Texas Wesleyan Law Review

Volume 17 | Issue 2 Article 7

1-1-2011

Federal Regulation of Greenhouse Gas Emissions a Practical Certainty: How Will the Texas Energy Industry Survive-Maybe Thrive?

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FEDERAL REGULATION OF GREENHOUSE GAS EMISSIONS A PRACTICAL CERTAINTY: HOW WILL THE TEXAS ENERGY INDUSTRY SURVIVE—MAYBE THRIVE?

By Nicholas G. Morrow

ABSTRACT

This article asks the policy question: How is the Texas Legislature preparing to protect the Texas energy industry from the federal regulation of greenhouse gas emissions? The article begins with an explanation of why federal regulation of greenhouse gas emissions appears to be a practical certainty. In 2007, a 5–4 U.S. Supreme Court majority held the Environmental Protection Agency must regulate greenhouse gas emissions or find some reason rooted in the Clean Air Act why it should not act. This article will explore this decision, as well as the executive order that followed and the American Clean Energy and Security Act of 2009.

This article next discusses the implications of three bills passed into law by the 81st Legislature relating to carbon capture and sequestration (CCS) technology. House Bill 1796 provides for a carbon dioxide repository in subsurface geologic formations off the coast of Texas. House Bill 469 provides for the creation of clean energy projects, in which coal plants sequester carbon dioxide into geologic formations for permanent storage. Senate Bill 1387 establishes a regulatory framework for the implementation of CCS technology in Texas.

Finally, this article analyzes three bills relating to renewable energy that failed to be enacted. These bills serve as a foundation—and possibly an indication—of legislative initiatives to come in the following sessions. House Bill 1243 would have allowed customers of retail electric providers to sell back to the grid surplus energy generated from renewable energy sources. Senate Bill 541 would have updated renewable energy source goals and modified the Texas Renewable Energy Credit trading program. Senate Bill 545 would have provided incentives for investment in solar energy generation, as well as reduced the initial costs of implementation.

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DOI: https://doi.org/10.37419/TWLR.V17.I2.6

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I. INTRODUCTION

"I certainly got religion . . . I think he's gone to hell," the Texas Governor, Rick Perry, joked about Al Gore.[1] Governor Perry's rhetoric, which implicitly analogizes climate change to religion, is appropriate considering the topic is debated with such zeal and certainty only surpassed by religious debate. Those who *believe*, claim it is simple science. Those who question the underlying scientific model are cast aside as *nonbelievers*. This article will quickly move past that debate and attempt only a brief explanation of climate change. The reality is that climate-change legislation is on they way. Sure, it might get derailed, but that would take a changing of the tide. Part II of this article will explain why.

The climate change game is best played at a regional level.[2] States have competing interests.[3] Massachusetts, for example, seeks to protect its wonderful coastline.[4] Texas, on the other hand, is the so-called *energy capital* of the world.[5] As federal regulation of greenhouse gas emissions seems increasingly likely, the Massachusetts coastline appears to be safe once again.[6] However, Texas should be proactive in

1. Gromer Jeffers Jr., *Texas Gov. Rick Perry Takes Jab at Ex-ally Al Gore on Climate Change*, DALLAS MORNING NEWS, December 17, 2009, at B05, *available at* http://www.dallasnews.com/sharedcontent/dws/news/texassouthwest/legislature/stories/DN-perry_17met.ART.East.Edition1.4be59a4.html.

2. *See* Jason Scott Johnston, *Climate Change Confusion and The Supreme Court: The Misguided Regulation of Greenhouse Gas Emissions Under the Clean Air Act*, 84 NOTRE DAME L. REV. 1, 58 (2008).

3. *Id.*

4. *See* Massachusetts v. EPA, 549 U.S. 497, 522–23 (2007).

5. *E.g.*, David J. Lynch, *Has Citgo Become a Political Tool for Hugo Chavez?*, USA TODAY, Jan. 12, 2006 (referring to Houston as self-proclaimed energy capital of the world), http://www.usatoday.com/money/industries/energy/2006-01-11-citgo-cover-usat_x.htm.

6. *See Massachusetts*, 549 U.S. at 522–23, 534–35; *see also* House Comm. on Natural Res., Bill Analysis, Tex. H.B. 1796, 81st Leg., R.S. (2009).

protecting its energy industry from federal regulations that limit or tax the emission of carbon dioxide from stationary sources.[7] Part III of this article, in the words of Governor Perry, "look[s] at the way we do things down here in Texas," by examining three bills the 81st Texas Legislature passed into law that are intended to mitigate the impact of federal regulation of greenhouse gas emissions on the Texas economy.[8]

Finally, Part IV will explore legislation that was not passed into law. Bills that died in committee and on chamber floors may be examined and analyzed as a framework for what Texans can expect to see in the future.

Greenhouse gasses (GHG), like carbon dioxide and methane, are heat-trapping molecules that allow heat to reach the earth, but inhibit it from radiating back out into space.[9] Human activity, including burning fossil fuel, raising cattle and fertilizing crops,[10] has increased the concentration of GHGs in the earth's atmosphere.[11] Prior to the Industrial Revolution, the atmospheric concentration of carbon dioxide averaged 280 parts per million (ppm).[12] Since then, 280 ppm has increased to more than 380 ppm.[13] Scientists fear that if the trend continues, the atmospheric concentration of carbon dioxide could reach above 700 ppm by 2100, which would cause the earth's temperature to increase by at least eight degrees Fahrenheit.[14] Furthermore, some scientists fear that as the temperature increases, methane stored in frozen arctic soil will be released, thus increasing the rate of climate change and making climate change more difficult to reverse.[15]

In its 2007 report, the Intergovernmental Panel on Climate Change (IPCC) characterized evidence of climate change as *unequivocal*.[16] According to John P. Holdren, an expert of climate and energy from Harvard, the report "powerfully underscores the need for a massive effort to slow the pace of global climate disruption before intolerable consequences become inevitable."[17] Critics discount the findings of

7. Senate Research Ctr., Bill Analysis, Tex. H.B. 1796, 81st Leg., R.S. (2009) (engrossed version).

8. Jeffers Jr., *supra* note 1.

9. H.R. Rep. 111-137, pt. 1, at 296 (2009).

10. Jonathan Baert Wiener, *Global Environmental Regulation: Instrument Choice in Legal Context*, 108 YALE L.J. 677, 692 (1999).

11. Richard B. Alley et al., *Summary for Policy Makers*, *in* CLIMATE CHANGE 2007: THE PHYSICAL SCIENCE BASIS 3 (Susan Solomon et al. eds., 2007), http://www.ipcc.ch/pdf/assessment-report/ar4/wg1/ar4-wg1-spm.pdf.

12. *Id.* at 2.

13. H.R. Rep. 111-137, pt. 1, at 297.

14. *Id.* at 297.

15. *Id.*

16. Alley et al., *supra* note 13, at 4.

17. Elisabeth Rosenthal & Andrew C. Revkin, *Science Panel Calls Global Warming 'Unequivocal,'* N.Y. TIMES, Feb. 3, 2007, http://www.nytimes.com/2007/02/03/science/earth/03climate.html.

the IPCC, challenging the report as "a political document."[18] Others question the reliability of the underlying scientific model, pointing out that although the IPCC predicts a 5 degree Celsius per decade climate increase in the tropical troposphere, satellite measurements indicate no pattern of warming.[19] Despite opposing views of the scientific findings concerning global warming, the likelihood of a sweeping federal regulatory scheme capping GHG emissions in the United States appears increasingly imminent.[20] Therefore, Texas, as a so-called *energy state*, must not only be prepared to comply with a federal cap-and-trade GHG regulatory scheme, but also profit from the opportunities that will follow.

II. Federal GHG Emissions Regulation a Practical Certainty: Action in All Three Branches

Federal regulation of GHG emission is becoming increasingly certain. In 2007, the Supreme Court ordered the EPA to either regulate GHG emissions from new motor vehicles or find a permissible reason for inaction,[21] such as finding that GHG emissions "do not endanger human health and welfare."[22] In 2009, the Environmental Protection Agency (EPA) issued a proposed endangerment finding: the first step toward regulating emissions under the Clean Air Act (CAA).[23] Because the EPA must now act, Congress has taken steps to intervene by proposing several different amendments to the CAA. The only question is, how will federal regulation of GHG emissions develop moving forward?

A. *The Catalyst:* Massachusetts v. EPA

In a 5–4 decision, the U. S. Supreme Court held: (1) Massachusetts had standing to invoke the Court's jurisdiction under Article III of the U.S. Constitution and challenge the EPA after a denial of its § 202 rulemaking petition; (2) the EPA has authority under § 202 of the CAA to establish GHG emissions standards for new automobiles; and (3) while the EPA was not compelled to regulate GHG emissions from new automobiles, any reason for inaction must conform to the express statutory language of the CAA.[24] Nineteen organizations,

18. *Id.*

19. Letter from Am. Energy Alliance to Air & Radiation Docket & Info. Ctr., EPA 23–24 (Nov. 28, 2008).

20. House Comm. on Envtl. Regulation, Bill Analysis, Tex. H.B. 1796, 81st Leg., R.S. (2009).

21. *See* Massachusetts v. EPA, 549 U.S. 497, 505, 526, 532–33, 535 (2007).

22. Letter from Am. Energy Alliance to Air & Radiation Docket & Info. Ctr., *supra* note 21, at 4.

23. Endangerment and Cause or Contribute Findings for Greenhouse Gases, 74 Fed. Reg. 18,886 (proposed Apr. 24, 2009) (to be codified at 7 C.F.R. pt. 1).

24. *Massachusetts*, 549 U.S. at 526, 532, 534–35; Robert Meltz, Cong. Research Serv., RS22665, The Supreme Court's Climate Change Decision: *Mas-*

comprised mostly of environmental advocacy groups, initiated the suit by filing a rulemaking petition requesting the EPA to regulate "greenhouse gas emissions from new motor vehicles under § 202 of the Clean Air Act."[25] Nearly four years later, the EPA denied the rulemaking petition.[26] The petitioners—along with 12 states (including Massachusetts), three city governments, and two U.S. territories—appealed to the U.S. Court of Appeals, D.C. Circuit.[27] In opposition, the EPA—with ten states (including Texas) and six automobile-related trade organizations—argued it properly exercised its discretion in denying the rulemaking petition.[28] A split panel in the Court of Appeals rejected the suit.[29] Even though each judge authored a separate opinion, the majority agreed "that the EPA Administrator properly exercised his discretion under § 202(a)(1) in denying the petition for rule making."[30]

The Supreme Court granted certiorari.[31] Many commentators were surprised the Supreme Court granted the writ for certiorari because there was no circuit split in decisions construing § 202(a)(1) of the CAA and the Court rarely grants certiorari over the opposition of an administrative agency, given their usually-broad discretion.[32] The court acknowledged the rarity of its decision to grant writ, noting, "the unusual importance of the underlying issue persuaded [them] to grant the writ."[33] Most of the opinion is dedicated to the jurisdictional issue of whether Massachusetts had standing under Article III of the Constitution.[34] Despite the importance of the jurisdictional issue, which may be characterized as an ever-present threshold issue in climate-change litigation,[35] it was not the important "underlying issue" that

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sachusetts v. EPA 1 (2007), http://ncseonline.org/NLE/CRS/abstract.cfm?NLEid=1864.

25. *Massachusetts*, 549 U.S. at 510 & n.15.

26. *Id.* at 511 (citing Control of Emissions From New Highway Vehicles and Engines, 68 Fed. Reg. 52922 (Sept. 8, 2003)).

27. *Id.* at 514 & nn.2–4; *see also* MELTZ, *supra* note 26, at 2.

28. *Massachusetts*, 549 U.S. at 505, 506 & nn.5–6; *see also* MELTZ, *supra* note 26, at 2.

29. *Massachusetts*, 549 U.S. at 514–16.

30. *Massachusetts*, 549 U.S. at 505, 506 & nn.5–6 (citing *Massachusetts v. EPA*, 415 F.3d 50, 58 (D.C. Cir. 2005); *see also* MELTZ, *supra* note 26, at 2.

31. *Massachusetts*, 549 U.S. at 505–06.

32. *Id.* at 505–06; MELTZ, *supra*, note 26, at 3. Section 202(a)(1) of Clean Air Act reads, "[t]he [EPA] Administrator *shall* by regulation prescribe (and from time to time revise) in accordance with the provisions of this section, standards applicable to the emission of any air pollutant from any class or classes of new motor vehicles or new motor vehicle engines, which *in [the administrator's] judgment* cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare." 42 U.S.C. § 7521(a)(1) (emphasis added).

33. *See Massachusetts*, 549 U.S. at 506; *see also* MELTZ, *supra* note 26, at 3 (quoting *Massachusetts*, 549 U.S. at 506).

34. MELTZ, *supra* note 26, at 3.

35. *Id.*

persuaded the Court to grant certiorari.[36] Hence, considering the Court's lengthy analysis of the jurisdictional issue, it's analysis of the "underlying issue," whether the EPA has rulemaking authority over GHG emissions from new automobiles under the CAA and, if so, whether its purported justifications for inaction are valid, seems oddly brief.[37] Nonetheless, while the Court's holding that a state has jurisdictional standing opens the door to future litigation, it is the Court's brief analysis of the CAA issues that may eventually bring about a comprehensive regulatory scheme.[38]

In its analysis of the second issue, the Court held that the EPA has rulemaking authority under § 202 of the CAA to establish GHG emissions standards for new motor vehicles.[39] Citing two important provisions from the CAA in coming to its conclusion, the Court first provided the relevant part of the CAA, which commands the EPA "shall by regulation prescribe . . . standards applicable to the emissions of any air pollutant from . . . new motor vehicles or new motor vehicle engines, which in [the Administrator's] judgment cause, or contribute to, air pollution which may reasonably be anticipated to endanger public health or welfare."[40] Second, the Court notes that the definition of "air pollutant" under the CAA encompasses "any air pollution agent . . . including any physical chemical . . . substance or matter which is emitted into or otherwise enters the ambient air . . . ."[41] The Court concluded that considering the statute's repetitive use of the word "any," and the definition of "air pollutant" under the CAA unambiguously includes "all airborne compounds" including GHGs such as carbon dioxide, nitrus oxide, hydrofluerocarbons, and methane.[42] Thus, the Court held the EPA has rulemaking authority to establish regulations over carbon dioxide emissions from new motor vehicles pursuant to the CAA because GHGs fall under the statutory definition of pollutant.[43]

Finally, the Court held that the EPA must root any justification for inaction in the text of the CAA.[44] Specifically, the language "in [the EPA Administrator's] judgment" in § 202(1)(a) of the CAA, allows the EPA to ground its reasons for inaction in whether a pollutant "may reasonably be anticipated to endanger public health or welfare," but does not allow the EPA to withhold action based on policy prefer-

36. *Massachusetts*, 549 U.S. at 505–06 ("Notwithstanding the serious character of that jurisdictional argument and the absence of any conflicting decisions construing § 202(a)(1), the unusual importance of the underlying issue persuaded [the Court] to grant the writ.").

37. *See id.*

38. *See* Meltz, *supra* note 26, at 6.

39. *Massachusetts*, 549 U.S. at 532.

40. *Id.* at 528 (quoting 42 U.S.C. § 7521(a)(1) (2006)).

41. *Id.* at 528–29 (quoting 42 U.S.C. § 7602(g) (2006)).

42. *Id.*

43. *Id.* at 532.

44. *Id.* at 535.

ences.[45] Ultimately, the Court declared that the EPA may avoid action only by: (1) finding that GHG emissions do not endanger the public welfare; or (2) by providing some other reasonable explanation, grounded in the statute, why it cannot regulate new motor vehicles that emit GHGs into the ambient air.[46]

Moving forward, the Court's rationale opens the door to future litigation involving the EPA's power to regulate GHG emission from stationary sources because stationary-source provisions of the CAA use similar language as § 202.[47] Section 108(a)(2), a stationary-source provision, requires the Administrator to "issue air quality criteria for an air pollutant," which in the Administrator's judgment, "may reasonably be anticipated to endanger public health or welfare."[48] Therefore, when GHGs are added to the list of "air pollutants . . . emissions of which, in [the Administrator's] judgment, . . . may reasonably be anticipated to endanger public health or welfare,"[49] the EPA will most likely be required to exercise its rulemaking authority under the CAA to establish regulations for GHG emissions from stationary sources.[50]

B. *The Executive's Response: EPA Endangerment Finding*

Following *Massachusetts*, President Bush issued an executive order declaring it U.S. policy to "protect the environment with respect to greenhouse gas emissions from motor vehicles, nonroad vehicles, and nonroad engines, in a manner consistent with sound science, analysis of benefits and costs, public safety, and economic growth."[51] In compliance with the executive order and the Court's holding in *Massachusetts*, the EPA Administrator submitted the endangerment finding, proposing that "the atmospheric concentrations of greenhouse gasses endanger public health and welfare within the meaning of § 202(a) of the CAA."[52] Specifically, she proposed findings for six GHGs: carbon dioxide, nitrous oxide, hydroflurocarbons, perflurocarbons, methane, and sulfur hexafluoride.[53] Nonetheless, this administrative action may prove to be a mere placeholder considering recent legislative action.

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45. 42 U.S.C. § 7521(a)(1); MELTZ, *supra* note 26, at 4.

46. *Massachusetts*, 549 U.S. at 532.

47. MELTZ, *supra* note 26, at 4.

48. MELTZ, *supra* note 26, at 4, 6 n.16 (quoting 42 U.S.C. § 7408(a)(1)(A).

49. § 7408(a)(1)–(2).

50. § 7408(a)(1)–(2); MELTZ, *supra* note 26, at 6.

51. Exec. Order No. 13,432, 72 Fed. Reg. 27,717 (May 14, 2007).

52. Endangerment and Cause or Contribute Findings for Greenhouse Gases, 74 Fed. Reg. 18,886 (proposed Apr. 24, 2009) (to be codified at 7 C.F.R. pt. 1).

53. *Id.*

In response to the EPA's endangerment finding, Republicans in the Senate sought to have the finding overturned.[54] Commentators suggest it is unlikely the finding will be overturned under the Obama Administration because a resolution would need to be passed by the Senate, the House, and signed by the President.[55] John Kyl, a Texas Republican and the Senate Minority Whip, speculated the finding was "conveniently timed" around the beginning of the International Climate Change Conference in Copenhagen.[56] Texas Representative Joe Barton was more explicit, saying, "The Environmental Protection Agency's endangerment finding plainly was intended to make the president's policies look good in advance of his visit to the Copenhagen global warming conference, not to advance any public good in America . . . ."[57] Barbara Boxer, co-sponsor of the Senate's version of the climate bill said Republicans used "scare tactics and false economic arguments" to try to have the endangerment finding overturned.[58] An EPA spokesperson explained that, "[the] EPA answered the endangerment question because the U.S. Supreme Court ordered the agency to do so more than two years ago . . . . [The] EPA reached its determination because there is a broad and overwhelming scientific consensus that greenhouse gas pollution endangers public health and welfare."[59] The spokesperson was no doubt referring to the Court's holding in *Massachusetts.*

C. *Massachusetts v. EPA Spurs Legislative Action: American Clean Energy and Security Act of 2009 Likely to Prevail?*

The recent activity in the judicial and executive branches have left the legislative branch with three general options: (1) do nothing while the EPA exercises its rulemaking authority under § 201(a)(1) of the CAA to oversee GHG emissions from new vehicles; (2) introduce legislation that stops GHGs from being regulated under the CAA; and/or (3) introduce legislation regulating GHG emissions.[60] All three options are viable and Congress is currently exercising all three. First, doing nothing is still an alternative because, although legislation proposing to stop GHG emissions regulation under the CAA and legislation proposing comprehensive GHG emissions regulation has been introduced, nothing has been passed into law. The second option has been exercised in the form of a proposed change in the definition of

54. *Senate Republicans Hopeful for Votes to Overturn EPA Endangerment Finding*, 40 Env't Rep. (BNA) 2,882 (Dec. 18, 2009) [hereinafter *Senate Republicans*].

55. *See id.*

56. *Id.*

57. *Id.*

58. *Id.*; *see also Republicans Demand Full EPA Analysis of Climate Bill; Industry Predicts Gas Hikes*, 40 Env't Rep. (BNA) 2,448 (Oct. 23, 2009).

59. *Senate Republicans*, *supra* note 52, at 2882.

60. Johnston, *supra* note 2, at 58.

"air pollutant" under CAA to explicitly exclude GHGs.[61] The amendment further stipulates that climate change is not to be regulated under the CAA.[62] This bill has a 36% chance of passing through the House of Representatives and a 1% chance of passing through the Senate.[63] Finally, Congress exercised the third option by introducing the American Clean Energy and Security Act of 2009 (ACES). ACES is currently engrossed in the House and on the Senate calendar. Legislation such as ACES, which provides for investment in research and development of clean energy, may provide a more efficient means to regulate GHG emissions than requiring the EPA to exercise its rulemaking authority under the CAA.[64]

The overarching purpose of ACES is to "create clean energy jobs, achieve energy independence, reduce global warming pollution, and transition to clean energy economy."[65] ACES seeks to reduce U.S. GHG emissions by 3% by 2012, 20% by 2020, 42% by 2030, and 83% by 2050 compared to U.S. GHG emissions levels in 2005.[66] To achieve these goals, ACES caps GHG emissions from large U.S. sources, such as oil refineries and electric utilities, at the percentages indicated above.[67] To regulate emissions under the cap, ACES establishes a system of trading "emissions allowances."[68] If a capped U.S. source obtains one allowance, it has the right to emit one ton of carbon, or its equivalent into the atmosphere.[69] At first, the allowances will be distributed to major sources without charge, but by 2031, the majority of the allowances will be auctioned.[70] ACES does not restrict or limit the type of entity or individual who may purchase or trade emissions allowances.[71] A market participant may freely acquire and save an unlimited amount of allowances indefinitely to use or sell in future

61. H.R. 3505, 111th Cong. § 401(a) (2009).

62. *Id.* § 401(b).

63. State Net, Legislative Forecast, H.R. 3505, 111th Cong. § 401(a) (2009) (accessed through LEXIS).

64. *See, e.g.*, Johnston, *supra* note 2, at 73; COMM. ON ENERGY AND COMMERCE, BILL SUMMARY, H.R. 2454, 111th Cong., at 2.

65. H.R. Rep. 111-137, pt.1, at 277 (2009).

66. H.R. 2454, 111th Cong. § 702 (2009). ACES amends the CAA by adding Title VII, the "Global Warming Pollution Reduction Program." The short title of Title VII and sections 112, 116, 221–23, and 401 of ACES is the "Safe Climate Act." section 112 of ACES amends the CAA, "to require the [EPA] Administrator to establish a coordinated approach to the certification and permitting of sites where sequestration of carbon dioxide will occur." COMM. ON ENERGY AND COMMERCE, BILL SUMMARY, H.R. 2454, 111th Cong., at 2 (2009), http://energycommerce.house.gov/Press_111/20090724/hr2454_housesummary.pdf.

67. COMM. ON ENERGY AND COMMERCE, BILL SUMMARY, H.R. 2454, 111th Cong., at 3.

68. *Id.*

69. *Id.* at 4.

70. *Id.*

71. H.R. REP. NO. 111-137, pt. 1, at 361 (2009).

years.[72] Thus, ACES would create an entire "carbon market" beginning on March 31, 2011 at the latest.[73]

Furthermore, instead of purchasing allowances, a source may comply with limits proscribed by ACES by purchasing "offsets," which are created by activities that reduce GHG emissions such as carbon sequestration.[74] Carbon capture and sequestration (CCS) technology refers to the injection and underground storage of carbon dioxide in depleted reservoirs.[75] ACES uses financial incentives and regulatory requirements to ensure major emitters of carbon dioxide implement CCS technology.[76] At least $60 billion will be invested in CSS technology.[77] Additionally, all new coal-burning plants permitted after 2020 must use CCS technology.[78] New plants permitted before then risk losing financial assistance if they do not retrofit CCS within five years of commencing operations.[79]

ACES, like any proposed GHG emissions regulatory scheme, has been met with both support and opposition. It has received support from electric utilities, chemical companies and environmental groups.[80] Jeffrey Immelt, Chairman and CEO of General Electric, testified, "I am a capitalist, pure, plain and simple . . . [and] the system we have today is untenable over the long term."[81] Pointing out that the last 40 coal-burning power plants have not been permitted, he concludes that without ACES, the U.S. has an energy policy, but "nobody knows what it is."[82] Similarly, Jim Rogers, President and CEO of Duke Energy, testified:

> [Duke Energy] plan[s] to invest $25 billion in infrastructure over the next 5 years. It is critical we know the rules of the road of climate change as soon as possible to make sure that we are making the right investments. Regulatory uncertainty is postponing investments and renewable in other green technologies.[83]

While these and other CEOs advocate ACES, seemingly for the sole purpose of certainty in making future investments, many oil and energy companies oppose ACES. A spokesperson for Valero Energy, a San Antonio based company and the largest U.S. refinery operator,

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72. *Id* at 363.
73. *See id.* at 361–63.
74. *Id.* at 363.
75. Joshua P. Fershee, *Levels of Green: State and Regional Efforts, in Wyoming and Beyond, to Reduce Greenhouse Gas Emissions*, 7 WYO. L. REV. 269, 272 (2007).
76. COMM. ON ENERGY AND COMMERCE, BILL SUMMARY, H.R. 2454, 111th Cong., at 4 (2009), http://energycommerce.house.gov/Press_111/20090724/hr2454_housesummary.pdf.
77. *Id.* at 1.
78. *Id.* at 4.
79. *Id.*
80. *Id.* at 1.
81. H.R. REP. No. 111-137, pt. 1, at 361 (2009).
82. *Id.* at 279.
83. *Id.* at 278.

said Valero Energy opposes ACES because it could provide incentive to import refined products from countries without the same GHG emissions regulations.[84] Additionally, states have competing interests.[85] While Massachusetts supports GHG emissions regulation to protect its coastline, Texas resists regulation to protect its economy.[86] The Texas Railroad Commission has urged its senators, Sen. Kay Bailey Hutchinson and Sen. John Cornyn, to oppose ACES because "[i]t will disproportionately and drastically negatively impact Texas jobs, economy, and above all, every Texas energy consumer."[87] However, ACES purports to stimulate the economy by investing in clean energy technology.[88]

Although it is difficult to predict exactly which option will ultimately prevail, federal regulation of GHG emissions seems likely.[89] In *Massachusetts*, the Court ordered the EPA to issue GHG regulations under the CAA or find a reason for inaction based in the statute.[90] The EPA has already issued a proposed endangerment finding, which is the first step in issuing rules regulating GHG emissions under the CAA. Congress has passed ACES through the House of Representatives, which will amend the CAA to include the cap-and-trade regulatory scheme and the CCS technology incentives described above. Even though passage of ACES into law is far from certain, federal regulation of GHG emissions is becoming increasingly certain. Using ACES as a model of federal regulation, the next section will discuss various GHG reduction initiatives that might be available for Texas.

III. How Should Texas Prepare Federal Regulation of GHG Emissions?

Texas, as the nation's leader in both energy consumption and carbon emissions,[91] must be proactive in protecting its economy as the United States government implements sweeping GHG emissions regulations.[92] Emissions sources in Texas are responsible for 11% of the

84. Dan Wallach, *Clean Energy Bill Sparks Heated Debate*, Beaumont Enterprise, July 4, 2009, http://www.beaumontenterprise.com/news/local/clean_energy_bill_sparks_heated_debate.html.

85. Johnston, *supra* note 2, at 58.

86. *Id.*

87. Wallach, *supra* note 82.

88. H.R. Rep. No. 111-137, pt. 1, at 277.

89. *See* Senate Research Ctr., Bill Analysis, Tex. H.B. 1796, 81st Leg., R.S. (2009) (engrossed version).

90. Massachusetts v. EPA, 549 U.S. 497, 505, 526, 532–33, 535 (2007).

91. Michael Webber, *Green Star State*, Tex. Monthly, May 1, 2009, http://www.texasmonthly.com/preview/2009-05-01/michaelwebber.

92. *See* House Comm. on Envtl. Regulation, Bill Analysis, Tex. H.B. 1796, 81st Leg., R.S. (2009).

nation's total carbon dioxide emissions,[93] and if it were a country, Texas would rank as the world's eighth largest emitter of carbon dioxide, between the United Kingdom and Canada.[94] Furthermore, the Bureau of Economic Geology's Center for Energy Economics projects that ACES will cost Texans 2.8 million jobs by 2030.[95] The reason for such staggering statistics is that Texas supplies a large portion of the United States with its refined petroleum and chemical processing needs.[96] Texas accounts for 25% of U.S. refining capacity and 60% of its chemical manufacturing.[97] Federal restrictions on carbon dioxide emissions from petroleum refineries and coal-burning plants could destabilize Texas's economy.[98] In anticipation of federal regulation of GHGs, the Texas legislature has recently considered several initiatives relating to carbon dioxide emissions and climate change.[99]

This section will explore green initiatives considered by the 81st Texas Legislature.[100] Specifically, this section will explore three bills relating to CSS technology and "clean energy projects" that were passed into law and made effective September 1, 2009.[101] These bills could spur investment and capitalize on the same natural resource that helped Texas become the energy capital that it is today. It is important to consider whether these initiatives are really green—is pumping carbon emissions into underground formations for permanent storage really "not harmful to the environment," or is it only temporarily convenient?[102] On the other hand, are grants and incentives for green jobs and renewable energy economic?

93. TONY DUTZIK ET AL., ENV'T AM. RESEARCH & POLICY CENTER, TOO MUCH POLLUTION: STATE AND NATIONAL TRENDS IN GLOBAL WARMING EMISSIONS FROM 1990 TO 2007, at 17 (2009), http://cdn.publicinterestnetwork.org/assets/c6cc71242c25b051b30bc68f0d1038ee/Too-Much-Pollution-AME.pdf.

94. Webber, *supra* note 89.

95. MICHELLE MICHOT FOSS & GURCAN GULEN, CTR. FOR ENERGY ECON., THE PROPOSED AMERICAN CLEAN ENERGY AND SECURITY ACT OF 2009 AND RELATED ENERGY/ENVIRONMENT FEDERAL LEGISLATION: CONSIDERATIONS FOR THE TEXAS ECONOMY 4 (2009), http://www.window.state.tx.us/finances/captrade/txpolicies_programs/CEE_Final_Report_to_Texas_Comptroller_of_Public_Accounts.pdf.

96. House Comm. on Envtl. Regulation, Bill Analysis, Tex. H.B. 1796.

97. *Governor Says Waxman-Markey Climate Bill Would Hurt State's Energy Sector, Economy*, 40 Env't Rep. (BNA) 2261 (2009) [hereinafter *Governor Says*].

98. House Comm. on Envtl. Regulation, Bill Analysis, Tex. H.B. 1796.

99. *See* Senate Research Ctr., Bill Analysis, Tex. H.B. 1796, 81st Leg., R.S. (2009) (engrossed version); *see also, e.g.*, Tex. H.B. 469, 81st Leg., R.S. (2009).

100. THE NEW OXFORD AMERICAN DICTIONARY 740 (2d ed. 2005) (defining *green* in this context as to "make less harmful or sensitive to the environment").

101. *See, e.g.*, Tex. H.B. 469.

102. THE NEW OXFORD AMERICAN DICTIONARY, *supra* note 98, at 740.

A. *House Bill 1796: Developing Offshore Subsurface Geologic Repository for Storage of Carbon Dioxide, New Technology Grant Program and Participation in Federal GHG Registry*

Texas has a unique opportunity to generate revenue and mitigate the potential economic impacts of federal GHG emissions regulation by injecting large volumes of anthropogenic carbon dioxide into subsurface geologic formations for permanent storage.[103] The safe storage of anthropogenic carbon dioxide in an underground formation, called a repository, is key to eventually implementing CCS technology.[104] The extensively researched geology of Texas and the leadership of the Bureau of Economic Geology at the University of Texas (BEG) in CCS-technology research make Texas a world-class candidate to lead the way in implementing CCS technology.[105] State-owned, submerged, brine aquifers off the Gulf Coast of Texas potentially provide a prime location for a carbon dioxide repository.[106] The General Land Office manages this submerged land, which extends 10.3 miles from the coastline.[107] Proceeds under any leasing of mineral rights, including bonus, royalty payments, and delay rental, make up the corpus of the permanent school fund.[108]

House Bill 1796 amended the Health and Safety, Tax, Government, and Transportation Codes in an effort to reduce carbon emissions and improve air quality.[109] Primarily, the bill amended the Health and Safety Code by adding chapter 382, subchapter K, "Offshore Geologic Storage of Carbon Dioxide," which authorizes the Texas Commission on Environmental Quality (TCEQ) to adopt standards concerning the "location, construction, maintenance, monitoring and operation of a carbon dioxide repository."[110] Additionally, the bill implemented a new technology grant program designed to offset the cost of emissions reduction by providing financial incentives.[111] Finally, the bill extended the Texas Emissions Reduction Plan (TERP), adopted *early voluntary action* incentives, and requires that several state agencies jointly participate in a federal GHG registry program.[112]

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103. House Comm. on Envtl. Regulation, Bill Analysis, Tex. H.B. 1796.

104. *See id.*

105. *See* Senate Research Ctr., Bill Analysis, Tex. H.B. 1796, 81st Leg., R.S. (2009) (engrossed version).

106. *Id.*

107. *About the Land Office*, TEX. GEN. LAND OFF., http://www.glo.state.tx.us/about/landoffice.html (last updated July 29, 2010).

108. *Texas Permanent School Fund*, TEX. EDUC. AGENCY, http://ritter.tea.state.tx.us/psf/ (last updated Dec. 23, 2009).

109. Tex. H.B. 1796, 81st Leg., R.S. (2009).

110. TEX. HEALTH & SAFETY CODE ANN. § 382.502 (West Supp. 2009)

111. *Id.* § 391.002.

112. *Id.* §§ 382.501, 382.502, 386.002.

Under subchapter K, as created under House Bill 1796, the BEG must study the offshore, state-owned land to determine the location of the repository, as well as provide data and serve as scientific advisor to the General Land Office.[113] Based on the BEG's findings, the Commissioner of the General Land Office will recommend sites to the School Land Board, which will eventually contract for the construction and operation of the repository.[114] Under § 382.507, the School Land Board will "acquire title to carbon dioxide stored in the carbon dioxide repository," and "[t]he right, title, and interest in carbon dioxide acquired under this section are the property of the permanent school fund . . . ."[115] The producer of the carbon dioxide is relieved from liability on the date the permanent school fund acquires title.[116] The School Land Board may not charge a transportation fee; however, it may require a storage fee, and if the State eventually participates in a regional or national cap-and-trade program, the fee may be in the form of carbon credits established under the program.[117]

Additionally, House Bill 1796 further amended the Health and Safety Code by adding chapter 391, *New Technology Implementation for Facilities and Stationary Sources*.[118] A logical question: What is new technology? Under this chapter, *new technology* is defined as "emissions control technology that results in emissions reductions that exceed state or federal requirements in effect at the time of submission of a new technology grant application."[119] The TCEQ will establish the grant program to assist eligible new technology projects.[120] Projects eligible under this grant program include: (1) "advanced clean energy projects" as defined under § 382.003; (2) "new technology projects that reduce emissions of regulated pollutants from point sources and involve capital expenditures that exceed $500 million; and (3) electricity storage projects related to renewable energy."[121] An applicant must show reasonable evidence that its new technology project will significantly reduce emissions and must pay "at least 50 percent of the costs of implementing a project funded under this chapter."[122]

Finally, House Bill 1796 extended TERP, required state participation in federal GHG reporting requirements, and established a voluntary actions inventory.[123] Originally due to expire in 2013, TERP and

113. *Id.* §§ 382.503(a), 382.506(a)–(d).
114. *Id.* § 382.504(b).
115. *Id.* § 382.507(a)–(b).
116. *Id.* § 382.508(a)–(b).
117. *Id.* §§ 382.509, 382.505(a)–(b).
118. *Id.* § 391.
119. *Id.* § 391.001(5).
120. *Id.* § 391.002(a).
121. *Id.* § 391.002(b)(1)–(3).
122. *Id.* §§ 391.103(a), 391.204(a).
123. *Id.* §§ 382.501, 382.502, 386.002.

its fees relating to tractor-trailer and commercial vehicle registration now remain effective until August 2019.[124] Furthermore, the Bill requires that several state agencies, including the TCEQ, the Railroad Commission of Texas (RRC), Public Utility Commission (PUC) and Department of Agriculture, jointly participate in "the federal government process for developing federal greenhouse gas reporting requirements and the federal greenhouse gas registry requirements."[125] Similarly, the TCEQ must coordinate with the EPA to give credit to businesses and state agencies for actions taken to reduce carbon dioxide emissions since 2001.[126]

Supporters claim that if the federal government implements a cap-and-trade regulatory scheme, House Bill 1796 will give Texas an advantage in the carbon-credit market.[127] Given the EPA's proposed endangerment finding in August 2009 and the broad support behind ACES, a cap-and-trade system seems increasingly likely.[128] The repository that will be created under the bill could allow Texas to accumulate carbon credits in exchange for storing GHGs from all over the nation.[129] In turn, the State could sell the carbon credits to Texas businesses. Additionally, House Bill 1796 would put Texas in a position to be a world-leader in CCS technology.[130] The deep subsurface formations off the coast and the BEG's expertise present the State with a unique opportunity to advance CCS technology.[131]

Opponents maintain that CCS technology is still underdeveloped and far from the greenest option for reducing GHG emissions.[132] They insist Texas distance itself from the burning of fossil fuels altogether, and focus on renewable energy sources, like biomass, geothermal, wind, and solar.[133] Furthermore, many dissenters feel implementing House Bill 1796 may be cost prohibitive.[134] The Legislative Budget Board estimates the Bill will negatively impact the general revenue fund by $1.6 million annually over the next five years; however, by extending TERP and its associated fees for commercial vehicle registration, the Board estimates that in 2014, the State will net an additional $82 million in revenue.[135]

124. *Id.* § 386.002.
125. *Id.* § 382.501(a).
126. *Id.* § 382.502(1)–(2).
127. House Research Org., Bill Analysis, Tex. H.B. 1796, 81st Leg., R.S. (2009).
128. *See id.*
129. *Id.*
130. *See id.*
131. *See id.*
132. *Id.*
133. *Id.*
134. *Id.*
135. Fiscal Note, Tex. H.B. 1796, 81st Leg., R.S. (2009).

B. *House Bill 469: "NowGen"*

In 2007, the Texas Legislature tried to attract FutureGen, a federally sponsored project to build a clean coal-burning power plant.[136] The plant would generate electricity and hydrogen, while capturing and sequestering the carbon dioxide emissions.[137] In 2008, FutureGen was awarded to Illinois.[138] The United States Department of Energy has since canceled and resurrected the FutureGen project.[139] While Texas failed to attract FutureGen, the Texas Legislature enacted House Bill 469, also known as *NowGen*.[140] Summit Power Group and Tenaska, Inc. are proposing clean-coal plants near Odessa and Sweetwater respectively.[141] Summit Power Group expects to be operational by 2014.[142]

House Bill 469 establishes tax incentives to entities that participate in clean energy projects.[143] A *clean energy project* is defined as:

> a project to construct a coal-fueled or petroleum coke-fueled electric generating facility, including a facility in which the fuel is gasified before combustion, that will: (A) have a capacity of at least 200 megawatts; (B) meet the emissions profile for an advanced clean energy project under section 382.003(1-a)(B), Health and Safety Code; (C) capture at least 70 percent of the carbon dioxide resulting from or associated with the generation of electricity by the facility; (D) be capable of permanently sequestering in a geological formation the carbon dioxide captured; and (E) be capable of supplying the carbon dioxide capture for purposes of an enhanced oil recovery project.[144]

The comptroller of public accounts will adopt rules for issuing a franchise tax credit and issue a franchise tax credit to entities implementing a clean energy project.[145] The Texas Railroad Commission (RRC) has authority to certify an entity's project as a clean energy project, but may not issue more than three certificates.[146] An application for certification must be accompanied with an independent engineer's report and a minimum of $50,000 as an application-processing fee.[147] The entity must contract with the BEG to review monitoring and measuring processes, protocols, standards, and results that demonstrate the project is a clean energy project.[148] Unless the par-

136. House Research Org., Bill Analysis, Tex. H.B. 469, 81st Leg., R.S. (2009).
137. *Id.*
138. *Id.*
139. *Id.*
140. *Id.*
141. *Id.*
142. *Id.*
143. *Id.*
144. TEX. NAT. RES. CODE ANN. § 120.001(2)(A)–(E) (West Supp. 2009).
145. TEX. GOV'T CODE ANN. § 490.352 (West Supp. 2009).
146. TEX. NAT. RES. CODE ANN. §§ 120.002(a), 120.004(a)–(b) (West Supp. 2009).
147. *Id.* § 120.002(b)–(c).
148. *Id.* § 120.003(a)–(b)(4).

ties agree otherwise, the contract must require the entity to compensate the BEG $8.1 million over an eight-year span.[149]

There are three significant tax-incentive amendments under House Bill 469. First, once the RRC issues a certificate of compliance and the BEG verifies the project is sequestering at least 70% of its carbon dioxide emissions, the comptroller will issue an entity operating a clean energy project a franchise tax credit equal to the lesser of 10% of the cost of the project or $100 million.[150] The comptroller is prohibited form issuing a franchise tax credit for a clean energy project before September 2013.[151] Second, the severance tax reduction under § 202.0545 of the Tax Code provided to oil producers that use carbon dioxide from clean energy projects is extended from seven to thirty years.[152] Third, personal property used in a clean energy project is exempt from taxes imposed by the Tax Code if: (1) the property is installed to inject, transport, or prepare anthropogenic carbon dioxide for injection; and (2) the anthropogenic carbon dioxide is sequestered in Texas "as part of an enhanced oil recovery project" or by a method that creates a "reasonable expectation that at least 99% of the carbon dioxide will remain sequestered . . . for at least 1,000 years."[153] For qualifying oil producers, the tax rate would be reduced from 4.6% to 1.15%.[154] According to the fiscal note, "the state could forego an indeterminate amount of franchise . . . sales . . . [and] severance tax revenue."[155] The amount is contingent upon, "the size of the franchise tax credit, the number of power plants constructed, . . . the amount and value of goods used in connection with the project, . . . [and] the number of producers participating in qualified EOR projects."[156]

Supporters of House Bill 469 are enthusiastic that Texas has the unique opportunity to become the first state with a fully operational power plant that sequesters at least 70% of its carbon dioxide into underground formations.[157] Franchise tax credits and personal property tax exemptions will give companies incentive to build clean-coal power plants and "help overcome the 'prototype penalty' of being the first to invest money in this type of project."[158] Also, if the full potential of House Bill 469 is realized and three franchise tax credits are

149. *Id.* § 120.003(c).
150. *See id.* § 490.352(e).
151. TEX. TAX CODE ANN. § 202.0545(a) (West Supp. 2009).
152. *Id.* § 151.334.
153. *Id.* § 151.334(1)–(2)(B).
154. Fiscal Note, Tex. H.B. 469, 81st Leg., R.S. (2009).
155. *Id.*
156. *Id.*
157. House Research Org., Bill Analysis, Tex. H.B. 469, 81st Leg., R.S. (2009).
158. *See id.*

issued to three clean energy projects, then around 6,000 construction jobs and 450 permanent jobs would become available to Texans.[159]

House Bill 469, like House Bill 1796, takes advantage of the unique geologic formations in Texas.[160] For three decades, oil producers in Texas have been injecting naturally occurring carbon dioxide from underground formations in Colorado and New Mexico into depleted wells.[161] The injected carbon dioxide can help extract 15% more oil than traditional methods.[162] This method is called enhanced oil recovery (EOR).[163] The BEG estimates four to five billion barrels of oil have been recovered using carbon dioxide for EOR projects.[164] The severance tax extension in House Bill 469 would give Texas oil producers using EOR an incentive to use anthropogenic carbon dioxide sequestered in Texas rather than importing naturally occurring carbon dioxide from formations in other states.[165] Finally, the Bill's proponents claim sequestering 70% of a power plant's carbon dioxide could reduce its emissions to "meet the California and Washington emission standard of 1,000 pounds of [carbon dioxide] per megawatt hour of net power produced," which would be about as *clean* as a new natural gas plant.[166]

On the other hand, like the dissenters in the House-Bill-1796 debate, opponents of House Bill 469 feel it is bad policy to further subsidize the burning of fossil fuels.[167] At the least, they claim, the 70% sequestration mark is too low when some companies have claimed it is possible to capture at least 90%.[168] Furthermore, looking at the entire coal-plant supply chain of activities, such as mining and transporting coal, referring to any coal plant as *clean* or *environment friendly* is a stretch.[169] Even a clean coal plant consumes large quantities of water during operation.[170] Finally, and perhaps the most interesting argument against House Bill 469, is that it is not technology neutral.[171] The Bill provides incentives to build power plants with "integrated gasification combined cycle or other pre-combustion technology."[172]

159. *Id.*
160. *See id.*; Senate Research Ctr., Bill Analysis, Tex. H.B. 1796, 81st Leg., R.S. (2009) (engrossed version).
161. House Research Org., Bill Analysis, Tex. H.B. 469.
162. *Id.*
163. *Id.*
164. *Id.*
165. *Id.*
166. *Id.*
167. *See id.*
168. *Id.*
169. *Id.*
170. *Id.*
171. *Id.*
172. *Id.*

Many feel that because the Bill is not technology neutral, it steers energy companies away from developing renewable energy sources.[173]

C. *Senate Bill 1387: Establishing a Regulatory Framework for Carbon Dioxide Sequestration and Storage*

Even though the RRC currently regulates EOR projects, which include the injection of carbon dioxide, there is no regulatory framework for the sequestration and long-term storage of carbon dioxide.[174] With the EPA's recent endangerment finding, it is conceivable that implementing carbon capture and sequestration technology will be federally mandated by 2011.[175] If the federal government adopts regulations governing carbon capture and sequestration, as under ACES, the RRC must adopt conforming rules.[176]

Senate Bill 1387 expressly delegates to the RRC authority to regulate carbon capture and sequestration technology.[177] Subject to legislative review, the RRC's authority over carbon capture and sequestration in geologic formations extends to all wells, without regard to the well's original purpose.[178] A person or organization must obtain a permit issued by the RRC before "drilling or operating an anthropogenic carbon dioxide injection well for geologic storage . . . ." A permit applicant must provide a letter from the executive director of the TCEQ confirming a carbon dioxide repository will not harm any nearby freshwater strata and the stratum used for the repository is not freshwater sand.[179] A permittee must annually provide evidence of financial responsibility to ensure funds are available for proper post-injection maintenance.[180] To cover the cost of permitting, inspecting, and monitoring wells, the RRC may impose fees that will be collected and deposited into the New Anthropogenic Carbon Dioxide Trust Fund.[181]

Additionally, Senate Bill 1387 amended the Natural Resources Code, requiring the RRC to adopt rules for multiple-use wells, proscribe rules of ownership, and compile comprehensive records of geologic storage sites.[182] An example of a multiple-use well is a depleted well that is converted into a carbon dioxide repository.[183] A conversion from an EOR well to a carbon repository is not considered a

173. *See id.*
174. House Research Org., Bill Analysis, Tex. S.B. 1387, 81st Leg., R.S. (2009).
175. Senate Research Ctr., Bill Analysis, Tex. S.B. 1387, 81st Leg., R.S. (2009).
176. TEX. WATER CODE ANN. § 27.048(a) (West Supp. 2009).
177. Senate Research Ctr., Bill Analysis, Tex. S.B. 1387.
178. TEX. WATER CODE ANN. § 27.041(a)–(c) (West Supp. 2009).
179. *Id.* § 27.046(a); House Research Org., Bill Analysis, Tex. S.B. 1387.
180. House Research Org., Bill Analysis, Tex. S.B. 1387.
181. TEX. WATER CODE ANN. § 27.045(a)–(b) (West Supp. 2009).
182. Tex. S.B. 1387, 81st Leg., R.S. § 6 (2009).
183. House Research Org., Bill Analysis, Tex. S.B. 1387.

conversion of use.[184] Section 120.002 of the Natural Resources Code provides that sequestered carbon dioxide belongs to the storage operator, whom also has the right recover it for future use.[185] Finally, the GLO commissioner, in coordination with the BEG, TCEQ, and RRC, must issue a comprehensive report detailing, among other things, repository sites, permit statuses, applications, and rule modification recommendations.[186]

Supporters of Senate Bill 1387 claim it will have positive impact on climate change, while providing a regulatory framework for CCS technology implementation.[187] The RRC has been issuing guidelines on safe EOR projects since 1972.[188] With over 480 million tons of carbon dioxide already captured in depleted reservoirs and other underground formations, Texas is already a world-leader.[189] Moving forward, adopting a regulatory framework for CCS technology will facilitate trade in the oil industry while reducing carbon dioxide emissions.[190]

Senate Bill 1387 faced little, if any, opposition.[191] The Legislative Budget Board projects it will have a negative impact on the general revenue fund of roughly $185,000 over the first two years; however, after 2011, the Bill should be largely self-sufficient, drawing from the New Anthropogenic Carbon Dioxide Trust Fund.[192] In formulating its projection, the Board presumes the RRC will need one additional full-time employee in 2010-11 to establish the permitting program, and two additional full-time employees in 2012 and following years.[193] The Board also presumes the TCEQ and GLO will satisfy requirements under the Bill using only existing resources.[194] The amount of revenue generated under this Bill significantly depends on these presumptions and the number of permits issued.[195] Several similar bills were introduced, one of which would have made the TCEQ the primary authority responsible for carbon capture and sequestration, while the RRC would have played a secondary role.[196]

184. TEX. NAT. RES. CODE ANN. § 91.802(c) (West Supp. 2009).
185. *Id.* § 120.002(a)–(c).
186. House Research Org., Bill Analysis, Tex. S.B. 1387.
187. *See id.*
188. *See id.*
189. *Id.*
190. *See id.*
191. *Id.*
192. Fiscal Note, Tex. S.B. 1387, 81st Leg., R.S. (2009).
193. *Id.*
194. *Id.*
195. *Id.*
196. *See* e.g., H.B. 2669, 81st Leg. R.S. (2009).

IV. EXAMINING GREEN INITIATIVES THAT DIED IN THE 81ST LEGISLATURE: AN INDICATION OF FUTURE ACTION TEXAS MAY TAKE TO MITIGATE THE IMPACT OF FEDERAL REGULATION OF GHG EMISSIONS?

Even though the rate of carbon dioxide emissions in Texas decreased 2% from 2004 to 2007, the State still leads the nation in carbon dioxide emissions.[197] The 2% improvement is attributed to a reduction in natural gas use and "the state's growing focus on wind power for generating electricity."[198] Environment America rated Texas the nation's leading producer of wind energy in its November 2009 report.[199] In the decade between 1997 and 2007, electricity generated from renewable sources in Texas increased from 0.5% to 2.5%.[200] In the early months of 2009, renewable sources accounted for 6% of electricity production.[201] Presumably, there is a cause-and-effect relationship between the rise in renewable energy use and the decrease in carbon dioxide emissions.[202] As the United States Congress debates the merits of federal GHG regulation, the Texas Legislature has been debating how renewable energy sources in Texas could ignite the energy sector. Although the following bills were not passed into law, they laid a foundation for what we may see in the next few years.

A. *House Bill 1243: A Renewable Energy Company in Your Backyard?*

Distributed Renewable Generation (DRG), also known as *on-site generation*, refers to energy generated from renewable sources like small wind turbines and solar panels.[203] In 1999, Texas implemented a consumer-choice system in the electric utility market.[204] Before then, the utility company was required to pay customers for surplus energy generated by wind turbines or solar panels.[205] Unintentionally, this requirement was dropped when Texas adopted a competition-based system.[206] To remedy this apparent oversight, House Bill 1243 would have required that electric providers purchase excess energy generated from customer-sited DRG technology at a reasonable price.[207]

197. *Climate Change: Texas Carbon Rates Down 2 Percent but State Still Leads U.S. in Emissions*, 218 Daily Env't Rep. (BNA) A-9 (Nov. 16, 2009).
198. *Id.*
199. *Id.*
200. *Id.*
201. *Id.*
202. *See id.*
203. House Research Org., Bill Analysis, Tex. H.B. 1243, 81st Leg., R.S. (2009).
204. Senate Research Ctr., Bill Analysis, Tex. H.B. 1243, 81st Leg., R.S. (2009) (engrossed version).
205. *Id.*
206. *See id.*
207. *Id.*

Unfortunately for the customers of retail energy providers who are generating surplus energy from small wind turbines and solar panels, House Bill 1243 fell short when the 81st Regular Legislative Session ended before the House of Representatives and Senate could agree on identical versions.

Under House Bill 1243, a DRG owner was broadly defined not only as "the owner of distributed renewable generation," but also as a retail customer who contracts with someone else to maintain DRG regardless of ownership rights, or as a person who is assigned ownership of DRG technology located on the premises of a customer.[208] The DRG owner was not required to register as an electric company if "at the time distributed renewable generation is installed on a retail electric customer's side of the meter, the estimated annual amount of electric energy to be produced by the [DRG technology] is less than or equal to the customer's estimated annual electric consumption."[209] The retail electric company would then be required to pay the DRG owner fair market value as determined by the PUC instead of allowing the parties to negotiate a price.[210] However, a DRG owner would have only qualified for fair-market-value compensation if the DRG would have, among other requirements, generated less than "10 kilowatts for a residential retail electric customer."[211] If a DRG owner did not qualify, surplus electricity may have been sold to the electric provider at an agreed upon price.[212] Providers were permitted to charge administrative fees, but were required to provide line-item billing and additional information published on the Internet.[213]

Allowing DRG owners to sell electricity back to the grid would have helped reduce reliance on fossil fuels.[214] Barriers to entry into the renewable energy market are slowing growth and innovation.[215] Currently, DRG owners are subject to the same regulations as big electric companies.[216] House Bill 1243 would have reduced barriers by removing registration requirements and ensuring that DRG owners receive fair compensation from retail providers, whom have greater bargaining power.[217] Although requiring electric providers to buy surplus electricity may cause initial administrative costs, it may also reduce costs by lowering peak demand.[218]

208. Tex. H.B. 1243, 81st Leg., R.S. (2009).
209. *Id.*
210. *Id.*; House Research Organization, Tex. H.B. 1243, 81st Leg., R.S. (2009).
211. Tex. H.B. 1243.
212. *Id.*
213. *Id.*; House Research Org., Bill Analysis, Tex. H.B. 1243.
214. *See* House Research Org., Bill Analysis, Tex. H.B. 1243.
215. *Id.*
216. *Id.*
217. *Id.*
218. *Id.*

Critics claim the Bill's requirements would overly burden electric providers, while others say the Bill does not go far enough because of the 10-killowatt limit to qualify for fair-market-value compensation.[219] A wind turbine needs greater generating capabilities than 10 kilowatts, effectively limiting the Bill to solar panels.[220] Additionally, the electric provider's ability to charge administrative fees would diminish or even negate any profits realized by consumers selling electricity back to the grid. According to the fiscal note, the Bill would have likely cost the State $200,000 and would have had an undetermined impact on municipalities that own electric cooperatives.[221]

B. *Senate Bill 541: New Goals for Renewable Energy and a Credit-Trading Program*

In 1999, when Texas implemented consumer choice in the electricity market, the legislature also created the renewable portfolio standard (RPS).[222] The RPS is a market-based incentive policy promoting renewable energy technology development.[223] To qualify as renewable energy technology under the RPS, the source must not rely on fossil fuels or fossil fuel waste products.[224] These sources include, but are not limited to, solar, wind, geothermal, biomass, biogas, and hydroelectric energy.[225] Since Texas became a leader in wind-generated energy production, the State's wind-generated power capacity alone has surpassed renewable energy goals outlined under the RPS.[226] In 2008, Texas generated over 6,000 megawatts of renewable energy from wind.[227] Because the original goal under the RPS was to produce 5,880 megawatts of renewable energy by 2015, RPS goals are already outdated.[228] Another component of the RPS is a credit-trading program, called the renewable energy credit (REC), to incentivize the development of renewable energy projects.[229] Under the REC program, retail electric providers in consumer-choice areas are required to purchase credit.[230] The number of credits required, called the *load ratio share*, is calculated by multiplying the RPS goal for that year by the provider's market share.[231] Senate Bill 541 would have redefined

219. *Id.*
220. *Id.*
221. Fiscal Note, Tex. H.B. 1243, 81st Leg., R.S. (2009) (engrossed version).
222. House Research Org., Bill Analysis, Tex. S.B. 541, 81st Leg., R.S. (2009).
223. *Id.*
224. *Id.*
225. *Id.*
226. *See id.*
227. *Id.*
228. *Id.*
229. *Id.*
230. *Id.*
231. *Id.*

the renewable energy goals, and thus, increases the number of credits electric providers in consumer-choice areas must purchase annually.[232]

Senate Bill 541 would have amended the Utilities Code by categorizing renewable energy sources as either *tier 1* or *tier 2*.[233] Under the Bill, tier 1 included biomass, solar, wind, and hydroelectric.[234] Tier 2 was the same as tier 1, but excluded wind energy sources with a capacity greater than 150 kilowatts.[235] The Bill would have replaced the existing Utilities Code goal of sustaining at least 500 megawatts from non-wind renewable energy sources.[236] The new goal would have been to sustain 1,500 megawatts from tier 2 sources by January 2020.[237] If a provider did not fulfill its REC purchase obligations, it would have been required to pay an alterative compliance fee.[238]

The Public Utility Commission (PUC) would have been responsible for holding the Bill's requirements in check. According to the Bill, if the PUC found insufficient progress toward the goals, saw a need to protect the electric grid, or determined the goals created an undue burden on ratepayers, it had the discretion to suspend certain requirements under the Bill.[239] If the PUC suspended obligations under the Bill, the alternative compliance fees would have been refunded to retail electric customers under the guidance of the PUC.[240] If the PUC did not need to suspend requirements under the Bill, the alternative compliance fees would have been used to establish a solar rebate fund.[241] Finally, the PUC would have adopted rules establishing a *Made in Texas* incentive program.[242] This program would have given Texas-based manufacturers incentive to make renewable energy source equipment for in-State use.[243]

According to supporters, even though Texas is one of the nation's leaders in renewable energy from wind sources, its growth in other technologies, such as solar and geothermal, has been stagnant.[244] Development of these and other renewable energy technologies will be crucial if the Texas energy industry is to survive under ACES or other federal renewable energy standards.[245] Senate Bill 541 offsets more than 7 million tons of carbon dioxide emissions by 2020.[246] Although

232. *See id.*
233. *Id.*
234. Tex. S.B. 541, 81st Leg., R.S. (2009).
235. *Id.*
236. *See* TEX. UTIL. CODE ANN. § 39.904(a) (West 2007).
237. Tex. S.B. 541.
238. *Id.*
239. *Id.*; House Research Org., Bill Analysis, Tex. S.B. 541, 81st Leg., R.S. (2009).
240. Tex. S.B. 541.
241. *Id.*
242. House Research Org., Bill Analysis, Tex. S.B. 541.
243. *Id.*
244. *Id.*
245. *See id.*
246. *Id.*

there are concerns that the cost of implementing renewable energy technology will be passed along to the customer, abundant resources like wind and solar could provide a greater supply of energy in the future.[247] If demand stays largely constant while supply increases, prices should eventually fall. Further, alternative energy sources will hedge the risk of volatile gas prices.[248] The incremental capacity goals provided in the Bill should protect ratepayers' initial costs.[249] If the incremental structure fails to protect ratepayers, and ratepayers suffer an undue burden, then the PUC may suspend the goals entirely.[250]

On the other hand, opponents of the RPS maintain that the market should determine the source of electrical generation.[251] Renewable energy methods are not yet efficient or cost-effective ways to generate power.[252] Currently, renewable sources require backup from traditional sources because they cannot produce as efficiently or reliably as fossil-fuel sources.[253] Additionally, the State does not appropriate any funds under this Bill,[254] and the cost of the retailer's obligation to buy RECs is ultimately passed along to the consumer.[255] The Bill practically admits as much when it provides for a refund of alternative compliance fees to retail providers and their customers if requirements are suspended.[256]

C. *Senate Bill 545: Solar Incentive Program*

Senate Bill 545, which was passed by the Senate but died on the House floor in the 81st Legislature, provides for the PUC to establish a "distributed solar generation incentive program."[257] The RPS and federal subsidies have contributed to the successful development of wind-generated power in Texas, but the expenses associated with other forms of renewable energy, such as solar, have proved to be cost prohibitive.[258] A solar power generation incentive program could reduce short-term infrastructure costs, making solar energy more cost-effective and accessible in Texas.[259]

In addition to establishing a solar generation incentive program under Senate Bill 545, the PUC would be required to "oversee the implementation of the program."[260] The goal of the program would

247. *See id.*
248. *Id.*
249. *Id.*
250. *Id.*
251. *Id.*
252. *See id.*
253. *Id.*
254. Fiscal Note, Tex. S.B. 541, 81st Leg., R.S. (2009) (engrossed version).
255. House Research Org., Bill Analysis, Tex. S.B. 541.
256. *See* Tex. S.B. 541, 81st Leg., R.S. (2009).
257. Tex. S.B. 545, 81st Leg., R.S. (2009).
258. *Id.*
259. *See* House Research Org., Bill Analysis, Tex. S.B. 545, 81st Leg., R.S. (2009).
260. Tex. S.B. 545.

be to increase solar generation capacity in Texas to 3 gigawatts by 2020.[261] A prohibition or restriction of solar panel installation by a homeowners' association is considered void under the bill.[262] Utility providers may impose a $0.00065 per-kilowatt-hour fee and a $40 per-month fee per industrial-company meter.[263] A provider may change the fee for only the initial five years of the program, unless a "substantial amount of manufacturing of solar generation products has located in Texas . . . and . . . the fee does not present an undue burden to customers."[264] If this exception applies, a provider may charge the fee for an additional five years.[265] With revenue from these fees, the Public Utility Commission will issue rebates to those who install solar generation equipment.[266] Initial rebates would be "$2.40 per watt for installation of distributed renewable generation with a capacity of not more than 10 kilowatts," and reduced annually by at least 5%.[267]

The State Energy Conservation Office (SECO) would establish a *revolving loan program* for the installation of solar panels on buildings belonging to schools and religious organizations.[268] SECO would allocate at least $75 million provided under the American Recovery and Reinvestment Act of 2009 to this loan program.[269] A loan under the program must be paid over a term of 15 years, and SECO would establish the interest rates.[270]

Senate Bill 545 spreads the initial costs of implementing solar generation technology.[271] Representatives from both retail electric companies and environmental groups testified in support of the Bill.[272] Especially with *Made in Texas* incentives, Texas has an opportunity to become a hot spot for manufacturing and solar energy jobs.[273] The State would gain an indeterminate amount of revenue because fees under the program have not yet been determined; however, there would also be an indeterminate impact from the SECO *revolving loan program*.[274]

The Bill's opponents dislike that it would spread the cost of implementing solar panel technology to all customers and claim the fees could amount to $100 million annually for five years.[275] Only custom-

261. Senate Research Ctr., Bill Analysis, Tex. S.B. 545, 81st Leg., R.S. (2009).
262. *Id.*
263. Tex. S.B. 545.
264. *Id.*
265. *Id.*
266. *See id.*
267. House Research Org., Bill Analysis, Tex. S.B. 545, 81st Leg., R.S. (2009).
268. *Id.*
269. *Id.*
270. *Id.*
271. *See id.*
272. *Id.*
273. *Id.*
274. Fiscal Note, Tex. S.B. 545, 81st Leg., R.S. (2009).
275. House Research Org., Bill Analysis, Tex. S.B. 545.

ers that participated in the program would benefit, while all customers would have to pay the fees.[276] Imposing fees on business consumers means less money is available to invest in other needs, such as paying and retaining employees.[277] Further, many feel it is bad public policy for the government to decide which form of renewable energy will be developed next, and that it is better policy to let the market decide.[278] Finally, there is still great uncertainly in the viability of solar energy technology, and encouraging school districts to invest could be a mistake.[279] Although solar energy incentives would potentially help reduce carbon emissions, some feel industry uncertainties are too great.

V. CONCLUSION

As the comprehensive nature of ACES shows,[280] policymakers understand that to regulate GHG emissions is to regulate energy generation.[281] Roughly 85% of U.S. energy use comes from fossil-fuel sources.[282] Furthermore, energy sources account for roughly 86% of all U.S. GHG emissions.[283] Thus, regulation of GHG emissions from U.S. sources means regulation of U.S. energy sources.[284] Additionally, commentators fear that the U.S. residents will pay higher energy costs; meanwhile global emissions continue to rise.[285] According to data compiled from the Global Carbon Project, if the U.S. completely stopped fossil fuel consumption today, the increase from international sources would supplant the would-be U.S. emissions in only eight years.[286] The concern of a disproportionate cost/benefit ratio is even greater in Texas.[287] According to Governor Perry, the energy industry of Texas accounts for roughly 60% of all U.S. chemical manufacturing, 20% of U.S. oil production, 25% of the nation's natural gas production, and 25% of its refining capacity.[288] In addition to illustrating the potential impact ACES could have on the Texas economy, these statistics may help explain why Texas leads the nation in carbon dioxide emissions. In the face of federal regulation of carbon dioxide emis-

276. *Id.*
277. *Id.*
278. *Id.*
279. *Id.*
280. *See, e.g.*, H.R. REP. NO. 111-137, pt.1, at 277 (2009).
281. *See* Letter from Am. Energy Alliance to Air & Radiation Docket & Info. Ctr., *supra* note 21, at 1.
282. *Id.*; U.S. EPA, INVENTORY OF U.S. GREENHOUSE GAS EMISSIONS AND SINKS: 1990–2007, at 2-8 (2009), http://www.epa.gov/climatechange/emissions/downloads09/GHG2007entire_report-508.pdf.
283. U.S. EPA, *supra* note 279, at 2-8, 3-1.
284. *See* Letter from Am. Energy Alliance to Air & Radiation Docket & Info. Ctr., *supra* note 21, at 1.
285. *Id.* at 2, 23–4.
286. *Id.* at 2 & n.6.
287. *See Governor Says*, *supra* note 95, at 2261.
288. *Id.*

sions, Texas must turn to CCS technology and renewable energy sources.

Although it is not as green as renewable energy generation, the more effective short-term solution appears to be CCS technology. CCS technology, if proven to be safe and economic, could create clean-burning coal plants while emissions could be used in EOR projects.[289] On the other hand, the long-term viability of coal plants, even clean ones, is questionable.[290] A clean-burning coal plant would consume as much as 10 million gallons of water per day.[291] Additionally, executives are reluctant to sink large amounts of capital into plants that rely on fossil fuels. Also, transportation costs are increasing,[292] and as retail gas prices hover around three dollars per gallon in 2010–11,[293] the nation may see a surge of investment in renewable energies.[294] Like the U.S. experienced in the 1970s and 80s, as fossil-fuel prices spike upward, so does interest in renewable energy sources.[295]

Renewable energy sources are, by definition, "abundant and constantly replenished."[296] Texas has the opportunity to use wind, sun, water, and biomass as renewable energy resources.[297] Despite the potential gain, renewable energy sources remain underutilized because of economic constraints and a lack of breakthrough in research and development.[298] In 2006, renewable energy sources accounted for only 7% of all U.S. energy consumption.[299] Nonetheless, as discussed above, the U.S. will see a surge of investment in renewable energy sources as the price of traditional fossil fuels increase.[300] As a source becomes more economic, investment will follow.[301]

289. *See* SUSAN COMBS, TEX. COMPTROLLER OF PUB. ACCOUNTS, THE ENERGY REPORT 101 (2009), http://www.window.state.tx.us/specialrpt/energy/pdf/96-1266EnergyReport.pdf.

290. *Id.*

291. *Id.*

292. *Id.*

293. U.S. ENERGY INFO. ADMIN., SHORT-TERM ENERGY OUTLOOK 1 (2010), http://www.eia.doe.gov/emeu/steo/pub/feb10.pdf.

294. *See* Combs, *supra* note 286, at 123.

295. *Id.*

296. *Id.*

297. *Id.* at 125–26.

298. *See id.* at 127–28.

299. *Id.* at 123–24.

300. *See id.* at 123.

301. *See id.*