

**Before the United States House Committee on Science, Space, and  
Technology**

**“The Lack of Scientific Justification in the EPA’s Overreach: A Case Study in  
Texas”**

**Testimony of Elena Craft, PhD  
Health Scientist  
Environmental Defense Fund  
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Chairman Smith, Ranking Member Johnson, and members of the committee, thank you for the opportunity to testify about the scientific justification of environmental protections in the state of Texas.

My name is Elena Craft. I serve as a health scientist at Environmental Defense Fund, a national non-partisan, non-profit environmental organization. I have a masters of science in toxicology as well as a doctorate in molecular toxicology. In addition, I hold an adjunct assistant professorship at the University of Texas School of Public Health in the Division of Epidemiology, Human Genetics, & Environmental Sciences.

**I. Introduction**

Texans have much to gain from further reductions in emissions of criteria pollutants such as ozone, mercury and other air toxics, and greenhouse gases. The evidence shows that the health benefits of reduced pollution far outweigh the cost. The evidence also highlights that the economy can grow as pollution is cut. Texas has not taken advantage of ample opportunities to get ahead of federal policy by developing its own laws and regulations to reduce criteria pollutants, air toxics, and greenhouse gases. Now, the state lags behind. At a bare minimum, all Texans deserve leadership that supports life-saving federal protections rather than stands in the way.

**II. The Challenge and Opportunity for Air Quality in Texas**

**A. Ozone**

Right now, over half of all Texans, almost 15 million people, breathe air that does not meet current federal health based air quality standards for ozone that were set back in 2008 (Figure 1). Exposure to ozone can lead to a variety of severe health issues – asthma attacks, cardiac arrests, reduced lung function, and even death.

Region	2012 population estimate <sup>1</sup>
HGB non-attainment region	6,148,417
DFW non-attainment region	6,553,270
San Antonio monitored non-attainment area <sup>2</sup>	2,084,299
Total population in Texas	26,060,796
% of Texans breathing air that does <u>not</u> meet federal air quality standards	<b>57%</b>

**Figure 1: Estimate of population in Texas who do not breathe air that meets federal health based standards.**

Hundreds of doctors and scientists across the country are concerned about the impact that ozone is having on public health and have been aggressive in advocating for even more protective standards, including:

### **American Thoracic Society**

With more than 18,000 members, the American Thoracic Society is a leading medical association dedicated to advancing lung, critical care and sleep medicine. The Thoracic Society has participated extensively in the review of the draft Criteria Document and Staff Paper for ozone. In July 2007, the American Thoracic Society published an editorial in its peer-reviewed journal, the American Journal of Respiratory and Critical Care Medicine, **endorsing an 8-hour average ozone standard of 60 ppb, based upon concerns about both child and adult health.**<sup>3</sup>

### **American Academy of Pediatrics**

The American Academy of Pediatrics (AAP) is an organization of 60,000 pediatricians committed to the attainment of optimum health for infants, children, adolescents and young adults. In late 2004, the American Academy of Pediatrics (AAP) published a major review of ambient air pollution and health hazards to children. The review concluded that the 1997 National Ambient Air Quality Standards (NAAQS) for ozone may not adequately protect the health of infants and children and **recommended a minimum standard of 70 ppb.** The paper cites studies showing declines in lung function, hospitalizations for respiratory tract illness in young children, emergency department visits for asthma, and asthma exacerbations at ozone concentrations at or below the current standards. In addition, cumulative childhood exposure to ozone may affect lung function when exposed children reach young adulthood.

### **American Medical Association, American College of Chest Physicians, American College of Preventive Medicine, American College of Occupational and Environmental Medicine, American Association of Cardiovascular and Pulmonary**

<sup>1</sup> <http://www.census.gov/popest/data/index.html>

<sup>2</sup> The 3 year design value for San Antonio exceeds the federal health based standard of 75ppb.

<sup>3</sup> Pinkerton KE, Balmes JR, Fanucchi MV, Rom WN. Editorial: Ozone, A Malady for All Ages. Am J Res Crit Care Med 2007; 176: 107-108. Available at: <http://ajrccm.atsjournals.org/cgi/content/full/176/2/107>

## **Rehabilitation and National Association for the Medical Direction of Respiratory Care**

- The American Medical Association is the nation's largest professional medical society.
- The American College of Chest Physicians is a not-for-profit medical society representing 16,500 members in over 100 countries. Members include specialist physicians, allied health professionals, and PhDs focusing on diseases of the chest.
- The American College of Preventive Medicine (ACPM) is the national professional society for physicians committed to disease prevention and health promotion. ACPM has 2,000 members engaged in preventive medicine practice, teaching and research.
- The American College of Occupational and Environmental Medicine (ACOEM) represents more than 5,000 physicians and other health care professionals specializing in the field of occupational and environmental medicine. ACOEM is the nation's largest medical society dedicated to promoting the health of workers through preventive medicine, clinical care, research, and education.
- The National Association for Medical Direction of Respiratory Care is a national organization of pulmonologists and other physicians who provide clinical and management leadership in respiratory and critical care in nearly 2,000 hospitals nationwide.
- The American Association of Cardiovascular and Pulmonary Rehabilitation is the premier professional organization dedicated to the development of its members who are involved in the profession of cardiovascular and pulmonary rehabilitation.

In a letter to Administrator Johnson, dated October 9, 2007, the above mentioned medical societies recommended EPA adopt a much stronger NAAQS for ozone, as noted below:

“The undersigned medical professional societies recommend the EPA adopt the following NAAQS for ozone:

- **The level of the primary standard should be no higher than 0.060 ppm;**
- **The degree of precision for the standard should be expressed at the thousandth ppm;**
- **The form of the standard should be constructed as a three-year average of the annual third highest daily maximum 8-hour average ozone concentration.<sup>4</sup>”**

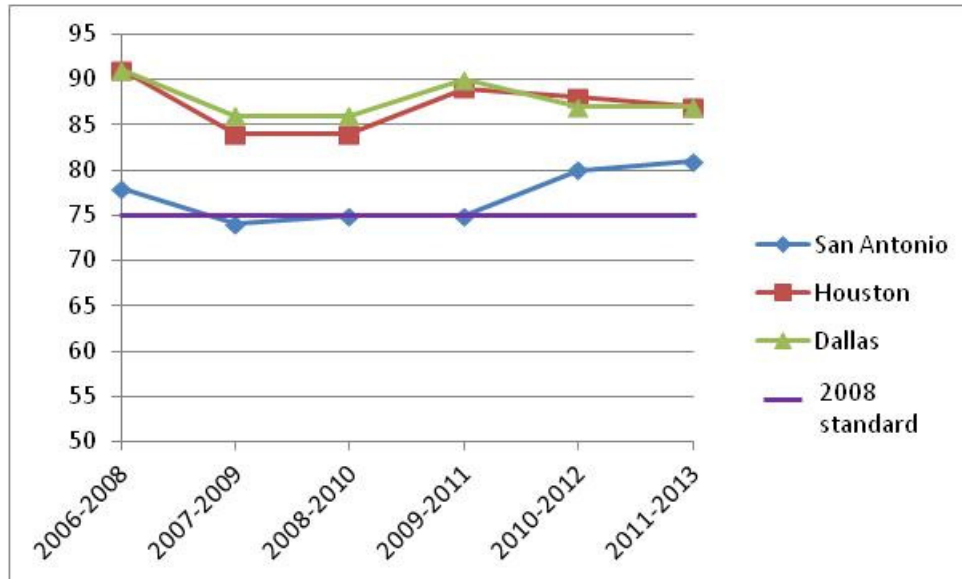
## **World Health Organization**

In October 2006, the World Health Organization (WHO) revised its international air quality guidelines for ozone.<sup>5</sup> The prior guideline for 8-hour average ozone concentrations of 120 µg/m<sup>3</sup> (61 ppb) was reduced to 100 µg/m<sup>3</sup> (51 ppb).

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<sup>4</sup> Letter from the American Thoracic Society, American Medical Association, American College of Chest Physicians, American College of Preventive Medicine, American College of Occupational and Environmental Medicine, American Association of Cardiovascular and Pulmonary Rehabilitation and National Association for the Medical Direction of Respiratory Care to Stephen L. Johnson, Administrator, Environmental Protection Agency. October 9, 2007. Submitted as comments to EPA-HQ-OAR-2005-0172.

Perhaps what is most concerning with regard to ozone in Texas is that since 2009, ozone design values have either increased or remained relatively stagnant in the three largest metropolitan areas (Figure 2).



**Figure 2. Ozone design values in Texas as reported by TCEQ. Data for graph accessed via [http://www.tceq.state.tx.us/cgi-bin/compliance/monops/8hr\\_attainment.pl](http://www.tceq.state.tx.us/cgi-bin/compliance/monops/8hr_attainment.pl)**

Concerned about ozone concentrations in the Dallas area, the Dallas Medical Association petitioned the state environmental agency to address pollution from some of the nation’s top polluters. The petition requested that the Texas Commission on Environmental Quality (TCEQ) adopt rules to reduce the pollution from three old coal-fired power plants that contribute disproportionately to high ozone levels in Dallas-Fort Worth and East Texas.<sup>6</sup>

## **B. Mercury**

Mercury is another pollutant of health concern across the country, but especially within the state of Texas. Mercury is a bioaccumulative neurotoxin that jeopardizes the brain development of infants and children. Coal- and oil-fired power plants are the nation's single largest manmade source of major toxic air contaminants, and are responsible for approximately 50 percent of mercury pollution. Texas was home to six of the top ten highest emitting coal plants for mercury and mercury compounds in the United States in 2012 and mercury emissions from Texas electric utilities have remained relatively consistent since 2001,<sup>7</sup> even though seventeen other states have taken measures to reduce mercury from their power plants. Maryland, for example, passed the Healthy Air Act back in 2007, curbing mercury pollution by 80%.<sup>8</sup>

<sup>5</sup> World Health Organization. WHO Air quality guidelines for particulate matter, ozone, nitrogen dioxide and sulfur dioxide. Global update 2005. Summary of risk assessment. Available at: <http://www.who.int/phe/air/aqg2006execsum.pdf>

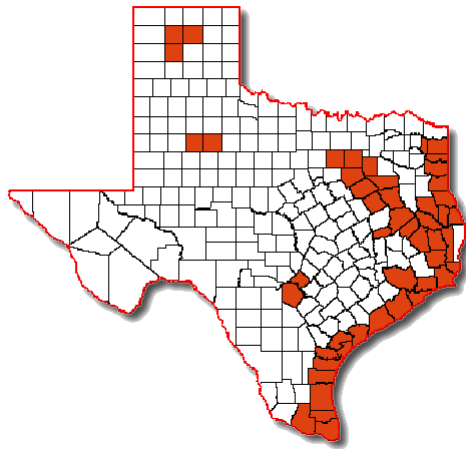
<sup>6</sup> [http://www.dallas-cms.org/news/dcms\\_petitionTCEQ\\_final.pdf](http://www.dallas-cms.org/news/dcms_petitionTCEQ_final.pdf)

<sup>7</sup> [http://iaspub.epa.gov/triexplorer/tri\\_release.facility](http://iaspub.epa.gov/triexplorer/tri_release.facility)

<sup>8</sup> [http://www.mde.md.gov/programs/Air/ProgramsHome/Pages/air/md\\_haa.aspx](http://www.mde.md.gov/programs/Air/ProgramsHome/Pages/air/md_haa.aspx)

Mercury vented into ambient air returns to Earth in precipitation or attached to particles, and through runoff or deposition can end up in lakes, rivers and the ocean. Toxic methylmercury results from the transformation of mercury by microorganisms in the sediments of water bodies. The methylated mercury readily accumulates in the aquatic food chain with the concentrations increasing at each level in the food chain.

Humans are exposed to methylmercury predominantly through the "[c]onsumption of contaminated fish.<sup>9</sup>" As of 2010, all states, including Texas, have mercury fish consumption advisories. Currently, there are fish consumption advisories in approximately one of every five counties in Texas (Figure 3).<sup>10</sup>



**Figure 3: Counties with current fish consumption advisories in the state of Texas.**

In a recent letter to President Obama, leading mercury scientists explained the biochemical mechanism associated with mercury's toxicity: "Mercury is such a potent toxin because it bonds very strongly to functionally important parts of proteins including enzymes, antibodies and nerve growth cones that keep cells alive, 'intelligent' and safe. Target enzymes, organs, or metabolic pathways vulnerable to mercury poisoning may change from cell to cell, person to person and in the same individual over time. Regardless, minimizing all mercury exposure is essential to improving human, wildlife and ecosystem health because exposure to mercury in any form places a heavy burden on the biochemical machinery within cells of all living organisms."<sup>11</sup>

### **C. Other Air Toxics**

In addition to unhealthy concentrations of ozone in the largest cities in Texas, there are specific areas around the state that have been identified by the Texas Commission on Environmental Quality (TCEQ) where the concentration of a specific air toxic has exceeded the state's screening

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<sup>9</sup> Leonardo Trasande, Philip J. Landrigan, and Clyde Schechter, Public Health and Economic Consequences of Methyl Mercury Toxicity to the Developing Brain, *Environmental Health Perspectives*, Vol. 113, No. 5 (May 2005).

<sup>10</sup> <http://www.dshs.state.tx.us/seafood/survey.shtm#advisory>

<sup>11</sup> Letter of 23 leading mercury scientists and physicians to President Barack Obama, Dec. 13, 2011([http://grist.files.wordpress.com/2011/12/mercury\\_scientists\\_in\\_support\\_of\\_the\\_mats.pdf](http://grist.files.wordpress.com/2011/12/mercury_scientists_in_support_of_the_mats.pdf))

level guidelines for over a decade (Figure 4). These areas are known as air pollution watch list areas (APWLs). Acute or chronic exposures to pollutants such as those listed on the APWL can lead to cancer, birth defects, and even death.

City	County	Pollutant(s)	Number of years on list
Dallas	Dallas	Nickel	10
N/A <sup>12</sup>	Bowie and Cass	Hydrogen Sulfide	15
El Paso	El Paso	Hydrogen Sulfide	10
Evadale	Jasper	Hydrogen Sulfide	11
Beaumont	Jefferson	Sulfur Dioxide	11
Port Arthur	Jefferson	Benzene	13
Freeport	Brazoria	Arsenic, Cobalt, Nickel, and Vanadium	9
Texas City <sup>13</sup>	Galveston	Propionaldehyde, Benzene, and Hydrogen Sulfide	13, 11, 10 years, respectively
Lynchburg Ferry Area	Harris	Styrene	12
Galena Park	Harris	Benzene	14

**Figure 4: Chart of APWL areas adopted from “Report on the Air Pollutant Watch List Areas in Texas Prepared by the Texas Commission on Environmental Quality Chief Engineer’s Office February 2012”**

#### **D. Other air pollutants of concern**

Other peer-reviewed reports from Texas-based researchers have indicated additional health threats from a number of other pollutants. In a 2007 peer reviewed paper published by Sexton et al. (2007), eleven pollutants in addition to ozone and particulate matter were classified as definitive risks to human health in the greater Houston area.<sup>14</sup>

<sup>12</sup> The company that the TCEQ identified as the primary contributor to the hydrogen sulfide concentrations in APWL 0501 is located in Cass County near Queen City and Domino. The APWL boundary encompasses an area over Bowie and Cass counties.

<sup>13</sup> While TCEQ proposed removal of TX City from the APWL, the agency has failed to respond to public comments demonstrating that the concentration of benzene in communities in TX City still exceeds the state’s screening level guidelines.

<sup>14</sup> Sexton et al. (2007). Comparative Assessment of Air Pollution–Related Health Risks in Houston. *Environ Health Perspect* 115:1388–1393 (2007). doi:10.1289/ehp.10043 available via <http://dx.doi.org/>

**Table 1. Basis and data source for classifying air pollutants in “definite risks” category in Greater Houston.<sup>a</sup>**

Air pollutant	Basis			Data source				
				AQS 2004 <sup>b</sup>		NATA 1999 <sup>c</sup>		
	Cancer risk	Chronic risk	NAAQS criteria exceedance	No. of monitors Cancer risk	Chronic risk	Days in exceedance	No. of census tracts Cancer risk	Chronic risk
Ozone			X		20	46		
PM <sub>2.5</sub>			X			0		
Diesel PM	X	X		6 <sup>d</sup>			895	43
1,3-Butadiene	X	X		7	1		9	1
Chromium VI	X			2 <sup>e</sup>			433	
Benzene	X			2			66	
Ethylene dibromide	X			1				
Acrylonitrile	X						6	
Formaldehyde		X			2			143
Acrolein		X			3			889
Chlorine		X						31
1,6-Hexamethylene Diisocyanate		X						6

Abbreviations: AQS, Air Quality System; X denotes the basis for risk classification.

<sup>a</sup>Greater Houston consists of the 10-county, Houston–Sugar Land–Baytown metropolitan statistical area defined by the U.S. Census Bureau (2003). <sup>b</sup>Data from U.S. EPA (2006b). <sup>c</sup>Data from U.S. EPA (2006a). <sup>d</sup>Diesel estimated using measured ambient elemental carbon concentrations. <sup>e</sup>Chromium VI estimated using measured ambient chromium PM<sub>2.5</sub> concentrations; see Supplemental Material, Appendix 3 (available online at <http://www.ehponline.org/docs/2007/10043/suppl.pdf>).

**Figure 5: Classification of definite risks from air pollution in Greater Houston as reported in Sexton et al (2007)**

### III. EPA Rules Protect Public Health, are Achievable, and Cost Effective

EPA Standards are estimated to be cost effective and to generate significant health benefits. Many Texas businesses are well-positioned to adopt new standards and initial cost estimates for compliance have proven to be overstated. For instance:

#### A. Ozone

##### National Ambient Air Quality Standard (NAAQS)

In 2009, the Houston region reached attainment with the 1997 ozone NAAQS. According to an economic analysis completed by the TCEQ, the Houston area exhibited the highest economic activity of any three-year period on record during the 2007 through 2009 time period. The analysis further describes that over the last two decades, ozone concentrations and economic growth have rarely been correlated in the Houston area, and that many of the years that saw robust economic growth coincided with declines in the eight-hour and one-hour ozone design values (Figure 6).

According to TCEQ’s analysis, “reducing ozone concentrations in the presence of continuing economic growth through the development of state implementation plans and implementing control strategies for emission reduction is possible. Expansion of emitting activities during

phases of economic growth certainly makes the task of attaining clean air standards more challenging, but it should not prevent, and has not prevented, the HGB area, among many others, from making substantial progress in improving air quality.<sup>15</sup>

**Table B-2: Maximum Annual One-Hour and Eight-Hour Ozone Design Values in the HGB Area and the Annual Average Federal Reserve Bank of Dallas Annual Business Cycle Index\* for the HSB\*\* MSA**

	<u>Maximum</u>		<u>HSB** Federal Reserve Bank of Dallas Business Cycle Index*</u>	
	<u>HGB Ozone Design Value</u>	<u>Change</u>	<u>annual average</u>	<u>year-over-year change</u>
	<i>ppm</i>	<i>%</i>	<i>index</i>	<i>%</i>
1991	119		130.1	
1992	116	-2.5	132.0	1.5
1993	104	-10.3	136.8	3.6
1994	110	5.8	143.1	4.6
1995	114	3.6	150.7	5.3
1996	116	1.8	157.6	4.6
1997	117	0.9	168.1	6.7
1998	116	-0.9	181.0	7.6
1999	118	1.7	187.4	3.5
2000	112	-5.1	195.7	4.5
2001	110	-1.8	202.8	3.6
2002	107	-2.7	205.4	1.3
2003	102	-4.7	207.2	0.9
2004	101	-1.0	212.3	2.5
2005	103	2.0	222.4	4.7
2006	103	0.0	237.1	6.6
2007	96	-6.8	252.2	6.4
2008	91	-5.2	262.8	4.2
2009***	84	-7.7	260.1	-1.0

Sources: Texas Commission on Environmental Quality ([www.tceq.state.tx.us/comm\\_exec/forms\\_pubs/pubs/pd/020/10-02/hgb-alt-text](http://www.tceq.state.tx.us/comm_exec/forms_pubs/pubs/pd/020/10-02/hgb-alt-text)) and Federal Reserve Bank of Dallas ([dallasfed.org/data/data/metro9.tab.htm](http://dallasfed.org/data/data/metro9.tab.htm)).

\*October 1980 = 100.

\*\*The United States Department of Commerce defines the HGB area as the "Houston-Sugarland-Baytown" Metropolitan Statistical Area (MSA), which includes the eight-county ozone non-attainment area plus Austin County and San Jacinto County.

\*\*\*Through November 2009.

**Figure 6: Taken from TCEQ’s Executive Summary: Request for Determination Regarding Termination of the One-Hour Ozone Section 185 Fee Obligation.<sup>16</sup>**

### Cross State Air Pollution Rule (CSAPR)

The health and economic benefits of the Cross-State Air Pollution Rule include extensive health protections enabling millions of Americans to live healthier, longer lives. Nationally, the rule is projected to:

- Save up to 34,000 lives per year
- Prevent 400,000 asthma attacks per year
- Avoid 1.8 million sick days per year
- Provide benefits of \$120 to \$280 billion per year<sup>17</sup>

<sup>15</sup> <http://www.tceq.texas.gov/assets/public/implementation/air/ie/pseiforms/hgbTDrequest.pdf>

<sup>16</sup> <http://www.tceq.texas.gov/assets/public/implementation/air/ie/pseiforms/hgbTDrequest.pdf>

<sup>17</sup> <http://www.epa.gov/crossstaterule/pdfs/FinalRIA.pdf>



In Texas specifically, reducing pollution from both out of state and in-state is estimated to:

- save up to 1,704 lives per year<sup>18</sup>
- prevent 712 heart attacks, 414 hospitalizations, and 665 ER visits per year
- prevent 113,128 lost work days
- provide approximately \$14 billion in benefits to Texas each year<sup>19</sup>

In 2011, the Bernstein Research Group analyzed the potential for the state of Texas to comply with CSAPR without costly upgrades or plant closures. Their findings indicate that “if Texas utilities were simply to run their existing scrubbers continuously, and switch unscrubbed units to lower sulfur coal, Texas could likely comply with its SO<sub>2</sub> budget under CSAPR in 2012.”<sup>20</sup>

The Lower Colorado River Authority in Texas says it is “well-positioned” to comply with the new EPA rules. “The investments made in Fayette [plant] will be one of the ways to continue to offer low-cost generation and be competitive in the Texas market,” McCluskey, manager of generation resource development at the LCRA, said.<sup>21</sup>

There are a few companies with operations in Texas that have claimed that compliance costs will be overly burdensome to the industry. However, compliance cost estimates from several power companies have proven to be unreliable and not what the industry would actually spend in compliance. American Electric Power (AEP) and Southern Company, both of which are involved in the litigation seeking to block these clean air protections, have slashed estimated compliance costs by 30 to 50 percent.<sup>22,23</sup>

## **B. Mercury**

### **Mercury Air Toxics Standard (MATS)**

The Mercury and Air Toxics Standards (MATS) are the first nation-wide limits on power sector emissions of mercury and other toxic air pollutants including arsenic, cadmium, other heavy metals, and acid gases. These standards were issued after years of exhaustive studies of the impacts of power sector emissions of air toxics on public health, which Congress first requested in the Clean Air Act Amendments of 1990.

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<sup>18</sup> U.S. Environmental Protection Agency (EPA). – Regulatory Impact Analysis for the Federal Implementation Plans to Reduce Interstate Transport of Fine Particulate Matter and Ozone in 27 States; Correction of SIP Approvals for 22 States, June 2011 and Supplemental Information.  
<http://www.epa.gov/airtransport/pdfs/FinalRIA.pdf>

<sup>19</sup> U.S. Environmental Protection Agency (EPA). Estimate in 2007 dollars. See excel spreadsheet at:  
<http://www.epa.gov/airtransport/benefitsmap.html>

<sup>20</sup> <http://blogs.edf.org/texascleanairmatters/files/2011/07/CSAPR-Texas.pdf>

<sup>21</sup> <http://www.statesman.com/news/news/local/lcra-adds-scrubbers-to-clean-sulfur-dioxide-from-1/nRc8M/>

<sup>22</sup> <http://seekingalpha.com/article/736561-american-electric-power-management-discusses-q2-2012-results-earnings-call-transcript>

<sup>23</sup> <http://seekingalpha.com/article/749651-southern-management-discusses-q2-2012-results-earnings-call-transcript>

MATS is projected to prevent 130,000 childhood asthma attacks, 5,700 hospital visits, and up to 11,000 premature deaths annually. An Economic Policy Institute analysis indicates that the Air Toxics rule will have a net positive impact on overall employment, creating 28,000 to 158,000 jobs in the three years following implementation.<sup>24</sup> Total economic benefits of the rule are expected to outweigh the costs by up to 9 to 1.

MATS standards are based on well-known technologies that have been used in the power sector for years to cut emissions of mercury, sulfur dioxide and particulates. Furthermore, MATS builds in flexibility for facilities to achieve the standards by using existing emission controls, upgrading controls, switching fuels, and averaging emissions.

Recent statements from utility companies on the standards suggest that implementation is going smoothly and that compliance costs will be less than originally expected:

- Dynegy has stated that Illinois' Hennepin and Havana plants are expected to remain operating and in compliance – indeed, most of the upgrades have already been done in order to comply with Illinois' already "stringent" regulations, with which they have been complying since 2009. Kay Sullivan, Dynegy director of public relations, explained, "We anticipated the changes and saw the need to make an investment there. We're where we need to be."<sup>25</sup>
- Public Service of New Hampshire's mercury pollution controls at its coal-fired Merrimack Station power plant puts the state's largest utility in good stead to meet new federal pollution rules. PSNH said, "The really good news for New Hampshire is the mercury reduction law that the Legislature passed in 2006 put us on a path of compliance that synchs up very well with this new federal standard."<sup>26</sup>
- Kansas City Power & Light has already made extensive investments to control pollution of toxic metals, and as a result has said that it is "relatively well positioned to meet the compliance deadlines of these new rules."<sup>27</sup>
- Midwest Generation, headquartered in Illinois, has been developing and installing mercury emission controls at its plants since 2008, nearly all of the company's generating units are already reducing mercury emissions by more than 90 percent and already comply with the USEPA's regulation of mercury emissions.<sup>28</sup>

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<sup>24</sup> <http://s1.epi.org/files/temp2011/BriefingPaper312%20%282%29.pdf>

<sup>25</sup> Jeff Dankert, "Hennepin coal plant expects to comply with EPA regulation," News Tribune, December 23, 2011. <http://www.newstrib.com/articles/news/nci/default.asp?article=31437&aname=Hennepin+coal+plant+expe+cts+to+comply+with+EPA+regulation>

<sup>26</sup> Denis Paiste, "PSNH Says Bow scrubber already meeting standards," New Hampshire Union Leader, December 23, 2011. <http://www.unionleader.com/article/20111223/NEWS02/712239971>

<sup>27</sup> William Seay, "KCP&L Responds to New EPA Power Plant Standards," The St. Joe Channel, December 23, 2011. [http://stjoechannel.com/fulltext/?nxd\\_id=246487](http://stjoechannel.com/fulltext/?nxd_id=246487)

<sup>28</sup> Business Wire, "Midwest Generation completes installation of additional pollution controls," December

- Dairyland Power Cooperative in Wisconsin says it is prepared to comply with the new rules. Dairyland has already implemented about half of its \$400 million plan to install pollution controls on coal-fired plants in Genoa and Alma. "We have anticipated a rule like this," said spokeswoman Katie Thompsen. "We're well prepared to be in compliance with it."<sup>29</sup>
- Xcel Energy, a utility supplier of electric power and natural gas service in Colorado, Kansas, Michigan, Minnesota, New Mexico, North Dakota, Oklahoma, South Dakota, Texas, and Wisconsin said, "we are well positioned to comply with a number of new environmental standards and regulations, like this one, thanks to early actions we have taken to modernize our generation and mitigate future environmental compliance costs."<sup>30</sup>
- PSEG's Vice President of policy and environment, Eric Svenson, said the MATS rules were "overdue" and praised the EPA for adopting a pragmatic approach. Mr. Svenson noted that, despite the outcry from some interest groups, much of the industry was already compliant with the new standards. PSEG, based in New Jersey and one of the ten largest utilities in the country, has already spent about \$1.6 billion on upgrading three of its power plants.<sup>31</sup>

Further, some companies, such as American Electric Power, have significantly lowered their estimated costs of compliance since the standards were finalized. In a February 2012 meeting with investors, AEP announced it had "cut its estimate for complying with EPA's mercury rule in Ohio to \$400 million from last summer's estimate of \$1.1 billion."<sup>32</sup>

### **C. Greenhouse Gas Standards**

Since January 2011, large power plants and industrial facilities that are newly constructed or undergoing modifications have been obligated to obtain pre-construction permits requiring "best available control technology" for greenhouse gases – just as the Clean Air Act has required for other regulated pollutants since the 1970s. These Prevention of Significant Deterioration (PSD) permits are an important way to ensure that new facilities incorporate the most efficient and up-to-date technologies available, taking account of costs and technical feasibility. Whereas

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22, 2011. <http://www.businesswire.com/news/home/20111222005573/en/Midwest-Generation-Completes-Installation-Additional-Pollution-Controls>

<sup>29</sup> Chris Hubbuch, "Dairyland, Xcel prepared for mercury rules," LaCrosse Tribune, December 22, 2011. [http://lacrossetribune.com/dairyland-xcel-prepared-for-mercury-rules/article\\_b612f370-2c50-11e1-aac7-0019bb2963f4.html#ixzz1hGiDoi58](http://lacrossetribune.com/dairyland-xcel-prepared-for-mercury-rules/article_b612f370-2c50-11e1-aac7-0019bb2963f4.html#ixzz1hGiDoi58)

<sup>30</sup> Chris Hubbuch, "Dairyland, Xcel prepared for mercury rules," LaCrosse Tribune, December 22, 2011. [http://lacrossetribune.com/dairyland-xcel-prepared-for-mercury-rules/article\\_b612f370-2c50-11e1-aac7-0019bb2963f4.html#ixzz1hGiDoi58](http://lacrossetribune.com/dairyland-xcel-prepared-for-mercury-rules/article_b612f370-2c50-11e1-aac7-0019bb2963f4.html#ixzz1hGiDoi58)

<sup>31</sup> Jeremy Lemer, "EPA toughens rules on US power emissions," Financial Times, December 21, 2011. Available online: <http://www.ft.com/intl/cms/s/0/93e363ae-2c17-11e1-98bc-00144feabdco.html#axzz1p7zFrFOI> (accessed March 14, 2012)

<sup>32</sup> Martinson, Erica. "AEP: Costs of meeting power plant rule decline," Politico, February 24, 2012.

almost all states have revised their Clean Air Act regulations to incorporate these new requirements, Texas unfortunately has refused to implement this program and has litigated EPA's authority to do so in the D.C. Circuit and the Supreme Court.

Despite Texas' protests, states and utilities that are implementing the PSD program for greenhouse gases have found that it is a cost-effective and reasonable process. One of the nation's largest utilities, Calpine Corporation, recently submitted a brief in the Supreme Court *supporting* the application of PSD requirements to greenhouse gas emissions. Calpine's brief noted that the company has recently invested billions of dollars in efficient new natural gas combined cycle (NGCC) facilities, and that it has successfully completed PSD permitting for greenhouse gases for six projects (two of which are located in Texas, and received PSD permits directly from EPA). Calpine noted that obtaining these permits did not delay its projects or add significant costs, and resulted in the adoption of energy efficient technologies with important environmental and economic benefits.<sup>33</sup> Nationwide, over 100 PSD permits with greenhouse gas limits had been issued as of September 2013, in at least a dozen major industrial sectors including electric power generation, chemical production, and oil and gas production and processing.<sup>34</sup>

#### **D. Oil and Gas Standards**

In 2012, EPA issued long-overdue revisions to emission standards for equipment used in oil and natural gas production, processing, and transmission. These standards are based on proven and extremely cost-effective technologies that were already required in Colorado and Wyoming, and had been implemented by some leading companies around the country. EPA's standards will lead to direct and significant reductions in emissions of volatile organic compounds (VOCs) that contribute to unhealthy ozone and particulate levels, and will also reduce emissions of carcinogenic air toxics such as benzene.

When fully implemented in 2015, these standards are expected to prevent approximately 190,000 tons of VOC emissions and 11,000 tons of hazardous air pollutant emissions. As an important side benefit, these standards will also reduce emissions of methane – a potent greenhouse gas – by approximately 1,000,000 tons per year.<sup>35</sup> But one of the most striking things about this regulation is that it is expected to achieve these benefits at no net cost to industry.<sup>36</sup> That's because many of the emission reduction measures included in these standards result in recovery of natural gas that would otherwise be lost to the atmosphere, directly benefiting the bottom lines of producers.

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<sup>33</sup> *Utility Air Regulatory Group v. EPA*, No. 12-1146 et al., Brief of Calpine Corporation as Amicus Curiae in Support of Respondent (S.Ct. Jan. 28, 2014)

<sup>34</sup> Greenhouse Gas Permitting Update, EPA Office of Air Quality Planning and Standards, National Association of Clean Air Agencies Meeting at 39 (Sept. 2013), available at <http://www.westar.org/Docs/Business%20Meetings/Fall13/06.2%20NACAA%20fall%202013.PPT>

<sup>35</sup> See EPA, Regulatory Impact Analysis, Final New Source Performance Standards and Amendments to the National Emission Standards for Hazardous Air Pollutants for the Oil and Natural Gas Industry 4-1 (Apr. 2012).

<sup>36</sup> *Id.* at 1-4 (noting the annual cost of the NSPS is expected to be negative \$15 million, assuming a conservatively low natural gas price of \$4/Mcf).

To be sure, the NSPS is only a first step towards minimizing the significant emissions of harmful pollutants that result from uncontrolled oil and gas facilities. Nevertheless, the NSPS stands as a good example of common-sense Clean Air Act regulations that benefit public health, conserve natural resources, and yield economic dividends.

#### **E. Clean Air Act**

In the 1990 Clean Air Act Amendments, Congress directed EPA to periodically evaluate the benefits and costs of Clean Air Act programs. EPA's most recent peer-reviewed report was issued in 2011. It confirmed that the health and economic benefits of Clean Air Act measures to reduce harmful particulates, ozone and other air pollutants are immense - and vastly exceed any economic costs under any reasonable combination of assumptions or alternative methods.<sup>37</sup>

Among the study's findings:

- In 2010, Clean Air Act programs to reduce particulate pollution prevented over 160,000 premature deaths, relative to what would have occurred under the pre-1990 Clean Air Act. By 2020, the annual estimate of lives saved will exceed 230,000.
- In 2010, Clean Air Act programs avoided nearly 200,000 cases of chronic and acute bronchitis; 130,000 heart attacks; 86,000 hospital admissions and emergency room visits; and 1.7 million cases of exacerbated asthma. By 2020, these health benefits are expected to increase by approximately 50% over 2010 levels.<sup>38</sup>
- Premature deaths, hospitalizations, and other impacts from air pollution have enormous economic and societal costs. EPA found that the direct benefits of the Clean Air Act in reducing mortality and pollution-related problems were \$1.3 trillion in 2010 and would be nearly \$2 trillion in 2020 (about 25 to 30 times the direct costs).<sup>39</sup> Moreover, EPA found that reduced sick days and medical costs due to improved air quality would enhance overall economic growth and welfare for Americans.

#### **IV. Texas Failure to Act Costs Texas Taxpayers Money, Jeopardizes Jobs, and Leads to Regulatory Uncertainty**

The Texas attorney general Greg Abbott has filed or been a party to 27 lawsuits against the federal government since 2009, costing Texas taxpayers more than \$2.8 million.<sup>40</sup>

Texas' legal actions have jeopardized the ability of facilities in the state to conduct business. A recent article in the Texas Tribune titled "Anti-Regulation Politics May Have Hurt Energy Industry," highlights the burden that a dual permitting authority has placed on businesses operating in Texas that are trying to obtain greenhouse gas permits.<sup>41</sup> The Texas Pipeline

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<sup>37</sup> EPA, *The Benefits and Costs of the Clean Air Act From 1990 to 2020* (Apr. 2011).

<sup>38</sup> *Id* at 5-25 to 5-26.

<sup>39</sup> *Id* at 7-9.

<sup>40</sup> <http://houston.cbslocal.com/2012/09/09/texas-has-spent-over-2-5m-suing-feds-since-obama-took-office/>

<sup>41</sup> <http://www.texastribune.org/2014/02/02/anti-regulation-politics-may-have-hurt-energy-indu/>

Association estimates that “more than 50 planned projects since early 2011 have been significantly delayed by the [Texas] permitting process, putting 48,000 jobs at risk.”

## **V. Conclusion**

This hearing is held under the auspices of the House Committee on Science, Space, and Technology. With that in mind, it is science that informs us that so many health benefits are available to the people of Texas. Technologies exist that makes those benefits achievable and cost-effective. We need leadership and cooperation from our representatives and public officials in employing common sense solutions to ensure that Texas has a vibrant economy and a healthy environment.