay or an immigrant visa for permanent residence. According to the Department of State, to be eligible to apply for an immigrant visa, a foreign citizen must be sponsored by a U.S. citizen relative, U.S. lawful permanent resident, or by a prospective employer, and be the beneficiary of an approved petition filed with U.S. Citizenship and Immigration Services (USCIS).³

Family-sponsored Preferences Total⁴

Family First	245,516
Family Second	842,762
Family Third	553,280
Family Fourth	1,727,897
Total	3,369,455

Every October 1st, the U.S. Government gives approximately 140,000 employment-based immigrant visas to qualified applicants under the provisions of U.S. immigration law.⁵ Employment based immigrant visas are divided into five preference categories. Certain spouses and children may accompany or follow-to-join employment-based immigrants.

¹ 8 U.S.C. § 1323-5 governs unlawful entry to the United States.

² U.S. CONST. art. I § 8.

³ U.S. Department of State, *Types of Visas*, July 28, 2010, available at http://travel.state.gov/visa/immigrants/types/types_1323.html

⁴ U.S. Department of State, *Annual Report of Immigrant Visa Applicants in the Family-sponsored and Employment-based preferences Registered at the National Visa Center*, November 1, 2009, available at <http://www.travel.state.gov/pdf/WaitingListItem.pdf>.

⁵ U.S. Department of State, *Types of Visas*, July 28, 2010, available at http://travel.state.gov/visa/immigrants/types/types_1323.html.

To be considered for an immigrant visa for an employment-based category, the immigrant's prospective employer must file for a labor certification approval from the Department of Labor. Then, the employer files an Immigrant Petition for Alien Worker (Form I-140), with the U.S. Citizenship and Immigration Services (USCIS) for the appropriate employment-based preference category. There are five categories for employment: Employment First Preference (E1-Priority Workers), Employment Second Preference (E2-Professionals Holding Advanced Degrees and Persons of Exceptional Ability), Employment Third Preference (E3-Skilled Workers, Professionals, and Unskilled Workers), Employment Fourth Preference (E4-Certain Special Immigrants) and Employment Fifth Preference (E5-Immigrant Investors).⁶

Employment First Preference includes three subcategories: 1. persons with extraordinary abilities in the sciences, arts, education, business, or athletics, 2. Outstanding professors and researchers with at least three years experience in teaching or research, who are recognized internationally and 3. Multinational managers or executives who have been employed for at least one of the three preceding years by the overseas affiliate, parent, subsidiary, or branch of the U.S. employer.⁷ Employment Second Preference includes professionals holding an advanced degree, or a baccalaureate degree and at least five years progressive experience in the profession, and persons with exceptional ability in the sciences, arts, or business.⁸

Employment Third Preference include applicants who are skilled workers whose jobs require a minimum of 2 years training or work experience that are not temporary or seasonal, professionals whose jobs require at least a baccalaureate degree from a U.S. university or college or its foreign equivalent degree, and unskilled workers capable of filling positions that require less than two years training or experience that are not temporary or seasonal.⁹ Employment Fourth Preference applicant must be the beneficiary of an approved Petition for Amerasian, Widow(er), or Special Immigrant, Form I-360 and include many subcategories. The final category is the employment Fifth Preference, which the applicant must be a foreign citizen who invests between \$500,000 and \$1,000,000, depending on the unemployment rate in the geographical area, in a commercial enterprise in the United States which creates at least 10 new full-time jobs for U.S. citizens, permanent residents, or other lawful immigrants, not including the investor and his or her family.¹⁰

All U.S. employers must complete and retain a Form I-9 for each individual they hire for employment in the United States.¹¹ This includes citizens and noncitizens. On the form, the employer must examine the employment eligibility and identity document(s) an employee presents to determine whether the document(s) reasonably appear to be genuine and relate to the individual and record the document information on the Form I-9.

⁶ *Id.*

⁷ *Id.*

⁸ *Id.*

⁹ *Id.*

¹⁰ *Id.*

¹¹ U.S. Citizenship and Immigration Services, *Employment Eligibility Verification*, July 27, 2010, available at <http://www.uscis.gov/portal/site/uscis/menuitem>.

Employment-based Preferences
Category Total¹²

Employment First	3,601
Employment Second	6,295
Employment Third	119,759
Employment Fourth	529
Employment Fifth	325
TOTAL	130,509

An immigrant can become a permanent resident. Unlike a visa, A Permanent Resident Card (USCIS Form I-551) is proof of the permanent resident's status in the United States.¹³ It also serves as a valid identification document and proof that the immigrant is eligible to live and work in the United States. Although some Permanent Resident Cards, commonly known as "Green Cards," contain no expiration date, most are valid for 10 years.¹⁴ Only a legal permanent resident can become a naturalized U.S. citizen. In order to become a citizen, a legal permanent resident must spend at least five years as a legal permanent resident.

ILLEGAL IMMIGRATION

In April 2010, the U.S. Department of Homeland Security released its estimates on the unauthorized immigrant population.¹⁵ The unauthorized resident immigrant population is defined as all foreign-born non-citizens who are not legal residents. Most unauthorized residents either entered the United States without inspection or were admitted temporarily and stayed past the date they were required to leave. The report contained the following data:

Between January 2008 and January 2009, the number of unauthorized immigrants living in the United States decreased seven percent from 11.6 million to 10.8 million (see Figure 1). Between 2000 and 2007, the unauthorized population grew by 3.3 million from 8.5 million to 11.8 million. The number of unauthorized residents declined by 1.0 million between 2007 and 2009, coinciding with the U.S. economic downturn. The

¹² U.S. Department of State, *Annual Report of Immigrant Visa Applicants in the Family-sponsored and Employment-based preferences Registered at the National Visa Center*, November 1, 2009, available at <http://www.travel.state.gov/pdf/WaitingListItem.pdf>.

¹³ U.S. Citizenship and Immigration Services, *Customer Guide: I am a Permanent Resident*, June 2010, available at <http://www.uscis.gov/USCIS/Resources/How%20Do%20I%20Guides/Static%20Files/B2en.pdf>

¹⁴ *Id.*

¹⁵ Michael Hoefler, Nancy Rytina and Bryan Baker, *Estimates of the Unauthorized Immigrant Population Residing in the United States: January 2009*. U.S. Department of Homeland Security (January 2010), available at http://www.dhs.gov/xlibrary/assets/statistics/publications/ois_ill_pe_2009.pdf. See also, Michael Hoefler, Nancy Rytina and Bryan C. Baker, *Estimates of the Unauthorized Immigrant Population Residing in the United States: January 2008*, Office of Immigration Statistics, Policy Directorate, U.S. Department of Homeland Security, (January 2009).

overall annual average increase in the unauthorized population during the 2000-2009 period was 250,000.

Of the 10.8 million unauthorized immigrants in 2009, 4.0 million (37 percent) had entered the United States on January 1, 2000 or later (see Table 1). An estimated 0.9 million (8 percent) came to the United States between 2005 and 2008 while 3.0 million (28 percent) came during 2000 to 2004. Forty-four percent came to live in the United States during the 1990s, and 19 percent entered during the 1980s.¹⁶

Period of Entry of the Unauthorized Immigrant Population: January 2009¹⁷		
Estimated population January 2009		
Period of entry	Number	Percent
All years	10,750,000	100
2005-2008	910,000	8
2000-2004	3,040,000	28
1995-1999	3,080,000	29
1990-1994	1,670,000	16
1985-1989	1,190,000	11
1980-1984	860,000	8

An estimated 8.5 million of the total 10.8 million unauthorized immigrants living in the United States in 2009 were from the North America region, including Canada, Mexico, the Caribbean, and Central America (see Figure 2). The next leading regions of origin were Asia (980,000) and South America (740,000).

Mexico continued to be the leading source of unauthorized immigration to the United States (see Table 3 and Appendix 2). There were 6.7 million unauthorized immigrants from Mexico in 2009, representing 62 percent of the unauthorized population. The next leading source countries for unauthorized immigrants in 2009 were El Salvador (530,000), Guatemala (480,000), Honduras (320,000), and the Philippines (270,000).

¹⁶ *Id.* See also, U.S. Department of Homeland Security (October 1996), available at <http://www.dhs.gov/xlibrary/assets/statistics/illegal.pdf>.

The U.S. Government released a report in 1996 which found that 5.0 million undocumented immigrants were residing in the United States in October 1996, with a range of about 4.6 to 5.4 million. The population was estimated to be growing by about 275,000 each year, which is 25,000 lower than the annual level of growth estimated by the INS in 1994.

¹⁷ Michael Hoefer, Nancy Rytina and Bryan Baker, *Estimates of the Unauthorized Immigrant Population Residing in the United States: January 2009*. U.S. Department of Homeland Security (January 2010), available at http://www.dhs.gov/xlibrary/assets/statistics/publications/ois_ill_pe_2009.pdf.

The ten leading countries of origin represented 85 percent of the unauthorized immigrant population in 2009. Between 2000 and 2009, the Mexican-born unauthorized immigrant population increased 2.0 million or 42 percent. The greatest percentage increases occurred among unauthorized immigrants from Honduras (95 percent), Guatemala (65 percent), and India (64 percent)..... In 2009, 61 percent of unauthorized immigrants were ages 25 to 44 years, and 58 percent were male (see Figure 3 and Table 5). Males accounted for 62 percent of the unauthorized population in the 18 to 34 age group in 2009 while females accounted for 52 percent of the 45 and older age groups.¹⁸

Because most illegal immigrants live below the radar due to their status, few government studies exist that track their population, entry, employment and progress. The U.S. Immigration and Customs Enforcement (ICE), the largest investigative agency in DHS, is responsible for enforcing federal immigration laws as part of its homeland security mission. ICE works closely with federal, state, and local law enforcement partners in this mission.

CRIMINAL JUSTICE

Texas law enforcement works closely with ICE and DHS to identify criminal aliens in Texas.¹⁹ Under Section 493.015 of the Government Code, the Texas Department of Criminal Justice (TDCJ) is required to notify ICE of criminal aliens within the TDCJ system. Criminal aliens include inmates who are imprisoned in the institutional division or confined in a transfer facility, a substance abuse treatment facility, a state jail felony facility, or a county jail awaiting transfer to the institutional division and for whom the department is unable to reasonably ascertain whether or not the person is an illegal criminal alien.²⁰

The role of TDCJ begins with the identification of potentially deportable, foreign-born offenders by intake staff and the reporting of those identified to ICE. ICE interviews the individual and decides whether to issue a detainer. An ICE detainer flags a criminal alien in custody and asks law enforcement to hold the inmate. When the individual serves his or her sentence, ICE agents pick up the individual to begin deportation proceedings. Deportation can only occur after completion of the inmate's sentence...Offenders requiring a deportation hearing are transported to the IHP building in Huntsville. The Executive Office of Immigration Review provides immigration judges and ICE trail attorneys. TDCJ provides offenders with counsel through the State Counsel for Offenders office.²¹

As of December 31, 2007, TDCJ reported that 11,768 offenders claimed foreign place of birth, 7,080 offenders have ICE detainers and 2,816 offenders have final orders of deportation.²²

¹⁸ *Id.* at 4, 5.

¹⁹ Tex. House Comm. on Corrections, *Interim Report*, 80th Sess., at 35-36 (Nov. 2008). Criminal aliens are noncitizens residing in the US either legally or illegally, have been convicted of a felony and in the custody of the state.

²⁰ TEX. GOV.CODE § 493.015.

²¹ Tex. House Comm. on Corrections, *Interim Report*, 80th Sess., at 35-36 (Nov. 2008).

²² *Id.* at 36.

Based on the findings of a Texas Association of Counties survey in February 2008, there are an estimated 3,711 illegal immigrants in county jails.²³

RIDER 59

In 2007, the Legislature charged the Texas Health and Human Services Commission (HHSC) with Rider 59 which requires HHSC to report the cost of services and benefits provided by HHSC to undocumented immigrants in the state.²⁴ Rider 59 also required HHSC to compile data for each Texas public hospital district facility.

The estimated cost of services and benefits provided to undocumented immigrants in fiscal year 2007 was \$81.2 million, which includes \$80 million for the Texas Emergency Medicaid and \$1.2 million for the Texas Family Violence Program.²⁵ Emergency Medicaid is a federal and state funded program that provides Medicaid coverage, limited to emergency medical conditions including childbirth and labor, for non citizens as well as undocumented immigrants living in the US.

The estimated uncompensated care for undocumented immigrants in fiscal year 2006 was \$596.8 million.²⁶ Because limited information exists to estimate hospital-specific uncompensated care for undocumented immigrants, this amount is based on regional estimates of undocumented immigrants' share of hospital uncompensated care. The result varied widely with the highest rate found in the Rio Grande Valley and the lowest rate in North Texas.

EDUCATION

In 1975, the Texas Legislature revised its education laws to withhold from local school districts any state funds for the education of children who were not "legally admitted" into the United States. In 1977, a class-action lawsuit was filed on behalf of certain school-age children of Mexican origin residing in Texas, who could not establish that they had been legally admitted into the United States.

²³ *Id.* at 37.

²⁴ *Rider 59: Report to the United States Congress on Services and Benefits Provided to Undocumented Immigrants*, Health & Human Services Commission (2008), pp. II-86-87; *See also* General Appropriations Act, House Bill 1, 80th Tex. Legislature (2007).

²⁵ *Id.* Texas Health and Human Services Commission data are for state fiscal year 2007, the most recent data available. The Texas public hospital districts data come from the Cooperative Annual Survey of Hospitals, which collects data for each facility's fiscal year. The most recent survey data available were for fiscal year 2006. Since HHSC Medicaid claims data do not conclusively identify the legal residency status of immigrants, the portion of the \$317.3 million in Emergency Medicaid payments attributable to undocumented immigrants must be estimated. According to the U.S. Census Bureau's *American Community Survey* (ACS) for Texas, approximately 2.6 million noncitizens resided in Texas in 2006. The Department of Homeland Security reports that 1.64 million, or 63 percent, of these residents were undocumented. Therefore, this brings the estimated amount paid for Emergency Medicaid services to undocumented immigrants residing in Texas to about \$200 million. The state shares the cost of the Medicaid program with the federal government, with Texas paying about 40 percent of Emergency Medicaid expenditures. Therefore, in fiscal year 2007 the total estimated state cost for Medicaid services to undocumented immigrants was about \$80 million.

²⁶ *Id.*

The case *Plyler v. Doe* went to the U.S. Supreme Court and the question presented was whether, under the Equal Protection Clause of the Fourteenth Amendment, Texas may deny the free public education to undocumented school-age children that it provides to children who are citizens of the United States or legally admitted aliens. In 1982, the U.S. Supreme Court ruled in *Plyler v. Doe* that states have no ability to refuse to educate illegal immigrants.²⁷

Due to the *Plyler* decision, the Texas Education Agency (TEA) does not collect specific data related to illegal immigrant children. However, TEA does collect data based on immigrant status as required under Title III of the No Child Left Behind Act for purposes of ESL classes.²⁸ School districts are not responsible for determining the legal status of students under DHS regulations.

STATE ACTION

Recently, the Arizona Legislature passed SB 1070 - Support Our Law Enforcement and Safe Neighborhoods Act, which was signed into law by Governor Brewer on April 23, 2010.²⁹ The legislation includes provisions adding state penalties relating to immigration law enforcement including trespassing, harboring and transporting illegal immigrants, alien registration documents, employer sanctions, and human smuggling.³⁰

The U.S. Department of Justice brought a lawsuit against the state of Arizona and argued that SB 1070 is preempted by federal law and therefore violates the Supremacy Clause of the United States Constitution. The federal district court granted a preliminary injunction against sections of the law on July 28, 2010 and the case continues on appeal.³¹

²⁷ *Plyler v. Doe*, 457 U.S. 202 (1982), available at http://www.law.cornell.edu/supct/html/historics/USSC_CR_0457_0202_ZO.html.

²⁸ See P.L. 107-110 Title III, Part C, §3301(6). This data indicates if a student is an identified immigrant under the definition found under Title III of the No Child Left Behind Act (NCLB), where the term “immigrant children and youth” is defined as “individuals who are aged 3 through 21; were not born in any state; and have not been attending one or more schools in any one or more states for more than 3 full academic years. Immigrant status under Title III – Language Instruction for Limited English Proficient and Immigrant Students of the No Child Left Behind Act of 2001, should not be confused with immigrant status as defined for the Department of Homeland Security (DHS). Definitions of immigrant should not be confused with definition used for state assessment proposes or definition used for student eligibility to English I for Speakers for Speakers of Other Languages taught in high school.

²⁹ Ann Morse, *Arizona’s Immigration Enforcement Laws: An Overview of SB 1070 and HB 2126*, National Conference of State Legislatures, available at <http://www.ncsl.org/default.aspx?tabid=20263>.

³⁰ S.B. 1070, 49th Leg. 2nd Sess. (AZ 2010), available at http://www.azleg.gov/DocumentsForBill.asp?Bill_Number=1070; On the same day SB 1070 was signed into law, Governor Brewer issued Executive Order 2010-09 requiring the Arizona Peace Officers Standards and Training Board to establish training to assure law enforcement officials and agencies implement SB 1070 “consistent with federal laws regulating immigration, protects the civil rights of all persons and respects the privileges and immunities of United States citizens.” The executive order also requires clear guidance on what constitutes reasonable suspicion. The Board is to provide a list of the specific forms of identification that provide a presumption that a person is not an alien unlawfully present in the United States.

³¹ Archibold, Randal, *Judge Blocks Arizona’s Immigration Law*, New York Times (July 28, 2010), available at <http://www.nytimes.com/2010/07/29/us/29arizona.html>

ANALYSIS

The Committee held a public hearing at the Texas State Capitol on August 18, 2010 to hear invited testimony on its interim charges.

Michael Golden (Boulette & Golden) testified on the visa process for foreign nationals and the legal immigrant process. The visa process begins with an appointment for a visa with the consulate of the applicant's country of origin which can take up to 170 days. Once an appointment has occurred, the time to process request takes 0-45 days. An applicant must proceed with an in-person interview and are then granted a visa. The visa is glued into the person's passport. Lawful entry into the United States is usually through border stations or airports. At the airport, an agent will inspect the passport and issue a I-94 form. The I-94 form dictates how long the individual can stay in the United States, and their status for what they are permitted to do while in the United States (work, attend school, etc.).³²

Priority is given based on type of jobs and country of origin. No country can account for over 7 percent of the overall allotment for visa applicants. Mexico, China, India and the Philippines have the longest wait. To become a legal permanent resident (formerly called a green card), it is another process. A person can become a legal permanent resident through employment (150,167 granted annually) or through family (226,000 granted annually). A person (depending upon credentials) or his employer files a I-140 petition with USCIS to become a permanent resident in the United States.³³ The person then files I-485 form and takes approximately 6 months depending upon the priority date. The person is required to undergo a medical examination, criminal background check and be fingerprinted. The entire process to become a legal permanent resident can take 8 years.³⁴ To become a citizen, a person must be a legal permanent resident for 5 years; however, if you are married to a citizen, the time limit is only 2 1/2 years.³⁵

Also, if you lived in another country and do not have a bachelor's degree or higher, it is nearly impossible to come to the United States to work. Since the U.S. does not have a guest workers program, the only option is to receive a visa. However, since visas are only given to those with higher education or rare abilities, there is no option for lesser educated foreigners, which is why many foreign nationals resort to entering the country illegally.

Mr. Golden also testified on the federal E-Verify program. E-Verify is a nationwide program to help employers determine whether their employees are authorized to work in the United States. After registering for E-Verify, employers submit information for newly-hired employees from the Form I-9 (SSN, name, date of birth, and citizenship status, and if relevant, A-number or I-94 number) to E-Verify, where it is checked against information in Social Security Administration

³² *Examining the Costs and Services Provided to Illegal Immigrants in Texas*, House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Michael Golden, Boulette & Golden).

³³ *Id.* See also <http://www.uscis.gov/files/form/i-140instr.pdf>.

³⁴ *Examining the Costs and Services Provided to Illegal Immigrants in Texas*, House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Michael Golden, Boulette & Golden).

³⁵ *Id.*

(SSA) and Department of Homeland Security databases as appropriate, over a secure internet connection. If the employee information can be automatically verified, an authorization notification is issued to the employer through the system, which occurs 97 percent of the time.

However, three percent of the time, the system gives a tentative nonconfirmation (TNC). Employees have the right to contest TNCs by visiting an SSA office or calling USCIS and must be allowed to continue working without penalty while the issue is resolved. If a TNC is not contested, or if the issue cannot be resolved, the finding becomes a final nonconfirmation (FNC), and the employer would terminate employment.³⁶ Most TNC can be resolved within 30 days.

Judge Mary Horn (Denton County Judge) testified that Denton County began tracking costs of services provided to illegal immigrants recently. For the county jail costs, approximately 8-10 percent of total inmate population have ICE holds, which averages 95 inmates a day and the average bed stay per inmate is 30 days.³⁷ The daily bed costs \$61 per inmate, which is approximately \$2.1 million on ICE holds yearly. The illegal inmates held in Denton County are charged with DWI, theft, assault, rape, robbery, burglary, indecency or sexual misconduct with a child, manslaughter, possession of drugs or a weapon, forgery, and various traffic offences.³⁸

Denton County received almost \$1 million from State Criminal Alien Assistance Program (SCAAP) grant reimbursements.³⁹ The Bureau of Justice Assistance administers SCAAP with ICE and Citizenship & Immigration Services/Homeland Security. SCAAP provides federal money to states/localities that had correctional officer salary costs for undocumented criminal aliens with 1 felony or 2 misdemeanor convictions who were incarcerated for four consecutive days. Funds can only be used for specific correctional purposes (actual salaries, overtime, recruitment/retention, construction, training, consultants, medical/mental health, vehicle rental/purchase for transport, etc). SCAAP payments are calculated based on a relative share of funding going out to those who apply, according to total number of eligible criminal aliens determined by Homeland Security.

In 2009, 734 illegal immigrants spent a total of 29,307 days incarcerated in Denton County jail. Calculated at a cost of \$60/day that is \$1,760,000 of which Denton County received \$225,000 in SCAAP funds.⁴⁰ There are no other reimbursement to Denton County for housing these prisoners. Also, many prisoners that are on ICE holds never get transferred and spend their entire incarceration in the Denton County jail. There are also additional criminal justice costs for prosecuting and defending these persons in court, but the actual cost to illegal aliens is unknown.

³⁶ *Id.* See also Westat Evaluation of the E-Verify Program: USCIS Synopsis of Key Findings and Program Implications, USCIS (Jan. 2010), available at <http://www.uscis.gov/USCIS/Nativepercent20Docs/Westatpercent20Evaluationpercent20ofpercent20thepercent20E-Verifypercent20Program.pdf>.

³⁷ *Examining the Costs and Services Provided to Illegal Immigrants in Texas*, House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Mary Horn, Denton County Judge).

³⁸ *Id.*

³⁹ *Id.* State Criminal Alien Assistance Program State Criminal Alien Assistance Program, available at <http://www.ojp.usdoj.gov/BJA/grant/scaap.html>

⁴⁰ *Id.*

For health care services, Judge Horn testified that Denton County spend \$77,744 this year on indigent health care programs, which included acute care from hypertension to appendectomy.⁴¹

INDIGENT HEALTH CARE PROGRAM			
× Clients supported		2009	2010
+ Total number of clients		398	273
+ Total Undocumented		18	21
× Cost to Denton County			
+ Expended for Program mil		\$1.5 mil	\$1.6
+ Costs for Undocumented	\$65,271		\$77,744
+ Percentage County costs	4.3%		4.7%
× Eligibility criteria			
+ Chapter 61 Indigent Health Care and Treatment Act			
+ County utilizes most restrictive levels State program permits			

Denton County strictly follows Chapter 61 of the Indigent Health Care and Treatment Act and uses the 21 percent of the federal poverty level for the Indigent Health Care Program as mandated.⁴² In contrast, in the Public Health Clinic, Denton County uses the 150 percent of poverty level for our primary health care clinic as required in their grants. The County Indigent Health Care program is 100 percent County funded; the Health Dept follows the minimal level mandated by the state (21 percent of the federal poverty level) to calculate who is eligible. The Public Health Clinic at the Health Dept is partially grant funded and partially County funded. The Health Dept follows federal guidelines of calculating at 150 percent of the federal poverty level because many of the grants (state, federal, private like Susan G. Komen) require that calculation. The Health Dept receives a variety of grants and most go towards the Public Health Clinic (seeing patients within the Health Dept itself to treat acute and chronic disease in an office setting).⁴³

Denton County, like most counties in Texas, faces budget constraints due to the recession. The recession only highlights the growing impact of illegal immigrants on costs to Denton County.

⁴¹ *Examining the Costs and Services Provided to Illegal Immigrants in Texas*, House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Mary Horn, Denton County Judge). As of 8/22/2010, this amount has increased to \$97,376.12 due to pharmacy charges and medical bills that had already been incurred prior to the policy change but not yet billed and have now been paid. Of the \$97,376.12, \$35,700.22 was paid for hospital bills, \$33,884.60 was paid to physicians and \$27,791.30 was paid for pharmacy medications.

⁴² *Id.*

⁴³ *Id.*

Steve McCraw (Executive Director for the Texas Department of Public Safety) (DPS) testified that Texas has invested \$ 220 million dollars in border security since 2007. This money is used to increase patrols, technology upgrades for agents along the border including new helicopters and high end equipment such as night vision goggles and live scan booking stations that help with identifying nefarious offenders that engage in human trafficking and drug cartel activity.⁴⁴

Texas has 7,400 border patrol agents for 1,254 miles in Texas.⁴⁵ While securing the border is a top priority, Mr. McCraw testified that it was unknown how many agents it would take to fully secure the border, but the number could be over 1,000 additional agents.

Mr. McCraw testified that Mexican drug cartels are using criminal gangs in and out of prisons, (Tengo blast, MS13, Mexican mafia, Texas syndicate). Since 2004, Houston experienced a 74 percent increase in gang membership, but a 250 percent increase of gang related crimes. Due to budgetary issues currently pending in light of the State's projections, McCraw was reluctant to recommend a budgetary number that would provide for a 100 percent secure border; however more investment is necessary and Texas cannot decrease its investment.⁴⁶

If Texas added an additional 50 booking stations, it would provide a statewide ability to know if a person arrested has an ICE hit. Using the live scan equipment has shown that 22 percent of the inmate population incarcerated in Texas Department of Criminal Justice (TDCJ) facilities are criminal aliens.⁴⁷ While DPS is not involved in the reimbursement rates for County jails that house criminal aliens for ICE, Mr. McCraw testified that he has not met, "a sheriff that is happy with their level of reimbursement."⁴⁸

Jerry McGinty (Chief Financial Officer, Texas Department of Criminal Justice) testified that as of July 31, 2010, 11,766 or 7.5 percent of the offender population claim foreign citizenship in TDCJ.⁴⁹ TDCJ and ICE work together in the institutional hearing program. This program allows TDCJ at intake to identify those offenders for INS which have a facility located adjacent to Huntsville for processing criminal aliens. Approximately 9,800 of the 11,766 criminal aliens in TDCJ have ICE detainees.⁵⁰

Mr. McGinty testified that it costs TDCJ about \$47.50 dollars per day to house an inmate. Therefore, the 11,766 criminals who claim foreign citizenship cost the state about \$171 million.⁵¹

⁴⁴ *Examining the Costs and Services Provided to Illegal Immigrants in Texas*, House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Steve McCraw, DPS).

⁴⁵ *Id.*

⁴⁶ When asked to speculate on a potential 10 percent reduction in budgets and how that would affect security, Mr. McCraw noted that public safety comes first, but an additional 10 or 5 percent cut would force DPS to prioritize missions. He stated that he will not recommend any cuts that would enable a security risk to the public.

⁴⁷ *Examining the Costs and Services Provided to Illegal Immigrants in Texas*, House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Steve McCraw, DPS).

⁴⁸ *Id.*

⁴⁹ *Examining the Costs and Services Provided to Illegal Immigrants in Texas*, House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Jerry McGinty, TDCJ).

⁵⁰ *Id.*

⁵¹ *Id.*

While it costs \$171 million to incarcerate these inmates, TDCJ only receives \$17.9 million in reimbursement from SCAAP funding. This reimbursement is 10 percent of the incarceration costs.⁵² The remaining 90 percent costs are incurred by the State.

Dr. Rick Allgeyer (Texas Health and Human Services Commission) provided the Committee with an update on Rider 59 Report on the cost of services and benefits to undocumented aliens studied in 2008.⁵³ According to the U.S. Census Bureau's *American Community Survey (ACS)* for Texas, approximately 2.6 million non citizens resided in Texas in 2006. The Department of Homeland Security reports that 1.64 million, or 63 percent, of these residents were undocumented.⁵⁴

In 2008, Texas had two programs provided to undocumented immigrants; now Texas has three programs that could be used by undocumented immigrants. These programs are the Texas Emergency Medicaid for non-citizens, Texas Family Violence Program, and the Texas Children's Health Insurance Program (CHIP) Perinatal Coverage.⁵⁵ The costs for the programs are illustrated below:

- (1) Texas Emergency Medicaid — \$62 million
- (2) Texas Family Violence Program — \$1.3 million
- (3) Texas CHIP — \$33 million
- Total Costs: \$96 million⁵⁶

All these estimates are based on data collected by DHS and the Census Bureau. All these programs receive federal matching funds and the emergency Medicaid program is federally mandated. All eligibility issues that Medicaid programs require also translate to the Emergency Medicaid program such as asking participants to provide income verification, and residency. Non-citizens are eligible for the Emergency Medicaid program because they cannot prove citizenship.

In the Texas Emergency Medicaid program, the largest expense is births (labor and delivery costs) to parents who are non-citizens. In 2009, approximately 63,000 births occurred to non-citizens.⁵⁷ HHSC knows this data to be accurate because their claims adjudication process is tightly controlled so HHSC can track what the State pays.⁵⁸

For Texas public hospital districts, Dr. Allgeyer provided the Committee with updated statistics.

⁵² *Id.*

⁵³ *Examining the Costs and Services Provided to Illegal Immigrants in Texas*, House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Dr. Rick Allgeyer, THHSC). *See also Rider 59: Report to the United States Congress on Services and Benefits Provided to Undocumented Immigrants*, Health & Human Services Commission (2008).

⁵⁴ *Id.*

⁵⁵ *Examining the Costs and Services Provided to Illegal Immigrants in Texas*, House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Dr. Rick Allgeyer, THHSC).

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ *Id.*

The estimated uncompensated care for undocumented immigrants in FY 2008 was \$717 million.⁵⁹ HHSC surveyed the 99 public hospital district facilities, although limited information exists to estimate hospital-specific uncompensated care for undocumented immigrants. As such, the method adopted for this update relies on regional estimates of undocumented immigrants' share of hospital uncompensated care, applying those estimates to each public hospital district facility in the region. This system also tracked the percent of uninsured undocumented immigrants served in these counties, and in 2005 found that nearly 14 percent of all patients screened in hospital settings were undocumented immigrants.⁶⁰

David Morales (Office of the Attorney General) outlined current legal precedence on immigration. The legal principle of federal preemption is the foundation of the U.S. Department of Justice's case against Arizona's law, SB 1070. DOJ did not bring a 14th amendment or 4th Amendment challenge in the case, but focused solely on preemption.⁶¹ The DOJ never stated it was expressly preempted but that preemption has been implied. With implied preemption, it can either be conflict or field preemption. Conflict preemption occurs when it is impossible to comply with both federal law and the state law, then the federal law trumps. If the state law is an obstacle for the federal law, then the federal law wins. Field preemption occurs when no conflict exists between the state and federal law, but the federal regulatory scheme is so pervasive that it occupies the field.

In the immigration context, the U.S. Supreme Court has repeatedly stated that Congress does occupy the field only with respect to the regulation of immigration. For the AZ law, it is a question of whether that legislation regulates immigration. The Supreme Court defined the regulation of immigration as a law setting the terms and conditions of the admission of immigrants into the country and terms on which legal immigrants may remain.⁶² If a state law regarding immigration does not meet this definition, then it is only preempted if it directly conflicts with federal law.

In the AZ lawsuit, the district court enjoined three provisions (making it a state crime for failure to apply for or carry immigrant registration papers, a state crime for unauthorized immigrants to solicit, apply or perform work, and warrantless arrest for probable cause to believe the person has committed a public offense making them removable from the US) because those provisions were so intertwined with federal law that a preemption of federal immigration law was presumed. The district court did not enjoin other provisions of the law, which have taken effect in Arizona. The State of Arizona appealed the district court's ruling and the appeal is pending at the 9th Court of Appeals. A decision is anticipated late fall and the case will return to the district court for a trial on the merits.⁶³

⁵⁹ *Id.* See also *Rider 59: Report to the United States Congress on Services and Benefits Provided to Undocumented Immigrants, 2010 Update*, Health & Human Services Commission (2010).

⁶⁰ *Id.*

⁶¹ *Examining the Costs and Services Provided to Illegal Immigrants in Texas*, House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of David Morales, OAG).

⁶² *Id.*

⁶³ *Id.*

Mr. Morales also mentioned the case which struck down a Texas Law that withheld funds from school district that educated illegal immigrants.⁶⁴ In *Plyler v. Doe*, the Court held that the law violated the 14th amendment to categorizes people on immigration status.

This upcoming term, the Supreme Court will hear *Chamber of Commerce of the United States v. Candelaria* and their decision could shed light on future immigration questions. *Candelaria* deals with the Arizona's Legal Arizona Workers Act which mandates that business participate in E-Verify program. The question before the Court is whether the Arizona statute, imposing sanctions on employers who hire unauthorized aliens, is preempted. The 9th Court of Appeals held that the Arizona Act is neither expressly nor impliedly preempted by federal law, and does not violate due process.⁶⁵

CONCLUSION

The legal immigration system is a broken myriad of outdated rules and regulations. The President and U.S. Congress should take immediate action to address reform to the system and secure our borders.

⁶⁴ *Plyler v. Doe*, 457 U.S. 202 (1982).

⁶⁵ *Id.* See also *Chamber of Commerce of the United States v. Candelaria*, D.C. CV-07-01355 (9th Cir. 2008) (*Cert. granted*, June 28, 2010); *Ariz. Contractors Ass'n v. Candelaria*, 534 F. Supp. 2d 1036 (D.Ariz. 2008).

GREEN TECHNOLOGY

BACKGROUND

In this recession, it is important for the Texas Legislature to investigate all potential cost saving measures in regards to how the state conducts its daily business. Speaker Joe Straus charged the Committee on State Affairs to examine state policy on "green" technologies for all state buildings and costs associated with such implementation.

With a continued growing demand for electricity in Texas, fluctuating energy prices and an increased understanding of environmental issues, the ability to achieve more with less allows people to plan for their energy usage. During the 81st Legislature, the State Affairs Committee passed House Bill 431 (relating to design, construction, and renovation standards for state buildings and facilities). Buildings account for 72 percent of electricity use and 30 percent of waste output nationally.⁶⁶ In an effort to reduce waste output, conserve natural resources, and reduce operating costs, House Bill 431 set forth high-performance sustainable design, construction, and renovation requirements for state buildings and higher education facilities⁶⁷. However, this bill did not pass during the 81st Legislature.

The Texas Facilities Commission (TFC) is an agency responsible for planning, providing and managing facilities for more than one hundred state agencies in over 290 cities throughout Texas. The States current inventory totals 24 million square feet of leased and state-owned properties which include office, warehouse and parking facilities.⁶⁸

The Facilities & Energy Management Division at the Texas Facilities Commission provides support in developing energy management plans for state buildings and facilities. The division oversees property management, maintenance, repair, capitol complex recycling program, operations, custodial services and grounds maintenance. The division's Office of Energy Management monitors utility usage, evaluates potential energy saving projects, and develops energy policies.⁶⁹

The State Energy Conservation Office (SECO) housed at the Office of the Comptroller works with private business, citizens, as well as state and local governments to take advantage of what energy efficiency can provide in regards to cost savings, reduction to environmental impact, as well as lowering energy demand. SECO is not a policy office and does not have any regulatory authority, but does have the tools to help facilitate energy efficiency measures.⁷⁰

One of the stated missions at SECO is to increase the efficient use of energy and water while protecting the environment.⁷¹ The public sector programs at SECO focus on two main categories

⁶⁶ H.B. 431, 81st Texas Legislature Regular Session (2009) , available at <http://www.capitol.state.tx.us/tlodocs/81R/analysis/pdf/HB00431H.pdf>

⁶⁷ *Id.*

⁶⁸ The Texas Facilities Commission, available at <http://www.tfc.state.tx.us/>

⁶⁹ *Id.*

⁷⁰ The State Energy Conservation Office (SECO), available at <http://seco.cpa.state.tx.us/>

⁷¹ *Examining State policy on "green" technologies*: House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Dub Taylor, State Energy Conservation Office (SECO), Office of the Comptroller).

of energy and water efficiency. SECO also participates in project implementation, education and outreach, but do not partake in research and development. SECO is a declared conduit for the Office of Energy Efficiency and Renewable Energy at the Department of Energy or (DOE), working on a state energy program with demonstration & deployment as the focus. SECO is one of fifty six state/territory energy offices.⁷²

ANALYSIS

Committee Hearing

The Committee held a public hearing at the Texas State Capitol on May 12th, 2010 to hear invited testimony on its interim charges. In preparation for the hearing, the Committee asked representatives from the Texas Facilities Commission and the State Energy Conservation Office (a division of the Comptroller of Public Accounts) to examine state policy on "green" technologies for all state buildings and costs associated with such implementation.

Texas Facilities Commission

Jorge Ramirez, Deputy Executive Director of Facilities and Energy Management at the Texas Facilities Commission testified on the fundamentals of green building technologies as well as the fundamental principles, life cycle cost analysis, energy efficiency measures, and building operations and maintenance factors that go into green technology projects. When incorporating green technologies in new construction as well as updating older buildings or equipment, it is more effective when applied in a holistic manner. The key factors being balance and optimization in regards to a successful implementation of green technologies based projects. Below are five guidelines serving as an overview of green building technologies characteristics as well as how they are assessed, analyzed and managed at the Texas Facilities Commission.

- The conservation of energy and resources by utilizing energy efficient materials, equipment, and processes to build, operate, and maintain facilities.
- Integrated approach that considers all phases of the facility life cycle
- Expands and complements traditional concerns of economy, utility, durability, and comfort
- Balances cost, environmental, and human benefits while meeting mission and function of intended facility
- Also known as sustainable or high performance building⁷³

Ramirez highlighted the fundamental principals used in defining green building technologies: optimization of the site/existing structure potential, optimize energy use, optimize operational

⁷² *Id.*

⁷³ *Examining State policy on "green" technologies*: House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Jorge Ramirez, Texas Facilities Commission).

and maintenance practices, protect and conserve water, enhance indoor environmental quality and the use of environmentally preferable products.⁷⁴

Life Cycle Cost Analysis

One of the most useful tools TFC employs when analyzing the validity of a project, or upgrading equipment is a life cycle cost or a cost benefit analysis. Ramirez reiterated the importance of analyzing the upfront cost as a vital part of the process when deciding to retrofit a building or replace a piece of equipment. The process entails balancing out the upfront costs versus the savings on maintenance, operation, as well as energy usage over the life of the facility or piece of equipment.⁷⁵ Ramirez cautioned the membership that often times the single upfront cost variable could be deceiving and ultimately very costly if the above type of cost benefit analysis is not conducted.⁷⁶

In summarizing the life-cycle cost analysis process, Ramirez highlighted four points in his testimony: it's a decision making tool for building owners and designers, compares present values of design alternatives based on initial costs plus energy and maintenance costs incurred over the useful life of the asset, it can be useful in evaluating design alternatives with higher initial cost but lower operating and maintenance costs over time, and typically projects are evaluated over a minimum twenty-year time frame.⁷⁷

Energy Efficiency Measures

In regards to new construction Ramirez spoke to some of the inexpensive ways to employ green technologies; such as, light harvesting or the use of natural light when possible, lighting controls, and the use of light-emitting diode (LED) and compact fluorescent lamps (CFL).⁷⁸ Heating, Ventilating, and Air Conditioning or HVAC systems can be more expensive however if properly implemented can provide for higher efficiency, and system control technologies for indoor cooling and heating in large industrial and office environments.⁷⁹ In characterizing certain energy efficiency measures, Ramirez highlighted passive design which is a strategy that entails building shape and orientation, passive solar design, and the use of natural lighting. He added that it is important to have properly sized and energy-efficient heating/cooling systems used in conjunction with thermally efficient building shells to help reduce energy costs.⁸⁰

Another method used to evaluate projects is based on the percentage of time an investment takes to payback the upfront cost. An example Ramirez gave is a Thermal Energy Storage or (TS) system which he likened to a large thermos containing millions of gallons of water. Often times the Facilities Commission takes advantage of this process by cooling buildings with chiled water that is produced at night and then stored in the TS system, so as to take advantage of cheaper energy prices at night verse producing this chilled water during high peak demand periods of the

⁷⁴ *Id.*

⁷⁵ *Id.*

⁷⁶ *Id.*

⁷⁷ *Id.*

⁷⁸ *Id.*

⁷⁹ *Id.*

⁸⁰ *Id.*

day.⁸¹ Another advantage of the TS systems is that they pay for themselves in only a quarter of its lifespan. TFC also works with computer modeling to optimize the design of electrical and mechanical systems in state buildings.

Building Operations and Maintenance

Ramirez stated that it is "key" in maximizing the effectiveness of green technologies to view them as systemic and provide a continues effort that may also need to be fine tuned. Part of this is to utilize commissioning. Commissioning is a process of ongoing testing to verify that all building systems operate as designed, meet the needs of the owner and occupants, and are operated by trained facility staff.⁸² Commissioning can substantially reduce costs for operation, resource consumption, maintenance, and repairs and can improve indoor environmental quality. If a commissioning is not part of the process in regards to green technologies for building and design Ramirez stated that it would be like, "buying a hybrid car and not getting regular oil changes or tune ups".⁸³ He also prefers to design around the human factor because that can often times distort results.

In conclusion, Ramirez cited a 2003 study, *The Costs and Financial Benefits of Green Building, A report to California's Sustainable Building Task Force*, stating "upfront costs of about 2% to support green design would, on average, result in life-cycle savings of 20% of construction costs."⁸⁴ He characterized the use of these types of technologies not as a cost but rather an investment. When asked if a committee were developed to create standards for how green technologies are used by the state, Ramirez felt it would be useful to have a committee of involved stakeholders creating guidelines in this area.⁸⁵ A carrot and stick approach might help foster more growth in this area, however often times it is hard to display the long term savings that could be utilized by building and design with green technologies.⁸⁶ TFC is currently working with SECO to develop an energy management system to monitor track and prove that these technologies are making a difference as far as efficiency and cost savings.

To help spur efficiency measures Ramirez suggested one way to motivate state agencies is to give them a finite amount of money for electricity and if they use under that amount, they would be allowed to keep it; if they went above the allotted amount, they would be penalized.⁸⁷ He also felt it advantageous to setup a fund from the aggregate savings realized by state agencies who implement green technologies used to cut expenses as an option to facilitate efficiency.⁸⁸

⁸¹ *Id.*

⁸² *Id.*

⁸³ *Id.*

⁸⁴ *The Costs and Financial Benefits of Green Building, A report to California's Sustainable Building Task Force*, October 2003: <http://www.usgbc.org/Docs/News/News477.pdf>

⁸⁵ *Examining State policy on "green" technologies*: House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Jorge Rameriz, Deputy Executive Director of Facilities and Energy Management at the Texas Facilities Commission)

⁸⁶ *Id.*

⁸⁷ *Examining State policy on "green" technologies*: House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Jorge Rameriz, Deputy Executive Director of Facilities and Energy Management at the Texas Facilities Commission)

⁸⁸ *Id.*

State Energy Conservation Office

Dub Taylor, Director of State Energy Conservation Office (SECO), testified that defining conservation vs. efficiency is necessary. Conservation being a concept centered on “doing less to use less” and efficiency being an application of technologies or best practices to eliminate waste, or to do the same or more with less.⁸⁹ Taylor testified that two common approaches to "greening" a building is to implement an energy/water savings capital project, and commission the building facility.⁹⁰

In regards to implementing energy and water savings with capital projects certain tactics are employed by SECO, such as building retrofit-capital expenditures for mechanical systems and related equipment, distributed generation technologies, combined heating and power (CHP), the use of solar-electric/thermal technologies, as well as wind and geothermal technologies.⁹¹ One of the main incentive programs at SECO is the LoanSTAR (Loans for Saving Taxes and Resources) revolving loan program. This helps agencies overcome the initial upfront capital barrier certain green technologies are associated with. This program provides low interest revolving loans for energy and water efficiency public building retrofits. Mr. Taylor presented the committee with these facts about the LoanSTAR program:

- Low interest revolving loan program for energy and water efficiency public building retrofits
- Loan fund capitalized with the State’s remaining oil overcharge funds
- Loan terms: 3% interest, 10 year simple payback
- Borrowers: any public entity in Texas
- Executed 206 loans totaling \$291 million with a 6 year average project payback
- Average loan size - \$1.4 million (minimum \$12,500 and maximum \$5,000,000)
- Cumulative energy savings since 1990 – over \$289 million⁹²

⁸⁹ *Examining State policy on "green" technologies*: House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Dub Taylor, Director, The State Energy Conservation Office (SECO) Office of the Comptroller)

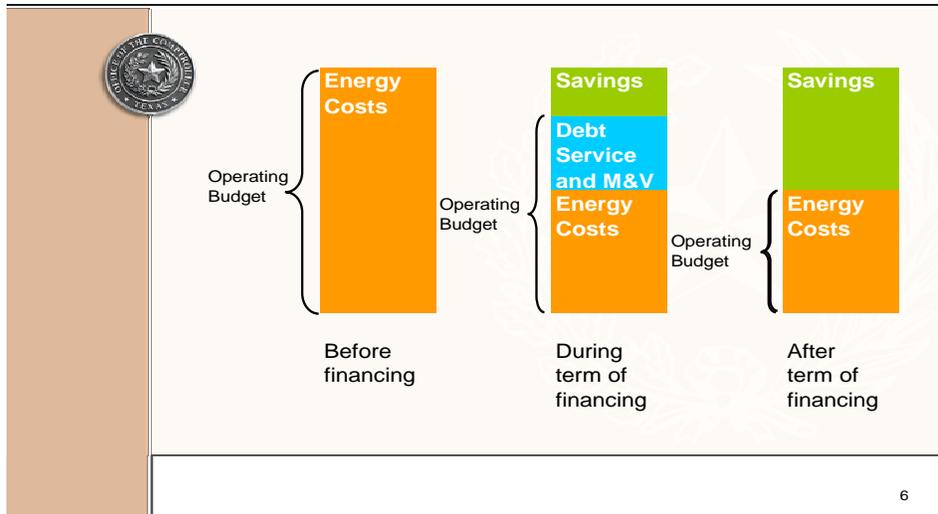
⁹⁰ *Id.*

⁹¹ *Id.*

⁹² *Id.*

Below is a diagram of the payment and savings structure of the LoanSTAR revolving loan program.⁹³

LoanSTAR Revolving Loan Program



An example of how SECO implemented building commissions/optimization or "tune- up" is the Capitol extension project. In 1993, the Capitol Extension was re-commissioned, the 5 month, \$200,000 engineering effort was funded by SECO and performed by the Energy Systems Laboratory at Texas A&M.⁹⁵

The building was constructed underground to help control heating and cooling costs. Dual-duct and single-duct HVAC systems were installed as well as the use of chilled water and steam from a central plant. It was constructed with a direct digital control system and is maintained for continuous operation.⁹⁶

The next eight measures were implemented from the study conducted by Texas A&M: maintain room comfort conditions with minimum energy consumption during unoccupied periods, change controls schedules to maintain hearing room comfort, optimize dual-duct variable air volume reset schedules, separate hot water control loops from the Capitol and reset hot water supply temperature, night time shut down of the air handling units which serve the central court area, reduce unnecessary chilled water flow, shut off steam during summer, and optimize outside air intake.⁹⁷

Project cost savings were realized in a 1.4 year payback time period. With an operating savings of 27% or \$144,700 a year. With electricity savings of \$36,600 a year, cooling savings of

⁹³ *Id.*

⁹⁴ *Id.*

⁹⁵ *Id.*

⁹⁶ *Id.*

⁹⁷ *Id.*

\$64,700 a year, and heating savings of \$43,400 a year. In describing the low hanging fruit in regards to efficiency measures Taylor mentioned lighting, window film, and distributive renewable technology as cost saving measures.⁹⁸

CONCLUSION

Current State policy on "green" technologies has produced cost savings for the State in certain areas. The Texas Facilities Commission is very aware of the efficiencies and cost savings certain types of technologies can provide. They provide a thoughtful and thorough process in analyzing the benefits versus the costs when implementing green technologies. The State Office of Energy Conservation provides loan programs to help lessen the upfront cost burden many of these technologies carry. However many agencies face an uphill battle in proving the aggregate benefit and cost savings from certain efficiency measures. In this time of predicted budget shortfalls, energy efficiency measures can be overlooked as cost saving measures because they may not prove their worth in that budget cycles biennium. While research is continued on more expensive "green" technologies, it is important that the State continue to target relatively cheap and easy to implement technologies that foster greater efficiencies in how we plan new construction as well as update older buildings.

⁹⁸ *Id.*

FEDERAL CLIMATE LEGISLATION IMPACT

BACKGROUND

In preparation for the 82nd Legislative Session, Speaker Joe Straus charged the Committee on State Affairs to monitor federal legislation and regulatory initiatives pertaining to climate change and its effects on utilities and consumers. Also, the Committee should consider Texas' response to proposals and make recommendations as to any further preparations.

Congress is currently considering legislation on emissions and its impact on the climate. American Clean Energy and Security Act (Waxman-Markey) was passed by the House in June 2009 by a vote of 219-212.⁹⁹ Nine Texas Congressmen voted “yes,” 23 voted “no.” The goal of the legislation is to reduce carbon emissions by 17% by 2020 and 80% by 2050 compared to 2005 levels, to require electric utilities to meet 20% of their demand through renewable energy and energy efficiency by 2020, to mandate new energy saving standards for buildings, appliances, and industry, and to establish a cap and trade system for emission allowances.¹⁰⁰ In the early years, 80% of allowances would be distributed without charge, but 70% of allowances would be auctioned by 2031.

Studies have shown that high allowance costs under Waxman-Markey could have significant negative impacts to energy prices and the economy, especially in areas of the country that rely on manufacturing or fossil fuels.¹⁰¹ According to the National Association of Manufactures, by 2030, U.S. jobs could decline between 1.8 million to 2.4 million. In Texas, jobs could decline between 144,597 to 196,928.¹⁰² Nationwide, by 2020, electricity prices could increase between 5% and 7.9% and by 2030, electricity prices could increase by up to 50%. In Texas, electricity prices could increase between 5% and 8% by 2015, and possibly increase to 54% by 2030.¹⁰³ The vast majority of reductions in energy-related emissions are expected to occur in the electric power sector.¹⁰⁴ Increase in electric prices of 4-17% by 2020 and a 21-93% increase by 2030 over 2007 rates.

The UT Bureau of Economic Geology’s Center for Energy Economics predicts that nationwide, total employment declines 1.3 percent by 2030 (about 2.6 million jobs lost).¹⁰⁵ The Center estimates that gross domestic product (GDP) declines by about 1.8 percent (\$380 billion) and real disposable income by about 2.5 percent (\$395 billion). In Texas, by 2030, total employment could decline by 1 percent (164,000 jobs lost). Gross state product (GSP) declines by almost 1.6 percent (almost \$25 billion) and real disposable income by roughly 2.3 percent (almost \$30 billion).¹⁰⁶

⁹⁹ American Clean Energy and Security Act of 2009, H.R. 2454, 111th Congress (2009), available at <http://thomas.loc.gov/cgi-bin/bdquery/D?d111:2:./temp/~bdLbfO:./home/LegislativeData.php?n=BSS;c=111>

¹⁰⁰ *Id.*

¹⁰¹ *Impact of Federal Climate Legislation on State’s Resources and Consumers: Hearing Before the House Comm. on State Affairs*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Barry Smitherman, PUC).

¹⁰² *Id.*

¹⁰³ *Id.*

¹⁰⁴ *Id.*

¹⁰⁵ *Id.*

¹⁰⁶ *Id.*

Another bill that Congress is considering is the Kerry-Lieberman American Power Act.¹⁰⁷ The bill would reduce carbon emissions from 2005 levels by 17% by 2020 and by 80% by 2050. It would target only large sources of pollution, including 7,500 factories and power plants that emit more than 25,000 tons of CO₂ annually. Utilities would be regulated in 2012 and other industries in 2016. The legislation would place a declining cap on CO₂ emissions and allocate/auction emission allowances to polluting industries. A portion of allowance proceeds would be rebated to the public to offset increasing energy cost. It would provide clean energy incentives to the coal industry, tax credits to the nuclear industry, and expanded off-shore drilling. Finally, it would pre-empt local, state, and EPA GHG reduction programs.¹⁰⁸

ANALYSIS

Committee Hearing

The Committee on State Affairs held a public hearing at the Texas State Capitol on May 12, 2010 to hear invited testimony on the impact of federal legislation to Texas. The invited testimony included Trip Doggett (President and Chief Executive Officer of the Electric Reliability Council of Texas (ERCOT)), Barry Smitherman (Chairman of the Public Utility Commission (PUC)), Dr. Bryan Shaw (Commissioner, Texas Commission on Environmental Quality (TCEQ)), John Fainter (President and CEO of Association of Electric Companies of Texas (AECT)), Andy Weissman (Editor and Chief, Energy Business Watch), Phillip Oldham (Texas Manufacturers Association), and Tom "Smitty" Smith (Public Citizen).

The Committee focused on impact of potential federal legislation and recent rulings from the Environmental Protection Agency as well as the impact to jobs and electricity costs in Texas. Texas has the largest emissions of any state since it produces approximately 80% more power than the next ranked state.¹⁰⁹ The electric industry is among the most heavily regulated in the nation, complying with hundreds of regulations and paying millions of dollars in fees annually.¹¹⁰

¹⁰⁷ American Power Act, 111th Congress (2010), available at <http://thomas.loc.gov/cgi-bin/bdquery/D?d111:3:/temp/~bda3G5:/home/LegislativeData.php>

¹⁰⁸ *Id.*

¹⁰⁹ *Impact of Federal Climate Legislation on State's Resources and Consumers: Hearing Before the House Comm. on State Affairs*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of John Fainter, AECT).

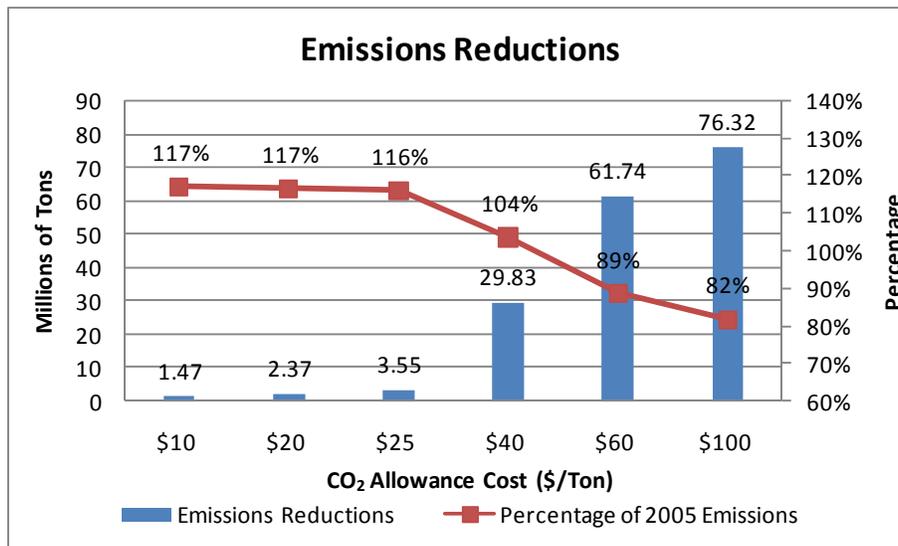
¹¹⁰ *Id.* These regulations and programs include but are not limited to Compliance with National Ambient Air Quality Standards, State Implementation Plan, NO_x reductions for electric generating units, Clean Air Interstate/Clean Air Mercury Rules, New Source Review (NSR), Prevention of Significant Deterioration, Non-attainment NSR, including offset, State Minor NSR, Title V and Acid rain permits, Compliance Assurance Monitoring, Continuous Emissions Monitoring Systems, Toxic Release Inventory, Monitoring cooling water, and Mass Emission Cap and Trade Program.

In addition to the coal and oil industries, Texas has a large natural gas industry. According to testimony, the natural gas industry in Texas created \$133 billion in value added economic output and 1.3 million total jobs (which is 12% of total employment).¹¹¹

In 2009, at the PUC’s direction, ERCOT conducted an “analysis of the likely effects of proposed climate change legislation on electricity prices in the ERCOT market.”¹¹² The study focused on the near-term impacts of potential legislation. The longer-term effects, such as changes in the installed generation capacity and changes to the transmission system due to altered generation dispatch as a result of the imposition of carbon allowance costs were not evaluated. The ERCOT analysis assumed that the goals of the legislation must be met directly by reductions in CO₂ emissions by ERCOT-region generation. The study does not include any market-driven bidding behavior or scarcity pricing, and the wholesale prices and wholesale market costs reported from the simulations are also cost-based as a result.¹¹³

The following diagrams illustrate the effects of climate legislation to prices on natural gas at \$7/MMBtu and \$10/MMBtu as well as if the potential legislation was coupled with additional CREZ generation and energy reduction.

Effects at \$7/MMBtu natural gas prices¹¹⁴

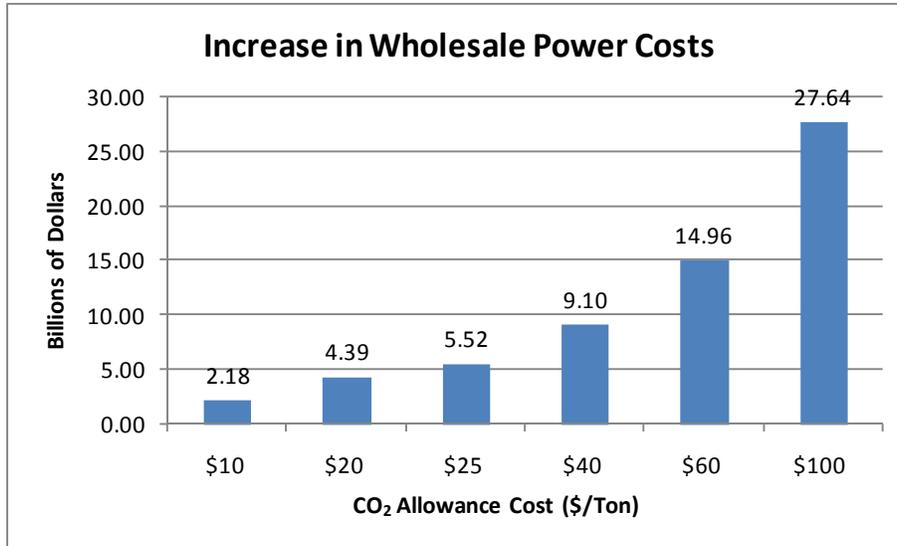


¹¹¹ *Impact of Federal Climate Legislation on State’s Resources and Consumers: Hearing Before the House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Andy Weissman, Energy Business Watch).* 225 of 254 Texas counties have active natural gas industry operations and direct employees.

¹¹² *Impact of Federal Climate Legislation on State’s Resources and Consumers: Hearing Before the House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Trip Doggett, ERCOT).*

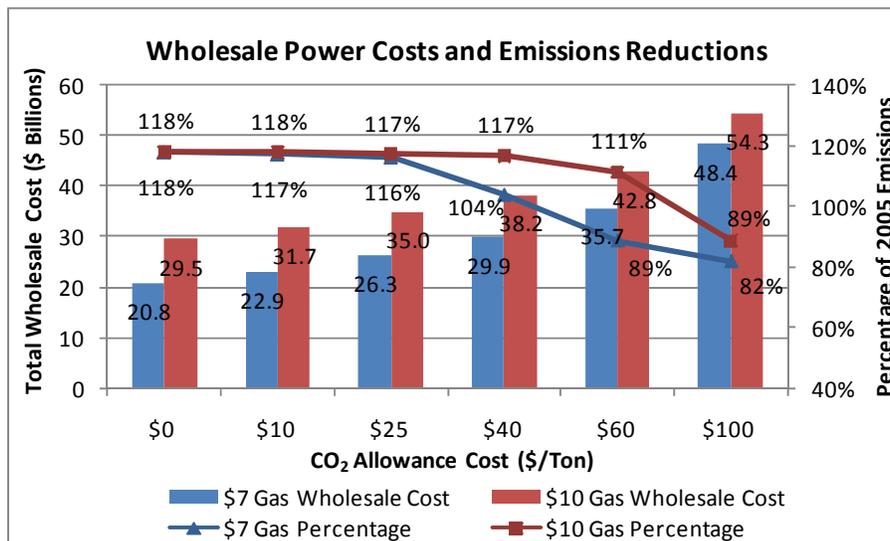
¹¹³ *Id.*

¹¹⁴ *Id.*



- \$7/MMBtu natural gas prices
- Expected load levels and existing and committed level of wind and other generation
- Reduce CO₂ emissions from electric generation in ERCOT to 2005 levels by 2013
- CO₂ allowance costs must rise to between \$40 and \$60 per ton
- Annual increase in wholesale power costs of approximately \$10 billion
- **Increase in typical consumer's monthly bill of \$27**

Effects at \$10/MMBtu natural gas prices¹¹⁵

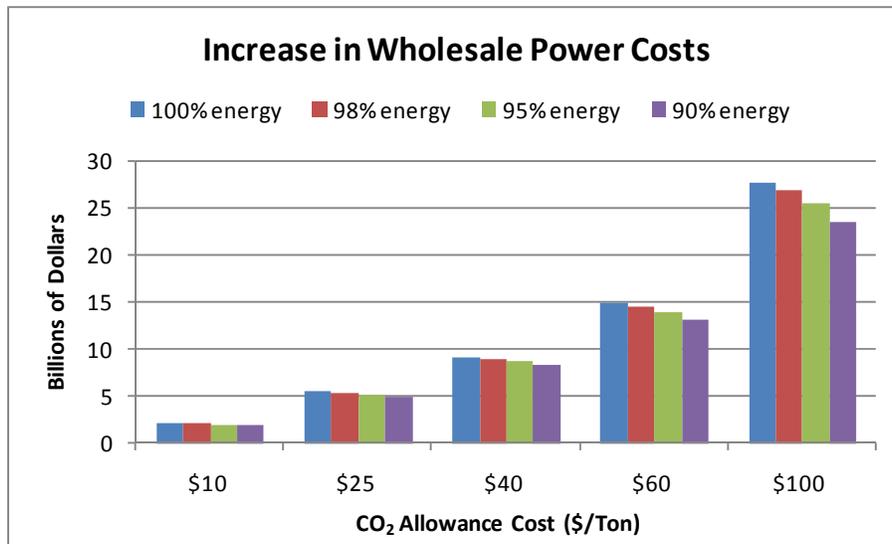
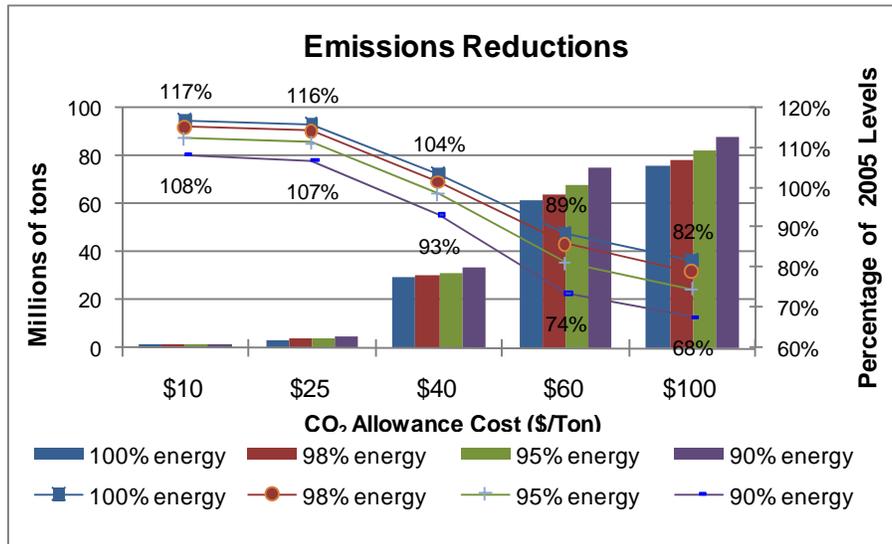


- \$10/MMBtu natural gas prices
- Expected load levels, and existing and committed level of wind and other generation
- Wholesale power costs are higher with higher gas prices at all CO₂ allowance prices

¹¹⁵ *Id.*

- Higher gas prices require a higher allowance price for CO₂ emissions to be reduced below 2005 levels
- Annual increase in wholesale power costs of approximately \$20 billion
- **Increase in typical consumer's monthly bill of \$54**

Effects with reduced energy use¹¹⁶

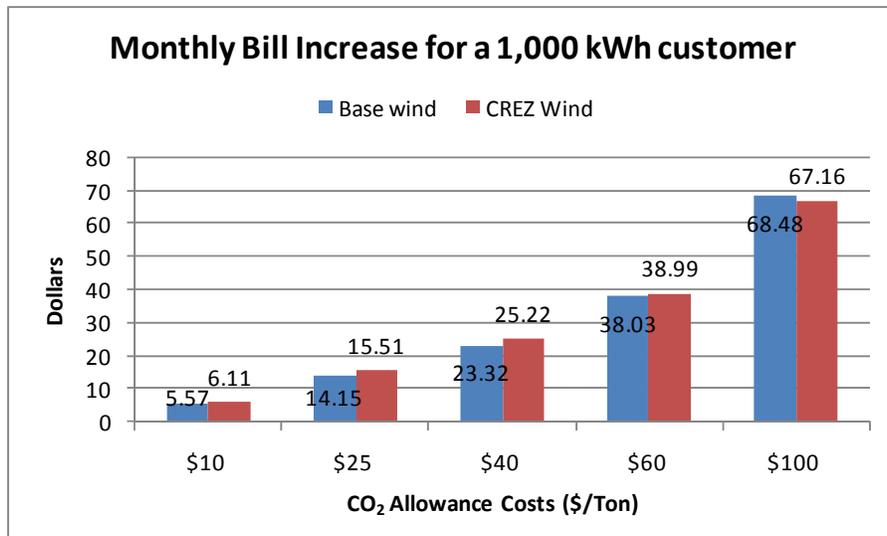
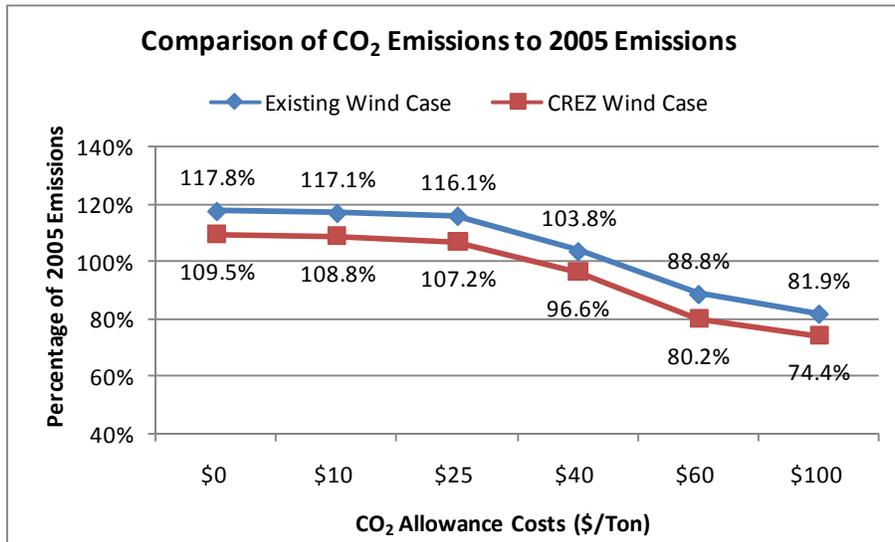


- \$7/MMBtu natural gas prices
- Load reduced by stated percentage
- Existing and committed level of wind and other generation
- Objective: to reduce CO₂ emissions from electric generation in ERCOT to 2005 levels by 2013

¹¹⁶ *Id.*

- If total energy use was reduced by 10%, CO₂ allowance costs must rise to between \$25 and \$40 per ton
- Annual increase in wholesale power costs of approximately \$7 billion
- **Increase in typical consumer's monthly bill of \$17**

Effects with additional CREZ generation¹¹⁷



- \$7/MMBtu natural gas prices
- Expected load levels
- 18,456 MW installed wind (compared to 9,400MW)
- Objective: to reduce carbon emissions from electric generation in ERCOT to 2005 levels by 2013

¹¹⁷ *Id.*

-
- CO₂ allowance costs must rise to between \$25 and \$40 per ton
 - Annual increase in wholesale power costs of approximately \$7 billion
 - **Increase in typical consumer's monthly bill of \$22**

The combination of additional CREZ wind generation and lower energy usage results in incremental increases to consumer bills. However, the combination of additional CREZ wind generation and 2% lower energy usage does not offset the impact of an increase of natural gas prices from \$7/MMBtu to \$10/MMBtu.¹¹⁸

Recent actions by the Environmental Protection Agency (EPA) impact Texas.¹¹⁹ In December 2008, the U.S. Court of Appeals temporarily reinstated the Clean Air Interstate Rule (CAIR) so EPA could fix legal problems with the rule. The closely related Clean Air Mercury Rule (CAMR) was also reinstated by the courts. Together, these rules require significant reductions in sulfur dioxide, nitrogen oxide, and mercury emissions from coal plants. EPA has not yet issued a proposed rule to correct the deficiencies.¹²⁰

In December 2009, EPA made a final “endangerment finding” that paves the way for regulation of CO₂ and other greenhouse gases under the Clean Air Act. Regulated entities would be required to obtain permits under the Prevention of Significant Deterioration (PSD) Program. Permitting requirements will not take effect prior to January 2, 2011. Pursuant to a separate EPA rulemaking, there may be an increase of PSD requirements for stationary sources, including power plants, that emit GHGs in amounts above the 100 or 250 tons per year currently authorized under the Clean Air Act to 75,000 or 100,000 tons per year.¹²¹

On February 16, 2010, the States of Texas, Virginia, and Alabama, along with over a dozen other groups, including the U.S. Chamber of Commerce and the American Iron and Steel Institute, filed a Petition for Reconsideration the EPA’s Endangerment finding.¹²² Excerpts of the petition are as follows:

Texas is compelled to take action against EPA’S Endangerment Finding issued on December 15, 2009 because it will lead to unprecedented bureaucratic licensing and regulatory burdens on farmers, ranchers, small businesses, hospitals, and even schools...The Administrator outsourced the actual scientific study, as well as her required review of the scientific literature necessary to make that assessment... In doing so, EPA relied primarily on the conclusions of outside organizations, particularly the United Nations International Panel on Climate Change... Since the Endangerment Finding’s public comment period ended in June, 2009, troubling revelations about the conduct, objectivity, reliability, and propriety of the IPCC’s processes, assessments, and contributors have become public...This State must exercise its legal right to challenge a fundamentally flawed and legally

¹¹⁸ *Id.*

¹¹⁹ *Impact of Federal Climate Legislation on State’s Resources and Consumers: Hearing Before the House Comm. on State Affairs*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Barry Smitherman, PUC).

¹²⁰ *Id.*

¹²¹ *Id.*

¹²² Press Release, Office of Governor Rick Perry, Texas Takes Legal Action Against Federal Government Over EPA CO₂ Mandates (Feb. 16, 2010), available at <http://www.governor.state.tx.us/news/press-release/14253/>.

unjustifiable process that will have a tremendously harmful impact on the lives of Texans and the Texas economy...EPA should grant the State of Texas' Petition for Reconsideration, conduct the rigorous, agency-led assessment that fully complies with Office of Management and Budget rules governing federal agency processes, and then rely on that scientifically—and *legally*—sound mechanism before reaching a potentially trillion-dollar decision as to whether greenhouse gases from mobile sources constitute a danger to the public health and welfare.¹²³

The Attorney General of Texas also filed a Petition for Review with the U.S. Court of Appeals for the D.C. Circuit on this issue. The EPA is expected to rule Texas's petition on June 30th.

On the topic of reduction of CO₂ in Texas, Texas saw the second highest total decline in CO₂ emissions between 2004 and 2007 in the United States and, on a per capita basis, Texas electric generators' emissions fell by 4 percent between 2004 and 2007—the result of...an increase in the share of power produced by natural gas and wind.”¹²⁴ Texas's status as the number one producer of wind power and its growing wind power portfolio enabled Texas to reduce the need for additional fossil fuel generation and kept emission growth down.¹²⁵

However, there are other alternatives to reducing carbon emissions such as electric and hybrid vehicles. Plug in hybrid vehicles produce 1/3 the carbon per mile. By 2020, experts estimated that 20-35% of all new cars will be PHEV. Vehicles will consume between 1.4-6 kw for 2-6 hrs (compacts vs SUVs) or 1,400-6,000 MW per 1 million vehicles.¹²⁶

Regarding federal climate change legislation, although the PUC is not responding specifically to federal greenhouse-gas legislation, the Commission is proceeding with policies, as directed by the Legislature, that have the effect of mitigating the negative effect of federal legislation. The PUC policies would include building out CREZ transmission that facilitates additional wind, solar, nuclear, clean coal, and natural gas, increasing energy efficiency standards, exploring any impediments to the wide-scale deployment of EVs and PHEVs, and deploying smart meters so that customers have tools to lower their energy use.¹²⁷

Conclusion

The Texas Legislature and state agencies will continue to monitor federal legislation and agency rules that impact electricity generation, pricing and consumption.

¹²³ *In re: Endangerment and Cause or Contribute Findings for Greenhouse Gases Under Section 202(a) of the Clean Air Act*, EPA No. HQ-OAR-2009-0171 (2010); *See also, Texas v. E.P.A.*, Petition for Review (D.C. Cir. 2010).

¹²⁴ *Impact of Federal Climate Legislation on State's Resources and Consumers: Hearing Before the House Comm. on State Affairs*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Barry Smitherman, PUC).

¹²⁵ *Id*

¹²⁶ *Impact of Federal Climate Legislation on State's Resources and Consumers: Hearing Before the House Comm. on State Affairs*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Tom “Smitty” Smith, Public Citizen).

¹²⁷ *Impact of Federal Climate Legislation on State's Resources and Consumers: Hearing Before the House Comm. on State Affairs*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Barry Smitherman, PUC).

UTILITY GENERATION

BACKGROUND

In preparation for the 82nd Legislative Session, Speaker Joe Straus charged the Committee on State Affairs and the Committee on Energy Resources to examine the state's portfolio of electric generation resources, including traditional sources, emerging renewable technologies, and energy efficiency; determine whether the existing state regulatory programs and incentives are adequate to meet the energy needs of the future; and consider factors relating to reliability, requirements, for additional transmission, or auxiliary services.

In 1975, the Texas Legislature enacted the Public Utility Regulatory Act (PURA) and created the Public Utility Commission of Texas (PUC) to regulate the rates and services of telephone utilities statewide, electric utilities in unincorporated areas, radio-telephone statewide, and water and sewer utilities in unincorporated areas.¹²⁸ Due to the deregulation movement in banking, telecommunications and electricity, the Texas Legislature passed SB 7 in 1999 which restructured the electric utility industry and provided for retail customer choice. This choice began on January 1, 2002 as electric customers within the Electric Reliability Council of Texas (ERCOT) had a choice of retail electric providers.¹²⁹

ERCOT is governed by a board of directors made up of independent members, consumers and representatives from each of ERCOT's electric market segments. ERCOT manages the flow of electric power to 22 million Texas customers - representing 85 percent of the state's electric load and 75 percent of the Texas land area. As the independent system operator for the region, ERCOT schedules power on an electric grid that connects 40,000 miles of transmission lines and more than 550 generation units. ERCOT also manages financial settlement for the competitive wholesale bulk-power market and administers customer switching for 6.5 million Texans in competitive choice areas.¹³⁰

ERCOT's Technical Advisory Committee makes recommendations to the board and is comprised of several subcommittees. The board appoints officers to manage the day-to-day operations of ERCOT. The PUC has jurisdiction over ERCOT. Below is a diagram of the Texas electric market, which depicts the jurisdiction of ERCOT.¹³¹

¹²⁸ The Public Utility Commission of Texas. *Self Evaluation Report*, September 2009, available at <http://www.sunset.state.tx.us/82ndreports/puc/ser.pdf>. The PUC was not given authority to regulate municipally owned utilities or political subdivisions such as municipal utility districts or public utility districts. However, the PUC was given appellate jurisdiction of municipal decisions involving investor-owned electric utilities.

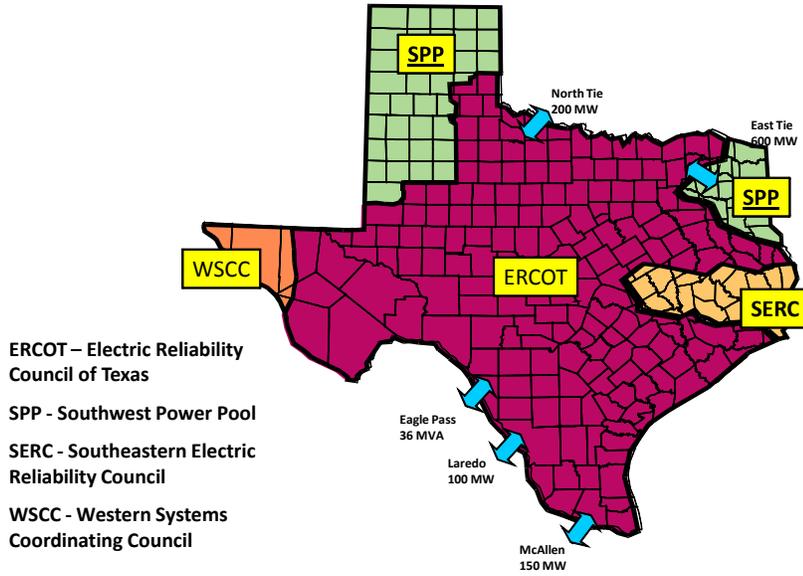
¹²⁹ *Id.*

¹³⁰ Electric Reliability Council of Texas 2010, available at <http://www.ercot.com/about/>

¹³¹ *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Barry Smitherman, Public Utility Commission).

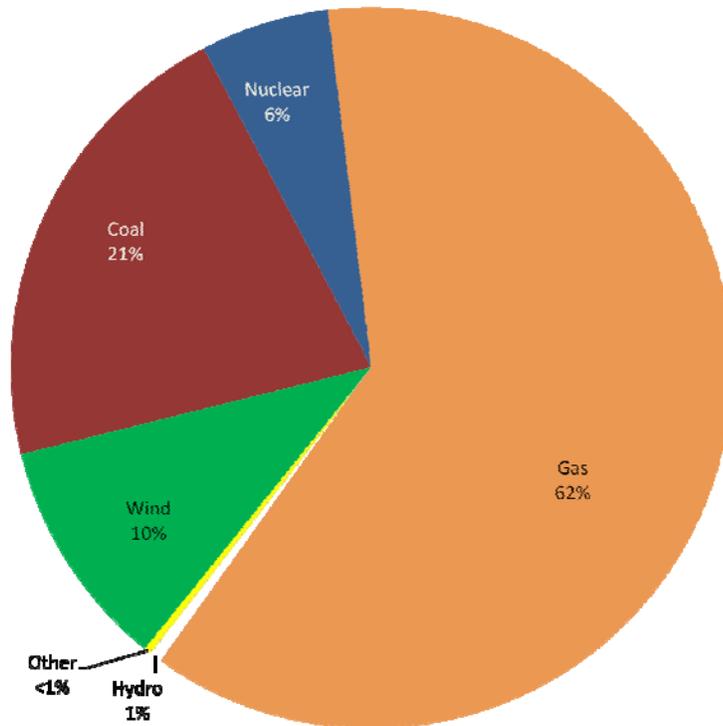
Texas Electric Market

A Puzzle with Four Pieces



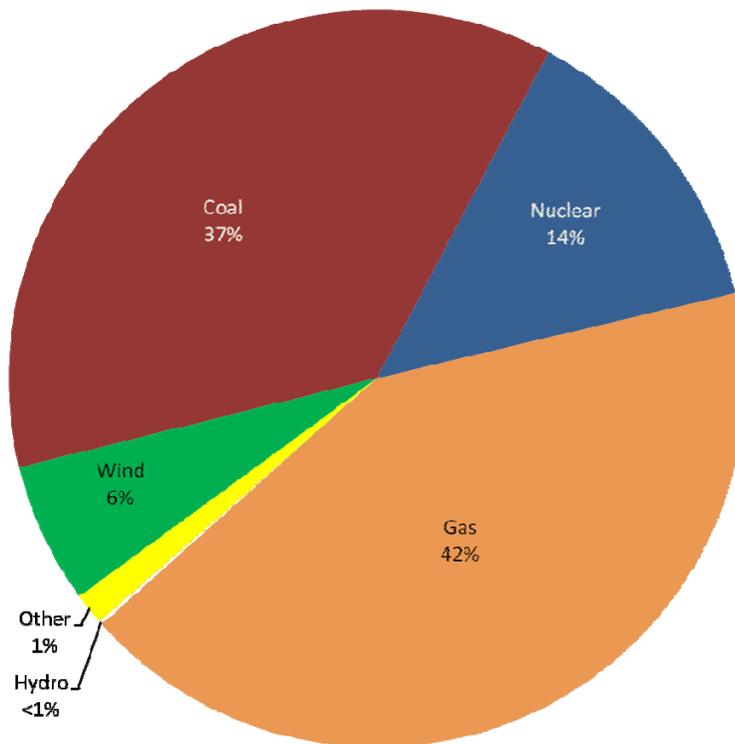
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Below is a diagram on current installed capacity within ERCOT as of April 2010.¹³²



¹³² Examining the State’s Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Trip Doggett, Electric Reliability Council of Texas).

The following diagram illustrates the 2009 Energy Production by fuel type within ERCOT as of April 2010.¹³³



In 2008, the Select Committee on Electric Generation Capacity and Environmental Effects (Select Committee) examined the state's generation capacity and impact over the next fifty years.¹³⁴ The Select Committee studied traditional generation and renewable technologies and their demand in the years to come.

TRADITIONAL GENERATION

Traditional generation includes natural gas, coal and nuclear.

NATURAL GAS

Natural gas plants currently are the main source of Texas' electric and actual generation

¹³³ *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources, 2009 Leg., 81st Sess. Interim (Tx. 2010)* (statement of Trip Doggett, Electric Reliability Council of Texas).

¹³⁴ Select Committee on Electric Generation Capacity and Environmental Effects, *Interim Report to the 81st Legislature*, Texas House of Representatives, January 2009, available at <http://www.house.state.tx.us/committees/reports/80interim/Electric-Generation-Capacity-And-Environmental-Effects.pdf>.

capacity. Across the state, 77 new natural gas plants have come online since 1995 with another 24 projected to come online between 2009 and 2012.¹³⁵ A decade ago, there was a high optimism about the future of natural gas. This was based on assumptions projecting high growth rates of natural gas use in electric generation and continued growth in domestic production and Canadian imports. However, between 2001 and 2008, projected domestic production of natural gas dropped substantially (more than 13 trillion cubic feet). Two factors contributed to this: (1) an increase in the price of natural gas; and (2) the availability of substitute fuels for electric generation, such as coal. Additionally, domestic production is expected to decline steadily falling below 20 trillion cubic feet by 2030. Conversely, while prices have risen, demand for natural gas capacity has increased. The primary causes are anticipated federal restrictions by electric generators on carbon dioxide emissions, spurring the installation of natural gas and combined cycle units.¹³⁶

Nationally there has been an increase in natural gas production (among the lower 48 states), with Texas being the greatest producer (1/3 of all U.S. production). Horizontal drilling in the Barnett Shale has been a major factor. However, the high volatility of the price of natural gas has led to pricing uncertainty in the Texas electric market: consumers cannot rapidly switch fuel sources and the current infrastructure across the U.S. is already operating near full capacity.

Furthermore, natural gas is highly subject to weather-related events, such as hurricanes. Additionally, national economic conditions, and market conditions for other electric generation fuels, also have an effect on the price of natural gas.

COAL

In 2008, the Select Committee found that prices for coal have doubled in the past two years and as the price of natural gas has gone down, utilities have increasingly depended on the less capital intensive generation capacity of gas.¹³⁷ Also, recent changes at the federal level and decisions by the U.S. Supreme Court and the EPA signal a trend that does not favor emissions-intensive generation sources such as coal.¹³⁸

The fuel costs for conventional coal plants average around \$40 per megawatt hour of electricity. There are concerns about the environmental impact of electric generation from coal, such as the release of mercury and particulate matter, and carbon dioxide emissions. Clean coal

¹³⁵ *Id.*

¹³⁶ Select Committee on Electric Generation Capacity and Environmental Effects, *Interim Report to the 81st Legislature*, Texas House of Representatives, January 2009, available at <http://www.house.state.tx.us/committees/reports/80interim/Electric-Generation-Capacity-And-Environmental-Effects.pdf>. The Congressional Budget Office ("CBO") estimates the price per megawatt hour of electricity generated by conventional natural gas to be \$40 (in 2006 dollars), although the report notes that the long-term price for natural gas has been notoriously difficult to predict.

¹³⁷ *Id.*

¹³⁸ *Id.* The potential impact of federal cap and trade legislation, providing for stricter caps on the amount of carbon generation sources are allowed to produce, will necessitate the need for coal-fired generators to put more capital into retrofitting their older plants, and developing new forms of carbon capture and sequestration. If these regulations make the price of coal prohibitively expensive, then generators might be willing to rely more heavily on natural gas as a bridge fuel until new technologies and demand reduction programs go into effect.

technologies, meant to curb such emissions, will likely not become commercially available until 2015, but not viable until near 2020 due to lack of funding for new research.¹³⁹ However, due to the nation's high use of coal in electric generation (more than half) it cannot be replaced as a fuel source in the near term.¹⁴⁰

NUCLEAR

Nuclear energy has experienced resurgence due to increased electricity demands and the current legislative climate.¹⁴¹ Nuclear power plants were built mainly between 1966 and 1977. Nuclear power's ability to use an abundant resource to produce energy and relatively lower emissions make it an attractive option. However, the public perception and investor costs are difficult factors to overcome for potential new plants seeking permits to build. For consumers there are concerns based on memories of notorious accidents including Three-Mile Island in 1979 and Chernobyl in 1986. Furthermore, the estimated costs related to security and monitoring systems in order to protect against potential threats, are about five times the cost of a natural gas plant and about twice the cost of a conventional coal plant.¹⁴²

STATE INCENTIVES FOR TRADITIONAL GENERATION

Texas Natural Gas Severance Tax Incentives

The High-Cost Gas program provides a tax incentive for high-cost gas wells based on the ratio of each well's drilling and completion costs to twice the median cost for all high-cost Texas gas wells submitted in the prior fiscal year.¹⁴³

The Two-Year and Three-Year Inactive Wells program provides a 10-year incentive for gas severance taxes from a well that the Texas Railroad Commission has certified as not producing gas for two years preceding the date of the application for certification; in other words, the incentive applies to dormant wells brought back into production.

The Flared/Released Gas program provides a lifetime incentive for gas produced from an oil well and brought to market gas that previously had been released into the air for 12 months or more.

Texas Franchise Tax Deductions for Natural Gas Production

In the gas industry's case, the cost of goods sold includes depreciation, depletion and amortization necessary for the production of goods. It also includes intangible drilling and "dry hole" costs (the cost of drilling wells that do not produce sellable gas) as well as geological and geophysical costs incurred to identify and locate property with the potential to produce minerals.

¹³⁹ *Id.*

¹⁴⁰ *Id.*

¹⁴¹ *Id.*

¹⁴² *Id.*

¹⁴³ *The Energy Report 2008*, Texas Comptroller of Public Accounts, available at <http://www.window.state.tx.us/specialrpt/energy/>

Under certain conditions, gas producers are allowed to exclude certain gas revenues from total revenue when they calculate their taxable margin. Those conditions are that the average closing price of gas is below \$5 per 1 million Btus. The revenue excluded would be that derived from a gas well producing an average of less than 250,000 cubic feet (250 mcf) a day over a 90-day period.¹⁴⁴

No State Subsidies for Coal or Nuclear

Texas state government does not offer subsidies to the coal or nuclear industries.

RENEWABLE GENERATION

In the quest for cleaner energy, the emergence of renewable technology provides an attractive solution. The Texas Legislature has supported renewable energy and has adopted several policies. One such policy that has received support in Texas is the implementation of Renewable Portfolio Standards programs ("RPS"). An RPS is a requirement on retail electric suppliers to supply a minimum percentage or amount of their retail load with eligible and pre-defined sources of renewable energy. Nationally, state regulators and policymakers tend to favor RPS programs because they establish goals without prescribing the types of energy that must be used to meet those goals.¹⁴⁵

WIND

With a zero cost for fuel, wind has often been touted as more cost-effective than conventional generation. Because wind is the most economically viable among renewable power options due to government subsidies, it has become by far the most widely used renewable generation technology. Texas began adding wind generated electricity to the grid in 1993 and has subsequently established greater capacity and generation capabilities.¹⁴⁶ Regulators must take into consideration more variables when considering how much wind to expect. For example, ERCOT must consider securing alternate sources of generation (ancillary services) when periods of hot, cold, or uncertain weather exists.

Wind provides ideal energy during the fall and spring, especially at night. Additionally, once industry-scale energy storage becomes viable or if demand increases for needs such as plug-in/hybrid vehicles, which would mostly charge at night, then wind can significantly meet demand.

BIOMASS

Biomass generation uses wood, dried switch grass, and other agricultural products to create energy.¹⁴⁷ Since these materials have a much lower heat value than other combustibles, it takes a

¹⁴⁴ *Id.*

¹⁴⁵ Select Committee on Electric Generation Capacity and Environmental Effects, *Interim Report to the 81st Legislature*, Texas House of Representatives, January 2009, available at <http://www.house.state.tx.us/committees/reports/80interim/Electric-Generation-Capacity-And-Environmental-Effects.pdf>.

¹⁴⁶ *Id.*

¹⁴⁷ *Id.*

much larger amount of them to create the same amount of electricity. On the other end of the spectrum, landfill gas has roughly double the heat content of coal, which makes it the renewable fuel of choice where it is available. Biomass production is generally perceived as a small-scale enterprise because of handling and transportation issues. For this reason, biomass projects have lacked interested investors due to higher investment costs and lower expectations for returns.

Transmission-Level Non-Wind Renewable Capacity (MWs)¹⁴⁸

Technology	Existing	New	Announced
Landfill	37	80.3	0
Biomass	12	145	140
Hydro	570	33.1	28
Solar	0	1.2	71

GEOHERMAL

Geothermal power holds a unique place within the renewable industry in that it provides dispatchable baseload power that can be produced at much lower costs than other renewable sources.¹⁴⁹ Currently available geothermal has some major drawbacks since it is only economically possible near geologic faults and vents. Emerging technologies have been shown to allow geothermal generation from cooler sites than the 200-300 degrees Fahrenheit required by today's methods.

Texas has 8,000 oil wells capable of producing energy using hot water at 190 degrees could be utilized to generate electricity from hybrid technologies being developed. However, the electricity produced would largely go towards powering the well's equipment; since the amount

¹⁴⁸ *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Barry Smitherman, Public Utility Commission).

¹⁴⁹ Select Committee on Electric Generation Capacity and Environmental Effects, *Interim Report to the 81st Legislature*, Texas House of Representatives, January 2009, available at <http://www.house.state.tx.us/committees/reports/80interim/Electric-Generation-Capacity-And-Environmental-Effects.pdf>.

of energy produced would be relatively low, it would not be possible to transmit it very far. Major barriers on a commercial or industrial scale will hinge on finding locations for economical energy production with minimal interconnection costs as well as high capital costs for construction. Other barriers include dealing with environmental concerns due to the requirements of handling a corrosive fuel containing some heavy metals.

SOLAR

While solar prices are continuing to decrease, the costs remain substantial. Industrial-scale solar also faces similar barriers as wind and geothermal in that transmission to these sites can be very difficult and expensive. However, solar has the advantage that it can be used as an on-site generation resource. Solar resources also play a complimentary role to the most widely deployed renewable resource, wind. When wind energy is at its lowest generation level at peak demand times, solar tends to be at its highest.¹⁵⁰ This also gives solar the advantage of being able to shave some of the peak load away from expensive natural gas peaking plants.

STATE INCENTIVES FOR RENEWABLE ENERGY¹⁵¹

Texas does not have a tax exemption program at this time that provides funding of renewable energy equipment on an individual basis. However, there are a few allowable tax exemptions and deductions.

Franchise Tax

Deduction: Cost of Solar Energy Device From Taxable Capital - Texas Tax Code, Section 171.107.

Texas allows a corporation or other entity subject the state franchise tax to deduct the cost of a solar energy device from the franchise tax. Entities are permitted to deduct 10% of the amortized cost of the system from their apportioned margin.

For the purposes of this deduction, a solar energy device means "a system or series of mechanisms designed primarily to provide heating or cooling or to produce electrical or mechanical power by collecting and transferring solar-generated energy. The term includes a mechanical or chemical device that has the ability to store solar-generated energy for use in heating or cooling or in the production of power." Under this definition wind energy is also included as an eligible technology.

Exemption: Corporation With Business Interest in Solar Energy Devices, Texas Tax Code, Section 171.056.

Texas offers a franchise tax exemption for manufacturers, seller, or installers of solar energy systems which also includes wind energy as an eligible technology.

¹⁵⁰ *Id.*

¹⁵¹ *The Energy Report 2008*, Texas Comptroller of Public Accounts (2008), available at <http://www.window.state.tx.us/specialrpt/energy/>

Property Tax

Exemption: Solar and Wind-Powered Energy Devices, Texas Tax Code, Section 11.27.

The state also offers a 100 percent property tax exemption on the appraised value of an on-site solar, wind or biomass power generating device that is primarily for the production and distribution of thermal, mechanical, or electrical energy for on-site use, or devices used to store that energy. "Solar" is broadly defined to include a range of biomass technologies.

Example: If your property is valued and taxed at \$150,000 and you add a \$15,000 system that increases the property value, the exemption applies to the added value, so with the exemption you will only be taxed on the property value before you added the system.

Abatement: Chapter 312 or Chapter 313 Property Tax Agreements.

Many renewable and traditional energy projects are eligible to participate in property tax abatement programs.

Under Chapter 312 of the Texas Tax Code, cities, counties and other taxing districts (except school districts) may provide Property Tax Abatements, which are agreements between a taxpayer and a taxing unit that exempt all or part of the increase in value of real property and/or tangible personal property from taxation for a period not to exceed ten years.

Under Chapter 313 of the Texas Tax Code, school districts may provide Property Value Limitations to businesses by offering a tax credit and an eight-year limitation on the appraised value of a property, for the maintenance and operations portion of the school district property tax. In exchange for the value limitation and tax credit, the property owner must enter into an agreement with the school district to create a specific number of jobs and build or install specified types of real and personal property worth a certain amount.

ANALYSIS

Committee Hearing

The Committee on State Affairs and the Committee on Energy Resources held a joint public hearing at the Texas State Capitol on April 29, 2010 to hear invited testimony on its interim charges. The invited people testified in three panels: regulatory/agency, traditional generation, and renewable generation.¹⁵²

Regulatory/Agency Panel

The agency panel was comprised of Chairman Victor Carrillo (Texas Railroad Commission), Chairman Barry Smitherman (Public Utility Commission) and Trip Doggett (Chief Executive

¹⁵² *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources*, 2009 Leg., 81st Sess. Interim (Tx. 2010).

Officer, Electric Reliability Council of Texas). Mr. Carrillo testified on traditional energy sources in Texas. Mr. Carrillo began with a brief overview stating that Texas is a "Mature" Producing Province, with over 100 years of oil and natural gas drilling, and currently overseeing over 150,000 active oil wells and over 100,000 natural gas wells (with this number continuing to grow).¹⁵³ He stated that Texas currently is the number one producer of oil and natural gas in the country, and also contains the largest pipeline infrastructure. Texas is also the leading producer of wind power, most located in West Texas.

Mr. Carrillo testified that Texas would rank third in the world in 2009 in natural gas production, with 7.6 trillion cubic feet. Mr. Carrillo added that from 2002 to 2008, the number of oil and gas drilling permits issued had more than doubled, from 9,716 to 24,073, before dropping to 12,212 in 2008. This was attributed to an increase in natural gas prices during that year. However, current natural gas prices began to decrease in 2009, at about \$4 per ncf, present an increased potential for displacing coal-fired generation.¹⁵⁴

The Committees asked if our supply of natural gas will meet demand in Texas for the foreseeable future. Mr. Carrillo answered yes and discussed several measures of industry activity related to natural gas rig activity and price. He stated the commission predicts natural gas production to exceed 8 trillion cubic feet (relating back to peak production levels in 1972).¹⁵⁵ He stated much of this production can be attributed to the Barnett Shale and new technologies to develop it. Regarding the natural gas shale formations, Mr. Carrillo discussed Barnett, Haynesville and Eagleford. He stated Barnett development was highly technology driven, with horizontal and hydraulic fracturing, and multi-well drilling. All formations are estimated to contain high levels of natural gas reserves. Currently, Texas has about 80 trillion cubic feet in natural gas reserves. Mr. Carrillo predicted innovative techniques will lead to increase reserve levels.

Concerning electric generation and consumption from natural gas sources, Mr. Carrillo predicted, based on the previous discussions, that the percentage use should increase over the next few years (based on adequate supply and stable prices). Shale gas is expected to make up 50 percent of Texas's supply portfolio by 2030. National estimates of natural gas supplies are 3,000 trillion cubic feet, or enough to power the country for over 100 years (based on current rates of consumption).

The Committees asked whether Texas had adequate supply of natural gas, which affects price. Mr. Carrillo stated the supply was there, regardless of the price. However, he could not predict future natural gas prices, only that the price point would have to make further exploration worth the risk (\$5 to \$6), without being too costly for the consumers. The Committees asked about production estimates in Eagleford Pass Shale vis-à-vis Barnett Shale, where the former lacks the urban population. Mr. Carrillo stated he had only speculative estimates, though the potential was huge because of it is rural location. The Committees inquired into any legal and regulatory

¹⁵³ *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Victor Carrillo, Railroad Commission).

¹⁵⁴ *Id.*

¹⁵⁵ *Id.*

developments that could impede development in Eagle Pass. Mr. Carrillo stated that having a good predictable regulatory framework was the key to developing Eagleford Pass.¹⁵⁶

For wind power, Texas is the number one generator at 10,000 MW of installed capacity.¹⁵⁷ Wind comprises a small percent of the power portfolio, due to its intermittent nature; grid instability issues due to too much wind at once, and transmission issues.

Chairman Barry Smitherman testified that Texas population could increase anywhere from 30 to 50 million by 2040.¹⁵⁸ He stated the population increase could be addressed in several ways: increasing supply, reducing demand, or some combination of both, using a variety of resources. Mr. Smitherman discussed market zones of Texas (El Paso, the Pan Handle, North East, the South East and ERCOT), specifically that the first four were vertically integrated and fully regulated by PUC; while ERCOT remained deregulated. The ramification is that PUC cannot force generators to build plants (which are based on economic projections).

Mr. Smitherman stated Texas's current energy portfolio is 42% natural gas, 37% coal, 13.5% nuclear, 6% wind, and the rest is other.¹⁵⁹ The U.S. portfolio is 48% coal, 20% natural gas, 20% nuclear, 7% hydro, and 1-2% wind. Because of the high use of natural gas in Texas, one of the objectives could be to export Texas natural gas to the rest of the country. Mr. Smitherman stated the price of natural gas is roughly tied to electric rates in the ERCOT market, though this connection was being diminished as non-natural gas forms of production were being brought online. The building of the CREZ transmission grid allows for wind energy to be moved around the market, bringing prices down.

Mr. Smitherman stated ERCOT reserve margin projections going through 2013 were robust, but that--after recalculations in May--could be reduced in 2014-15, due to the mothballing of existing plants.¹⁶⁰ This could be off-set in 2016 and beyond, by the construction of an additional plant at the Coletow Creek #2 coal plant, the South Texas Nuclear Projects #3 and 4 units, and the addition of wind generation capacity.

The Committees asked if the addition of sources to Texas's energy mix would still necessitate pricing electricity based on natural gas alone. Mr. Smitherman stated that as more sources are added to the mix, natural gas would be moved off the margin. Committee questioned why natural gas pricing was the only model for setting electricity rates. Mr. Smitherman stated a change in the model (from natural gas units to coal units) would result in the generators altering their bidding strategy, offering at higher prices knowing that the units will be needed to meet demand. Mr. Smitherman quoted a report by Environment Texas, stating that Texas's per capita emission reductions, from 2004-2007, were second only to New York.¹⁶¹ Attributed to continued

¹⁵⁶ *Id.*

¹⁵⁷ *Id.*

¹⁵⁸ *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Barry Smitherman, Public Utility Commission).

¹⁵⁹ *Id.*

¹⁶⁰ *Id.*

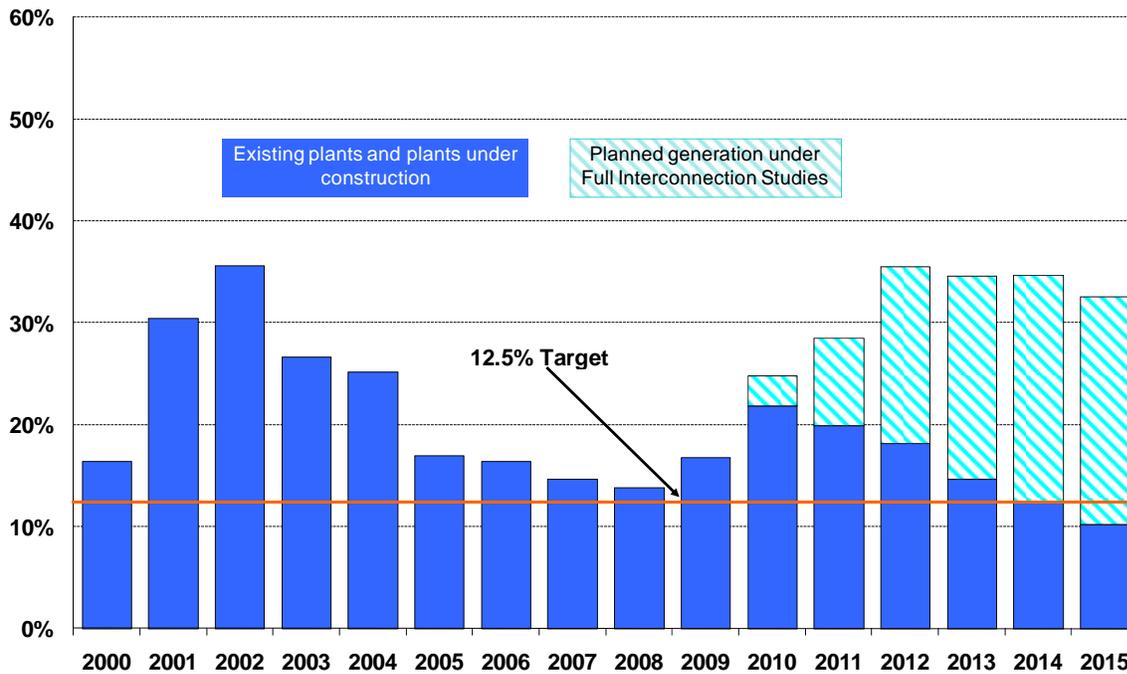
¹⁶¹ *Id.*

addition of natural gas and wind power to Texas's fuel mix. Furthermore, reduced emissions can be traced to "up-rated" or retro-fitted, nuclear plants with more efficient (less carbon) output.

Currently, about 9,000 MW of wind exists in ERCOT, and another 700 MW in the SPP (Pan Handle). The future CREZ projects would take the wind generation capacity, in ERCOT, to 18,500 MW.¹⁶² The Committees asked what the plan was to combat possible gaps between existing and proposed plants, and also generation capacity through 2016. Mr. Smitherman stated that as reserve margins decline, the industry would respond by building more capacity to meet the demand.

Trip Doggett testified that Texas's reserve margins should remain steady over the next few years, through 2016.¹⁶³ Mr. Doggett analyzed snapshots of a summer and winter day, breaking down the various energy resources used. Regarding the integration of variable resources, Mr. Doggett stated the issue was planning for the next day, and predicting the amount of wind available (and ensuring the availability of other resources to compensate if needed). Another challenge he stated was real-time management of wind (referred to as "ramp"), the concern being rapid changes in wind. Mr. Doggett restated the importance of a mix of generation technologies to properly integrate Texas's wind resources.

Reserve Margins for Years 2000 through 2015¹⁶⁴



¹⁶² *Id.*

¹⁶³ *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources, 2009 Leg., 81st Sess. Interim (Tx. 2010)* (statement of Trip Doggett, Electric Reliability Council of Texas).

¹⁶⁴ *Id.*

Mr. Doggett stated that reducing Texas's reliance on natural gas would have positive implications for reliability and price stability, and natural gas provides a flexible supply to overall resources. Mr. Doggett emphasized the need for continued development of conventional generation to meet load growth, and also stated that there was a significant amount of generation capacity under research. The Committees asked if, because of the added sources to the mix, ERCOT was moving towards more stability in pricing. Mr. Doggett stated ERCOT was working to address transmission issues, so that there would be more stability in pricing. One such method was working with transmission owners to set controlled outages in windows where high-capacity demand isn't expected. Mr. Doggett stated the biggest risk was outages due to maintenance failures of equipment (occurring during long hot or cold spells).¹⁶⁵

The Committees also questioned whether anything was being done to reduce congestion settlement charges for large users. Mr. Doggett responded that ERCOT was implementing its nodal design, which would more accurately account for congestion on a more granular level.

Traditional Generation Panel

The traditional generation panel included Luke Bellsnyder (Texas Association of Manufactures), Greg Kunkel (Vice President of Environmental Affairs, Tenaska), Chris Kirksey (Texas Director of Projects, Summit Energy), Barbara Clemenhagen (Vice President of Commercial and External Relations, Topaz Power), Kevin Howell (Executive Vice President and Regional President, NRG), and Mike Sloan (Virtus Energy Research Associates). Luke Bellsnyder testified that reliable low electric costs in Texas was one of the key reasons it is an attractive state for businesses. The Committees asked, in comparison to other states, was electricity lower in Texas for manufactures. Mr. Bellsnyder cited the Energy Information Administration data from 2008 that stated California was \$8.96 per million btu, New York was \$2.90, and Michigan was \$3.26, compared to \$2.47 in Texas.¹⁶⁶ Mr. Bellsnyder added that Southeast states that historically have relied on coal sources will likely see their plants shuttered in the near future (due to changes at the state and federal level).

Greg Kunkel provided the Committees with updates to their carbon capture project, "Trailblazer".¹⁶⁷ The Committees asked how carbon dioxide ("CO2") is stored. Mr. Kunkel stated through geologic storage, i.e. injection into underground formations.

Chris Kirksey discussed Texas Clean Energy Project ("TCEP").¹⁶⁸ A challenge discussed for the TCEP and other base load resources was mitigating the influence of transmission congestion on market prices as ERCOT absorbs additional renewable sources--especially the projected 9,000

¹⁶⁵ *Id.*

¹⁶⁶ *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources, 2009 Leg., 81st Sess. Interim (Tx. 2010)* (statement of Luke Bellsnyder, Texas Association of Manufactures).

¹⁶⁷ *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources, 2009 Leg., 81st Sess. Interim (Tx. 2010)* (statement of Greg Kunkel, Tenaska).

¹⁶⁸ *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources, 2009 Leg., 81st Sess. Interim (Tx. 2010)* (statement of Chris Kirksey, Summit Energy).

MW of wind post-CREZ. Mr. Kirksey discussed possible responses to this challenge including reduction of capacity and restructuring of power sales agreements. Mr. Kirksey discussed possible options for the future including: limiting future wind development to just below the transmission congestion break point; build more transmission; and offering discounted congest rights to qualifying base load resources.

Barbara Clemenhagen emphasized the need for new quick-start capacity and flexible generation that would reduce carbon emissions.¹⁶⁹ Ms. Clemenhagen suggested improvements (beyond nodal markets), such as legislative support to allow scarcity pricing in the market. Scarcity pricing means allowing prices to reflect true prices in the market, i.e. prices at peak times, when capacity is in higher demand.¹⁷⁰ Quantifying such prices would depend on the sources and market risk.

Kevin Howell provided an update of STP nuclear project, including job growth (temporary and permanent) as units #3 and 4 come on-line.¹⁷¹ Mr. Howell gave updates on NRG's solar and wind initiatives. He discussed the need for greater clarity from federal government (EPA) regarding climate change/emissions and potential for electric vehicle programs.

Mike Sloan discussed the need for increased solar development in Texas.¹⁷² Mr. Sloan stated that current energy markets in Texas are striving to use the lowest cost energy sources first. Mr. Sloan stated the traditional industry view of baseload output (24/7) would be replaced with "nimble and flexible" sources. Texas has \$1.4 in state and local energy subsidies, with 99.6% going towards oil and gas.¹⁷³

Renewable Generation Panel

The renewable generation panel was comprised of Paul Sadler (Wind Coalition), Brad Jones (VP of Government Relations, Luminant), Steve Vavrik (Solar Alliance), Luke Metzger (Environment Texas), Tom "Smitty" Smith (Public Citizen), David Stevens (CEO, El Paso Electric), Phil Williams (General Manager, Denton Municipal Electric), Jason Bagley (Government Affairs Manager, Intel), and Dub Taylor (Director, State Energy Conservation Office).

¹⁶⁹ *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Barbara Clemenhagen, Topaz Power).

¹⁷⁰ *Id.*

¹⁷¹ *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Kevin Howell, NRG).

¹⁷² *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Mike Sloan, Virtus Energy Research Associates).

¹⁷³ *Id.*

Paul Sadler testified that CREZ transmission is not a subsidy for wind.¹⁷⁴ He stated more money was spent in the last decade on non-CREZ build out (other than transmission lines going to West Texas), than on CREZ. Sadler (quoting a May 6, 2008 Comptroller's report) stated all Texas generation (non-renewable and renewable) sources receive subsidies. At the state and local level, subsidies to renewable and non-renewable energy sources totaled \$1.4 billion--almost all of which, 99.6 percent went to oil and gas production.¹⁷⁵ For the federal subsidies, Mr. Sadler stated 55 percent go to fossil fuels, and 45 percent to renewable—with three-fourths of the 45 percent going to ethanol. The Committees asked whether a proper equation (mix) could be reached to provide the cheapest most reliable energy products for consumers; and whether Texas (legislators and industry) are meeting the challenge. Mr. Sadler stated that the right kind of markets were being set up for consumers including the implementation of new technology such as smart meters and ERCOT's nodal market.

Mr. Sadler stated the wind market was trending in the right direction. The need exists for further development in wind generation in the mid-West states, Kansas, Oklahoma, Nebraska, and Missouri. Those states have developed a priority project transmission plan. Totaling \$3.8 billion dollars, the plan provides these states the framework to fully develop their wind energy, with the idea being to export that energy to large East Coast markets. Mr. Sadler stated such a focus could have an impact with competition for business and federal dollars.

Brad Jones testified that energy storage (developing the technology in Texas) was a way for the state to remain an energy leader.¹⁷⁶ Storage would allow for increased use of renewables, especially intermittent sources like wind and solar. Currently the technology is not commercially available, but it is close, according to Jones. Mr. Jones discussed several energy storage techniques including: Pump hydro storage and compressed air energy storage (stated as most viable for wind power storage). Once storage technologies are available, Jones stated, they can be used instead of keeping generators online 24/7.

Steve Vavrik discussed the decrease in costs of solar panel production. The Committees questioned why did it matter where the market was in terms of selling the panels, rather than cost of production.¹⁷⁷ Transportation costs are a significant factor.

Luke Metzger testified that this previous year was a good one for solar energy.¹⁷⁸ In 2009, 480 MW of solar was installed, \$1.4 billion in venture capital funding (more than any other green source), and 17,000 direct and indirect jobs were added from the solar industry. Mr. Metzger

¹⁷⁴ *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Paul Sadler, Wind Coalition).

¹⁷⁵ *Id.*

¹⁷⁶ *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Brad Jones, Luminant).

¹⁷⁷ *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Steve Vavrik, Solar Alliance).

¹⁷⁸ *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Luke Metzger, Environment Texas).

stated Texas was at risk of falling behind in solar development. Currently Texas has less than 8 MW of solar installed, not enough to rank in the Top 10 solar states.

Tom "Smitty" Smith discussed climate change legislation currently being heard in Washington (Kerry-Lieberman and Waxman-Markey).¹⁷⁹ He stated, depending on which bill passes, Texas can expect a 12% to 20% reduction in precursor gases, and a 17% reduction in overall CO₂. Mr. Smith discussed ideas for reducing CO₂ including energy efficiency, renewable energy, and using natural gas. He stated Texas had dropped CO₂ levels by 4 percent, second only to New York in terms of reductions.¹⁸⁰ However, he stated, those gains were wiped away with the 77 million tons of CO₂ from newly permitted coal plants. Mr. Smith stated 23% of peak demand could be saved through cost-effective measures. He further discussed how a combination of efficiency, renewable, and Combined Heating and Power plants, could help reduce the growth demand in Texas.

David Stevens discussed financing issues his utility faced in building new generation.¹⁸¹

Phil Williams commented on consumer issues including reliability and stability in rates.¹⁸² Denton is diversifying its energy portfolio with 54% coming from a joint power agency, 40% from a purchase power contract from wind power. Mr. Williams stated no rates were increased by the 40% renewable plan; with only a slight increase for 100% renewable. Mr. Williams also discussed ways in which DME worked toward energy conservation.¹⁸³

Jason Bagley discussed Intel's Open Energy Initiative. Bagley stressed the importance of allowing home energy management systems to aide in getting a handle on energy use and consumption. Mr. Bagley stated that 76 percent of U.S. electricity is consumed by buildings.¹⁸⁴ This amount would be larger if not for the use of systems used to minimize waste. Mr. Bagley stated the same level of efficiency has not been achieved in residential homes, because of the lack of residential versions of energy management systems. Mr. Bagley discussed some of the key features of these systems including: the ability to view in real-time energy usage information, and to control, time shift, and eliminate unnecessary and/or wasteful uses. Consumers would be able to set preferences for energy use.

¹⁷⁹ *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Tom "Smitty" Smith, Public Citizen).

¹⁸⁰ *Id.*

¹⁸¹ *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of David Stevens, El Paso Electric).

¹⁸² *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Phil Williams, Denton Municipal Electric).

¹⁸³ *Id.* This was done by providing rebates for solar screens, heaters and panels, insulation, lighting and thermostats, among them. It also included a comprehensive energy audit (free of charge).

¹⁸⁴ *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources*, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Jason Bagley, Intel).

Dub Taylor testified about LoanSTAR financing program and energy audits for public entities. On average, projects have a six year return on investment, but equipment installed during efficiency retrofits usually has a 10 to 15 year lifespan.¹⁸⁵ This means the savings are felt long after the loan has been repaid. Cumulative energy savings from the program, since 1990, has been \$300 million. Mr. Taylor also discussed current projects in the area of emerging clean technology (business support), and training and education. The Committee questioned about state-wide awareness of the Office's programs. Mr. Taylor responded that there is not uniform awareness, and welcomed the support of the committee in making their offerings more public.

CONCLUSION

The future energy needs of Texas will be affected by population growth and weather. In order to meet these demands in this deregulated market, Texas will need more traditional and renewable technology. However, investors are worried about the current regulatory and financial requirements involved with such a large investment. Whenever discussing goals and strategies to meet future demand, the Legislature must balance the needs of the state to encourage investment and a diverse fuel mix with the costs incurred by investors and consumers.

¹⁸⁵ *Examining the State's Electric Generation Resources and Future Demands: Joint Hearing Before the House Comm. on State Affairs and House Comm. on Energy Resources, 2009 Leg., 81st Sess. Interim (Tx. 2010)* (statement of Dub Taylor, State Energy Conservation Office).

MONITORING STATE AGENCIES

Public Utility Commission

BACKGROUND

In 1975, the Texas Legislature enacted the Public Utility Regulatory Act (PURA) and created the Public Utility Commission of Texas (PUC or Commission) to regulate the rates and services of telephone utilities statewide, electric utilities in unincorporated areas, radio-telephone statewide, and water and sewer utilities in unincorporated areas.¹⁸⁶ The PUC was not given authority to regulate municipally owned utilities or political subdivisions such as municipal utility districts or public utility districts. However, the PUC was given appellate jurisdiction of municipal decisions involving investor-owned electric utilities.

The 67th Legislature deregulated radio-telephone common carriers based on a PUC study that indicated the industry had become so highly competitive that regulation was no longer needed to protect the public interest.¹⁸⁷ The Legislature also transferred collection of utilities' gross receipts assessments to the Comptroller and deregulated small power producers using renewable resources and co-generators.

The Legislature conducted the first Sunset review of the PUC during the 68th Session. Changes included abolishing the automatic fuel adjustment clause and establishing new fuel cost review procedures for electric rates; initiating a notice of intent process for utilities seeking to build new generation facilities; creating a stricter standard for including construction work in progress (CWIP) in utility rates; transferring responsibility for programs formerly administered by the Texas Energy and Natural Resources Council (TENRAC), which was abolished by the Legislature, to the PUC; and providing for statewide hearings to identify intrastate telecommunications markets in which dominant carriers would be regulated.¹⁸⁸

The 74th Legislature concluded its second Sunset review of the PUC. The Legislature enacted SB 373, finding that the wholesale electric market was becoming a more competitive industry that does not lend itself to traditional electric utility regulatory rules and principles, and providing for development of a competitive wholesale market that would allow for increased participation by electric utilities and certain non-utilities. SB 373 also provided for members of electric cooperatives to vote to have rates deregulated.¹⁸⁹

In 1996, the United States Congress enacted the Federal Telecommunications Act of 1996, fundamentally changing telecommunications markets for the entire country. The following principles were established: opening local markets to competitive entry; promoting increased competition in telecommunications markets that were already open to competition, including the long distance market; and reforming the system of universal service.¹⁹⁰

¹⁸⁶ The Public Utility Commission of Texas, *Self Evaluation Report*, September 2009, available at <http://www.Sunset.state.tx.us/82ndreports/puc/ser.pdf>.

¹⁸⁷ *Id.*

¹⁸⁸ *Id.*

¹⁸⁹ *Id.*

¹⁹⁰ *Id.*

In 1999, the largest shift in electricity delivery in Texas came during the 75th Legislature. SB 7 restructured the electric utility industry and provided for retail customer choice beginning January 1, 2002. In 2001 the 77th Legislature enacted legislation delaying the opening of retail competition in the Panhandle region until 2007. The electric retail choice pilot project began in June. Beginning January 1, 2002 electric customers within the Electric Reliability Council of Texas (ERCOT) had a choice of retail electric providers.¹⁹¹

In 2005, the 79th Legislature conducted its third Sunset review of the PUC and continued the agency for six years, strengthening PUC oversight of ERCOT, improving monitoring the wholesale electric market, and increasing the maximum administrative penalty to \$25,000.¹⁹² This legislation also authorized the PUC to select an independent market monitor to detect and prevent market manipulation strategies, market rule violations, and market power abuses in the ERCOT wholesale electric market. Also, the Legislature enacted SB 5 which promoted competition among and investment in advanced telecommunications networks by authorizing broadband over power line systems, reducing regulations on telecommunications providers, and establishing a state- issued franchise to provide cable or video services in the state of Texas.¹⁹³

Recently the PUC established programs to facilitate the deployment of advanced electric meters, Hurricane securitization efforts, instituted new energy efficiency measures for school districts, institutions of higher education and state agencies, as well as created new energy efficiency standards for certain residences. In response to the large amounts of wind generation in Texas, the PUC issued an order designating five competitive renewable energy zones (CREZ), a level of wind development in each CREZ, and the transmission improvements necessary to deliver the wind capacity to customers. The project will eventually transmit 18,456 MW of wind power from West Texas and the Panhandle to highly populated metropolitan areas of the state.

SUNSET REVIEW

The Sunset Advisory Commission met on May 25, 2010 to discuss Sunset staff's recommendations regarding PUC. In its report, the Sunset staff made a myriad of recommendations citing the lack of regulatory tools, outdated statutory provisions, but delayed making administrative structure recommendations until the reviews of the Railroad Commission of Texas and the Texas Commission on Environmental Quality (TCEQ) are completed.¹⁹⁴

In regards to the PUC lacking the regulatory tools needed to provide effective oversight and prevent harm to the public, Sunset staff made the following four key recommendations:

- Authorize PUC to order restitution to market participants harmed by market power abuse.

¹⁹¹ *Id.*

¹⁹² *Id.*

¹⁹³ *Id.*

¹⁹⁴ The Sunset Advisory Commission, *Sunset Staff Report*, April 2010, available at http://www.Sunset.state.tx.us/82ndreports/puc/puc_dec.pdf.

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- Increase PUC's administrative penalty authority to \$100,000 per violation per day for violations of ERCOT's reliability protocols or PUC's wholesale reliability rules.
 - Authorize PUC to issue emergency cease-and-desist orders.
 - Authorize PUC to require, by rule, renewal of registrations, certifications, and permits as it deems appropriate, and set fees to recover costs.¹⁹⁵

In regards to outdated statutory provisions pertaining to the regulation of the telecommunications industry, Sunset staff made the following two key recommendations.

- Eliminate the statutory test for deregulating a telecommunications market with a population between 30,000 and 100,000, replacing it with a test developed by PUC in rule.
- Eliminate the requirement for PUC to approve customer-specific contracts.¹⁹⁶

In July, the Sunset Advisory Commission released their recommendation to the 82nd Legislature regarding PUC. They met in an open meeting on July 6th, 2010 to review the Sunset commission decision report and discuss any possible new issues. The Sunset Advisory Commission did not adopt the recommendation providing for restitution, but decided to increase penalties from \$25,000 per day to \$100,000 per day. The Commission also voted to grant PUC the authority to issue emergency cease-and-desist orders as well as increased complaint enforcement tools. These recommendations were adopted affecting only the electricity industry. The Commission delayed voting on continuation until after reviews of TCEQ and the Railroad Commission.

A number of new issues were also discussed at the July 6th meeting by the Sunset Commission members. A new recommendation that was adopted or clarified was a restriction that prohibits PUC commissioners from being employed by ERCOT for two years after leaving PUC. Sunset Commission members did discuss at length a recommendation that the PUC strictly adhere to the 185-day timeline for rate cases, which ultimately ended in an agreement that the agency will work with the appropriate legislative committees on proposals to increase efficiency.

RESTITUTION

During its July 6, 2010 meeting, the Sunset Commission recommended increasing the maximum fine the PUC can levy. However, the Commission was silent on allowing the PUC the power to order market abusers to pay restitution to the individuals who are harmed by these actions, including consumers who paid more for electricity.

The sunset staff report released in April of 2010, contended that regulatory agencies should have the power to restore harmed parties' losses as part of an enforcement action, particularly in

¹⁹⁵ *Id.*

¹⁹⁶ *Id.*

situations where significant harm can occur.¹⁹⁷ The PUC currently retains authority to make consumers whole by participants who have committed fraud or for charging a consumer an un-agreed upon rate, but however lacks restitution authority in cases of market power abuse within the wholesale market.

Sunset staff are aware of the difficulties in deciding who was harmed and by what amount and contended that the Independent Market Monitor (which already oversees the wholesale market) would be able to assist the PUC in this determination. For example the report outlines one such case:

PUC alleged that a company withheld generation over a period of four months, driving up the cost of energy by \$ 57 million to retail electric providers and ultimately to consumer and profiting by \$18 million from its actions. In the absence of authority to order restitution the retail electric providers who were allegedly harmed by the company's actions, PUC ultimately reached a settlement with the company resulting in a payment of a \$ 15 million administrative penalty with no admission of wrongdoing by the company.¹⁹⁸

This oversight and enforcement action was previously recommended by the PUC in its report to the 81st Legislature: Scope of Competition in Electric markets in Texas released in 2009.

ADVANCED METER SYSTEMS

One of the main issues on which the State Affairs Committee focused was the smart meter deployment. During the May 12, 2010 hearing, the PUC testified that deployment was on schedule and that to date:

- Over 1.2 million smart meters currently installed in ERCOT:
 - Oncor: 917,973
 - CenterPoint: 342,000
 - AEP: 10,000

By the end of 2013 PUC estimates that over 6 million will be deployed. In March the PUC launched a web tool, (www.smartmetertexas.com) for consumers, REPs, and TDUs to help better track and manage energy use. The PUC touted future tools that would be enabled with use of smart meters, such as Home Area Networks (HAN). Several REPs are currently offering consumers products and services tied to smart meters, such as energy monitoring, time-of-use pricing, or pre-paid services.¹⁹⁹

The Office of Public Utility Counsel (OPUC) has continued its outreach efforts relating to smart meters. The focus centers on a background and overview of AMS; deployment schedules and

¹⁹⁷ *Id.*

¹⁹⁸ *Id.*

¹⁹⁹ *Monitoring the Agencies under Sunset Review*: House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Barry Smitherman, Chairman of the Public Utility Commission).

customer education, customer benefits, in-home devices, and information as well as guidance to the Smart Meter Texas web portal set up by PUC.²⁰⁰

In response to complaints from customers that smart meters were over-charging, the PUC signed a contract with Navigant Consulting, Inc. on March 16, 2010 to evaluate consumer complaints in regards to the AMS deployment work conducted by transmission utilities in the competitive regions of Oncor, Centerpoint Energy, and AEP Texas. The Commission also waived re-read fees for customers concerned about the accuracy of the smart meters.²⁰¹ The study was conducted in a two part fashion of "bench" and "side by side" testing. Bench testing for accuracy was conducted on 2000 "new inventory" pre-deployment smart meters and 2000 "deployed (ACTIVE) smart meters" from Oncor, CenterPoint, and AEP Texas.²⁰² Mobile field accuracy testing was conducted of smart meters currently in service in the Oncor service territory. Over 1400 of the new meters were tested and all were found to be accurate.²⁰³ Based on the testing results, AMS meters are as accurate as traditional meters in a very high percentage of cases.

In addition Navigant Consulting reviewed historic customer usage, customer complaints, utility smart meter processes, procedures and controls involving system hardware and software, the accuracy of information transmitted from a smart meter to its final destination (meter-to-bill), and sampled customer (conventional meter) usage to compare information and identify any inconsistencies with customer accounts that have smart meters.

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The main questions on which Navigant focused were as follows:

- Is electricity usage accurately measure and recorded by the advanced meters?
- Is the recorded electricity usage accurately communicated from the advanced meters through the respective TDSP advanced metering systems for use in customer billing?
- Is recorded electricity usage higher on average for customers with advanced meters in comparison to customers with older electromechanical meters?

²⁰⁰ *Monitoring the Agencies under Sunset Review*: House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Danny Bivens, Office of Public Utility Counsel).

²⁰¹ *Monitoring the Agencies under Sunset Review*: House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Barry Smitherman, Chairman of the Public Utility Commission).

²⁰² *Id.*

²⁰³ *Id.*

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- Are there other potential factors or causes contributing to the observed higher incidence of meter and billing related customer complaints?²⁰⁴

The five major areas on which Navigant focused were as follows:

- Independent testing of accuracy of AMS deployment;
- Investigation of customer meter and billing related complaints filed with the Commission that were made in relation to advanced meters;
- Analysis of the historical electricity usage of customers with advanced meters versus customers who had yet to receive an advanced meter;
- Evaluation of advanced meter testing, deployment and provisioning processes and controls; and
- Evaluation of advanced metering infrastructure including the controls in place to ensure that electricity usage information is accurately communicated from the advanced meter to the market for billing purposes (i.e., meter-to-bill).²⁰⁵

Navigant released to the public its completed findings and evaluation of the AMS deployment in Texas on July 30, 2010. Based on the results of the accuracy tests, 5,625 of the 5,627 meters (or 99.96 %) were determined to be accurate by ANSI standards.²⁰⁶

The report however did not conduct an extensive investigation into all aspects of advanced meters and advanced metering systems, or into all of the advanced meter complaints. Navigant admitted in its executive summary that such an investigation would require time and resources beyond those reasonably required to address the significant questions that they were charged with investigating.

NET NEUTRALITY

The “network neutrality” debate is whether broadband network providers should be allowed to enter into commercial agreements permitting them to prioritize data transmissions. The fundamental question posed in the network neutrality debate is whether this “open” system should be mandated by government regulation. Experts believe the key issues are as follows:

Transparency. This issue relates to how clearly broadband providers state the policies that govern the uses of their networks.

²⁰⁴ Navigant Consulting, *Evaluation of Advanced Metering System(AMS) Deployment in Texas*, July 30, 2010 available at

http://interchange.puc.state.tx.us/WebApp/Interchange/application/dbapps/billings/pgDailySearchResults.asp?TXT_UTILITY_TYPE=E&TXT_D_FROM=07%2F30%2F10&TXT_D_TO=07%2F30%2F10.

²⁰⁵ *Id.*

²⁰⁶ *Id.*

Blocking. This issue concerns whether broadband providers can block or degrade consumer access to certain applications and content. When these concerns first materialized, FCC Chairman Michael Powell set forth the concept of “Internet freedom,” calling on broadband access providers to allow access to applications and devices that did not harm their networks. Over time, a number of major broadband providers (including Verizon and AT&T) and industry trade associations publicly committed not to degrade or block Internet traffic. Subsequently, the FCC adopted a slightly revised version of Chairman Powell’s “Internet Freedoms” in a policy statement issued in 2005. Today, most observers would agree that any effort to block or degrade traffic—unless justified by a legitimate business purpose or “reasonable network management” (*i.e.*, protecting the network)—should not be allowed.

Tiering. The aspect of network neutrality that has attracted the lion’s share of attention is the question of tiering—that is, whether broadband providers should have the right to charge application and content providers higher fees for a higher quality of network service, and whether they can provide higher quality of service guarantees for their own applications than for rival ones. As all parties in this debate agree, broadband operators should be able to charge *consumers* for different levels of broadband service. The controversy over “tiering” is thus whether broadband operators should be able to charge *application and content providers* different rates for different levels of service—like charging higher tolls to ride on faster lanes.²⁰⁷

In August of 2008 the FCC investigated and ordered Comcast to stop interfering with peer to peer file sharing services citing the above internet policy statement. In April 2010, the DC Court of Appeals ruled that FCC lacked the appropriate authority to give like treatment to internet traffic over their networks. Some possible solutions for the FCC is to continue to rely on its rules, although precarious taking into account the Comcast decision, or re-classify internet access as a telecom service, applying all telecommunications rules to internet providers.²⁰⁸

Even though this issue is federally controlled, possible decisions on this matter could send shockwaves throughout the telecommunications industry to which could lead to divestment across the nation as well as Texas. The Public Utility Commission and industry experts are awaiting the FCC's final decision on the matter. The Texas Legislature and the PUC may determine if any rulemaking or legislative recourse is necessary.

²⁰⁷ Robert D. Atkinson & Philip J. Weiser, *A Third Way on Network Neutrality*, The New Atlantis (2006), available at <http://www.thenewatlantis.com/publications/a-third-way-on-network-neutrality>.

²⁰⁸ *Id.*

Office of Public Utility Counsel

BACKGROUND

In 1983, the Office of Public Utility Counsel (OPUC) was created as part of the 68th Legislature's Sunset review of the Public Utility Commission (PUC) after concerns were raised that residential and small business consumers were not being sufficiently represented in utility proceedings at the PUC.²⁰⁹ During its infancy, the agency targeted its efforts on providing representation to consumers during utility proceedings at the PUC, State Office of Administrative Hearings (SOAH), as well as state and federal courts.²¹⁰ OPUC remains a consumer advocate in both the restructured electric and telecommunications industries, focusing its labors on representing consumers at contested cases on state and federal projects, rulemakings and other proceedings.²¹¹ In order to facilitate its role as an advocate OPUC acts as a consumer information gate keeper, by keeping consumers informed regarding their available protections and OPUC's functions and efforts ensuring those protections.²¹² OPUC has been a consistent advocate for consumers at ERCOT serving on the Board of Directors and various committees.²¹³

SUNSET REVIEW

The Sunset Advisory Commission met on May 25, 2010 to discuss Sunset staff's recommendations for the Office of Public Utility Counsel. Sunset staff concluded that due to the complexity of today's electricity and telecommunications markets residential consumers and small business consumers have a continuing need for representation at all levels of the regulatory process, and that OPUC still serves well in this advocacy role. Sunset staff recommended the agency be continued for 12 years.²¹⁴ All comments filed in regards to the recommendation of continuing the agency were positive.

In July 2010, the Sunset Advisory Commission released their recommendation to the 82nd Legislature regarding OPUC. They met in an open meeting on July 6, 2010 to review the Sunset commission decision report and discuss any possible new issues. The Sunset Advisory Committee adopted recommendation 1.1, to continue the agency for 12 years. OPUC agreed with this recommendation, echoing the staff's findings that Texas still has a continuing interest in having an advocate for residential and small commercial consumers in electric and telecommunications utility matters, and that the independent structure OPUC provides, best facilitates this style of advocacy at a consumer level.²¹⁵

²⁰⁹ The Office of Public Utility Council, *Self Evaluation Report*, September 2009, available at <http://www.Sunset.state.tx.us/82ndreports/opuc/ser.pdf>.

²¹⁰ *Id.*

²¹¹ *Id.*

²¹² *Id.*

²¹³ *Id.*

²¹⁴ The Sunset Advisory Commission. *Sunset Staff Report*, April 2010, available at http://www.Sunset.state.tx.us/82ndreports/puc/puc_dec.pdf.

²¹⁵ The Sunset Advisory Commission, *Commission Decision Report*, July 2010, available at http://www.Sunset.state.tx.us/82ndreports/puc/puc_dec.pdf.

Electric Reliability Council of Texas

BACKGROUND

In 1970, Texas Incorporated Systems formed the Electric Reliability Council of Texas (ERCOT) to comply with North American Reliability Council (NERC) requirements.²¹⁶ All operating functions were transferred to ERCOT in 1981, and became the central operating manager for Texas. The 74th Texas Legislature amended the Public Utility Regulatory Act and deregulated the wholesale generation market. The Public Utility Commission of Texas (PUCT) started the process of expanding ERCOT's responsibilities to enable wholesale competition and facilitate efficient use of the power grid by all market participants.²¹⁷ ERCOT continued its path and became an Independent System Operator (ISO) to ensure a neutral, third-party organization was overseeing equitable access to the power grid among the competitive market participants and in 1996 was restructured as a not for profit ISO, making it the first electric utility industry ISO in the United States.²¹⁸ ERCOT had to manage its responsibilities to support competitive markets while also maintaining the reliability of electric services.

Currently, ERCOT maintains electricity reliability for 22 million Texans, which accounts for 85 percent of the state's retail customers. This encompasses 40,000 miles of transmission lines and more than 550 generation units. ERCOT also manages financial settlement for the competitive wholesale bulk-power market and administers customer switching for 6.5 million Texans in competitive choice areas.²¹⁹

ERCOT has four statutory mandates and key functions:

- Ensure the reliability and adequacy of the regional electric network;
- Ensure access to the transmission and distribution systems for all buyers and sellers;
- Ensure that information relating to a customer's choice of retail electric providers is conveyed in a timely manner to the persons who need the information; and
- Ensure that electricity production and delivery are accounted for among the generators and wholesale buyers and sellers in the region.²²⁰

SUNSET REVIEW

ERCOT is unique in many ways, but the most important issue for Texas is that ERCOT is not connected to any other state's grid, unlike the rest of the country. This autonomy leaves

²¹⁶ Electric Reliability Council of Texas, *Self Evaluation Report*, August 2009, available at <http://www.Sunset.state.tx.us/82ndreports/ercot/ser.pdf>.

²¹⁷ *Id.*

²¹⁸ *Id.*

²¹⁹ *Id.*

²²⁰ *Id.*

oversight of the non-profit ISO to the Texas Legislature and the Public Utility Commission. Since ERCOT plays such a vital role in the electricity delivery and reliability in Texas, the Legislature thought it was important to review the non-profit during the same time as the other utility related state agencies.

In April 2010, Sunset Staff released its report and recommendations on how ERCOT could be improved. To be effective, external oversight of ERCOT needs to be scaled to the level of risk and public importance of its operations. The staff deemed that the critical importance to the public and rapid growth of the non-profit show a need for careful oversight.²²¹

The two main issues facing ERCOT in this review were the need for better oversight to address high risk in its operations, and the presence of the electric market stakeholders impairing the impartiality of the ERCOT board.²²²

The key recommendations in regards to the first issue were as follows:

- Require PUC to exercise additional oversight authority of ERCOT by annually reviewing and approving its entire budget and reviewing and approving all uses of debt financing.
- Provide for future Sunset reviews of ERCOT, concurrent with reviews of the Public Utility Commission.²²³

The key recommendation in regards to the second issue were as follows:

- Restructure the ERCOT Board to consist of nine directors appointed by the PUC, including seven directors unaffiliated with the electric market, and two non-voting, ex officio directors - the Chair of the Public Utility Commission or a designee, and the Public Utility Counsel.²²⁴

In July 2010, the Sunset Advisory Commission released their recommendation to the 82nd Legislature regarding ERCOT. They met in an open meeting on July 6, 2010 to review the Sunset commission decision report and discuss any possible new issues. The recommendations for ERCOT include performance measures for ERCOT to be reviewed by the PUCT together with the annual budget review, ERCOT would have to file quarterly budget reports with the PUCT to ensure it follows the approved budget. The Sunset Advisory Commission also deemed it necessary that ERCOT and the PUCT be reviewed together again.

The Commission voted to retain the current hybrid ERCOT board structure. However, the PUCT Chairman would be replaced by a voting, unaffiliated member, as approved by the PUCT with financial expertise and the Public Utility Counsel would be replaced by a voting,

²²¹ The Sunset Advisory Commission. *Staff Report*, April 2010, available at http://www.Sunset.state.tx.us/82ndreports/puc/puc_dec.pdf.

²²² *Id.*

²²³ *Id.*

²²⁴ *Id.*

unaffiliated member as approved by OPUC. They also removed the Independent Power Marketer, replacing the position with an unaffiliated member.

The Commission also voted to change the operations and structure of ERCOT by amending the statute to require that the ERCOT Board of Directors formally initiate the development of new protocols or revisions to existing protocols, having the ERCOT staff develop new or revised protocols for Board approval.²²⁵ They also adopted the recommendation that the Technical Advisory Committee (TAC) and its existing responsibilities as outlined in the ERCOT bylaws be sunsetted. The Board of Directors will be statutorily charged with developing a representative advisory committee structure to support Board or staff initiatives.²²⁶

NODAL

In an effort to improve on operating inefficiencies in a Zonal market, the PUCT ordered ERCOT to develop a nodal wholesale market design, bringing more granular pricing and scheduling of energy services. On April 5, 2006, the PUCT signed an order approving the stakeholder-developed protocols for the nodal market, with an implementation date of January 1, 2009. However due to heavy cost overruns, mismanagement of independent software contractors, as well as poor oversight by all parties involved, a new go-live date of December 2010 was announced for the nodal market implementation.²²⁷

Nodal is currently more than two years behind schedule, and is carrying an implementation cost of \$660 million, more than twice early estimates. There are two principal components to the implementation costs – the costs incurred by ERCOT itself and those incurred directly by market participants. The bulk of the implementation costs have been incurred by ERCOT.²²⁸ Most experts agree that the projected quantifiable benefits of the nodal market implementation within the ERCOT footprint significantly outweigh even current nodal market implementation costs. This is based on improved generation site decisions and other efficiencies created by the use of 4,000 nodes to communicate around congestion issues versus five zones.

A Cost Benefit Study was ordered by the PUC in 2004. The study reported that the system-wide benefit from the nodal market over first ten years of its operation are estimated as follows:

- \$339 million in system-wide benefits attributable to improved generation dispatch
- \$520 million in system-wide benefits attributable to improved generation dispatch and generation siting
- \$5.6 billion in consumer benefits to electricity end users in ERCOT

²²⁵ The Sunset Advisory Commission. *Commission Decision Report*, July 2010, available at http://www.Sunset.state.tx.us/82ndreports/puc/puc_dec.pdf.

²²⁶ *Id.*

²²⁷ *Id.*

²²⁸ *Update on the ERCOT Nodal Market Cost Benefit Analysis*, CRA International & Resero Consulting, December 2008, available at http://www.puc.state.tx.us/electric/reports/31600/PUCT_CBA_Report_Final.pdf.

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- \$5.08 loss in revenues accrued to generators in ERCOT²²⁹

Nodal is currently under updated budget estimates, and ERCOT has successfully completed 8-hour testing with real-time systems. During the June 2010 test, ERCOT managed the power grid using the nodal systems that will be in place when the nodal market is launched Dec. 1, 2010. The test demonstrated that ERCOT can effectively operate the power grid with the nodal applications. In September 2010, ERCOT will manage the power grid for 168-hour tests. ERCOT is still on target for the nodal market go-live date of Dec. 1, 2010.

Department of Information Resources

BACKGROUND

The Texas Department of Information Resources (DIR) was created in 1989 by the Texas Legislature with the passage of the Information Resources Management Act. The 79th Legislature (HB 1516) restructured DIR, and transformed the agency into a technology adviser for the State. DIR facilitates proper technology investment in an effort to better fit the needs of the all facets of state government, and disseminates information to state and local government as well as the K-12 public and higher education systems to achieve the best service for the best value.²³⁰

The stated mission of DIR is to transform the delivery of technology to state agencies so they can better serve the citizens of Texas. To support the mission, DIR has five objectives:

- Solve common business problems through managed services
- Deliver business value and maximize buying power through integrated technology supply chain services
- Provide leadership to secure the state's technology assets and promote appropriate use of citizen information
- Enhance statewide technology management and collaboration, and
- Deploy value-added technology solutions to meet agency core missions and serve Texas citizens²³¹

²²⁹ *Monitoring the Agencies under Sunset Review*: House Comm. on State Affairs, 2009 Leg., 81st Sess. Interim (Tx. 2010) (statement of Mike Cleary, Electric Reliability Council of Texas).

²³⁰ Texas Department of Information Resources, available at <http://www2.dir.state.tx.us/Pages/Home.aspx>.

²³¹ *Id.*

In its de facto role as Texas' corporate technology officer, DIR has five key functions that help foster the above stated objectives. In an effort to save taxpayer money, DIR leverages the state's volume-buying power to drive down costs on more than 750 technology contracts through a streamlined co-op purchasing program.²³² DIR operates Texas.gov, which is the official eGovernment web portal for the state of Texas. This self-supporting public-private partnership, Texas.gov offers more than 1000 convenient online services including driver license and vehicle registration renewals in a secure technical and service infrastructure.²³³

DIR also develops statewide security policies and best practices, maintains a 24/7 security alert and response system, and promotes security awareness through training.²³⁴ DIR oversees data center services, which manages the outsourced consolidation of key agencies data centers into two locations resulting in technology upgrades and improvements in addition to cost savings as a result of statewide economies of scale.²³⁵

DIR manages communications infrastructure statewide in an effort to provide voice, video, and data, including integrated voice response, telephony, wide area network, virtual private network, and call center solutions to more than 600 state and local government agencies.²³⁶

SUNSET REVIEW

DIR is undergoing a full review by the Sunset Advisory Commission in preparation for the 82nd Legislature. Sunset Commission staff will assess the Texas Department of Information Resources and, in September 2010, will issue a report recommending solutions to problems found. The Sunset Commission will meet to hear public testimony on the agency and the recommendations of the Sunset staff on November 16 and 17, 2010. At the time of the printing of this report the Sunset Commission had not issued its decision report.

DATA CENTER MANAGEMENT

On March 31, 2007, the State commenced with an \$863 million dollar data center consolidation project with IBM. The contract established enterprise-managed services for the state by transitioning employees, hardware, leases, and licenses to the vendor teams.²³⁷ The Data Center Services program produces monthly measures to give participating agencies, DIR and the vendor team an in-depth understanding of data center service performance outcomes. IBM was put in charge of measuring and reporting for 32 "critical" and 27 "key" service levels in areas such as service availability, response timelines, batch processing success, mail processing quality, change management, and incident management. In addition, monthly dashboard reports summarize overall performance results and present IT director customer satisfaction ratings intended to prioritize and guide improvement efforts.²³⁸

²³² *Id.*

²³³ *Id.*

²³⁴ *Id.*

²³⁵ *Id.*

²³⁶ *Id.*

²³⁷ The Texas Department of Information Resources, *Self Evaluation Report*, September 2009, available at <http://www.Sunset.state.tx.us/82ndreports/dir/ser.pdf>.

²³⁸ *Id.*

This consolidation effort was intended to streamline operations, provide efficiencies, bolster cyber security efforts and save the state an expected \$176 Million dollars over the life seven-year contract.²³⁹

Several months into the contract many state agencies reported a lack of service on the part of IBM. The agencies cite lengthy service backlogs, ineffective communication, unqualified staff and inconsistent data backups as some reasons for IBM's poor performance.²⁴⁰ Critics of the contract place blame on both sides in that the State was too ambitious with its time table considering the update need for current equipment, as well as IBM overpromising while under delivering on its initial contract terms. An outside audit concluded that both the State and IBM share the blame for the failures in the contract, but that it could be salvaged.²⁴¹ Negotiations are ongoing however in February of 2010 officials from DIR and IBM agreed in principle to restructure the data services contract

Negotiations between IBM and DIR came to a standstill in June 2010. In July 2010, DIR issued a 30-day cure the contract asking IBM to correct a myriad of service problems and supposed contract breaches. In a letter dated August 13, 2010 IBM countered the claims, believing its service to be adequate and placed most of the blame on DIR's oversight and management of the projects. IBM contended that DIR's and the agencies' lack of cooperation and support of the project as the first issue. IBM also noted that ceding control of the 27 individual IT environments in favor of a centralized, common system was (and continues to be) unpopular with the constituent agencies; without strong leadership from DIR, those agencies not only failed to cooperate, but in many cases actively resisted the project.²⁴² In addition, IBM also placed the blame on "State personal deficiencies", to which IBM had to assign a larger than expected number of personal therefore increasing its financial burden.²⁴³

IBM's second contention was that it met the "business-as-usual manner" clause in the MSA given the legacy environments and old technology they were required to service. IBM characterized the State's information technology infrastructure as being decentralized, comprised of aging infrastructure which runs a multitude of different hardware, and given these circumstances, it has provided acceptable levels of service.²⁴⁴ Given IBM's outline of problems, the technology firm reiterated their future commitment to DIR, the agencies and the State throughout this project.

In a letter dated August 16, 2010 sent to IBM, DIR characterized IBM's response to the July notice to cure sent to DIR as insufficient to cure the breaches identified in the Notice to Cure

²³⁹ Alexander, Kate, *No Agreement Yet between State, IBM on Data Center Contract*, Austin American Statesman, April 10, 2010, available at <http://www.statesman.com/news/texas-politics/no-agreement-yet-between-state-ibm-on-data-544741.html>.

²⁴⁰ Alexander, Kate, *Who's at Fault for State, IBM rift? data: Some agencies say they pay more for less* Austin American Statesman, November 13, 2009, available at <http://www.statesman.com/business/content/business/stories/archive/111608datacenter.html>.

²⁴¹ Alexander, Kate, *No Agreement Yet between State, IBM on Data Center Contract*, Austin American Statesman, April 10, 2010, available at <http://www.statesman.com/news/texas-politics/no-agreement-yet-between-state-ibm-on-data-544741.html>.

²⁴² *Letter to Karen Robinson, Executive Director, DIR*, IBM Global Technology Services, Aug. 13, 2010.

²⁴³ *Id.*

²⁴⁴ *Id.*

Letter, and was little more than a reiteration of inconsistent and incomplete ideas that IBM has expressed previously.²⁴⁵ Since IBM has failed to cure the identified breaches in the contract, DIR had no other recourse and, within full right under the Master Service Agreement (MSA), decided to proceed with the procurement for all services required of IBM under the MSA.²⁴⁶ In proceeding with this procurement DIR still retains all rights with respect to termination of the MSA, even if DIR does not terminate the contract.

A contract termination would only serve to hurt IBM's business reputation as well as harm the consolidation effort for the state and potential cost savings from such an arrangement. The original contract, signed in 2006, called for all of the agencies' servers to be operating out of the consolidated facilities as of December 2009. At this point, less than 12 percent of that work is completed.²⁴⁷ This is the latest development at the time of this report, although the Committee will continue to monitor this issue.

CYBER SECURITY

During the 81st Legislature, Rider 10 in Senate Bill 1 instructed DIR to purchase or develop a plan to provide closed loop event management technology that secures, logs, and provides audit management of baseboard management controllers and consoles of cyber assets.²⁴⁸ The plan shall be developed and implemented no later than January 1, 2010.

Rider 10 was specifically written to help the State protect its cyber systems from an internal attack. The system management tools required by Rider 10 were projected to be added to the TexasOnline systems in the State Data Center in San Angelo in June 2010, including the routers, switches and SANS that are capable of supporting the technology. This type of security related technology is already in place on 12 servers managed by NIC, the service provider for TexasOnline at the Austin Network and Security Operating Center (NSOC).²⁴⁹ NIC is currently verifying that the appropriate levels of logging and auditing are taking place.

DIR provides additional safeguards such as limited physical access to the data center, extensive background checks on staff before they begin work on these systems, and an Identity Management system that ensures staff is on and off boarded with restrictions enforced that allow them to do their job but no more.²⁵⁰

DIR ensures that an appropriate separation of duties between functional areas provides checks and balances of authority to prevent and detect unauthorized access, managed through centralized logging and log management. Logging on to these systems requires secure access and authentication protocols. Intrusion prevention systems and network monitoring deployments provide defense in depth and granular network visibility.

²⁴⁵ Letter to Cynthia McLean VP and Global Project Executive at IBM, Texas Department of Information Resources, Aug. 16, 2010.

²⁴⁶ *Id.*

²⁴⁷ *Id.*

²⁴⁸ S.B. 1, General Appropriations Act, 81st Tex. Legislature (2009), available at http://www.lbb.state.tx.us/Bill_81/6_FSU/Bill-81-6_FSU_0909.pdf.

²⁴⁹ Letter to Representative Burt Solomons, Texas Department of Information Resources, Feb. 2, 2010.

²⁵⁰ *Id.*

Systems and databases are audited, and various network security assessments are performed to identify and remediate potential vulnerabilities.²⁵¹

In addition to these measures, DIR consolidates most of its cyber security management through the Network and Security Operation Center (NSOC), which acts as an aggregator of security information as well as a monitor of threats on the State's cyber systems. DIR also employs a Chief Information Security Officer for the State of Texas that helps oversee all of these operations, as well as offers guidance and coordination with other state security offices.²⁵²

²⁵¹ *Id.*

²⁵² *Id.*